ITHACA FIRE STATION BID SET VOLUME 1

August 17, 2023

Ithaca Fire Station 403 Elmwood Avenue Ithaca, New York 14850







Wendel Project No. 618601

This Page Intentionally Left Blank

TABLE OF CONTENTS

VOLUME ONE – DIVISIONS 00 - 14

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

001113	Notice to Bidders
002113	AIA A701-2018 Instruction to Bidders
002214	Contractor Qualification Form
002313	Substitution Request Form
004113	Bid Form
005000	AIA A101-2017 Standard Form of Agreement between Owner and Contractor
005000a	AIA A101-2017 Exhibit A- Insurance and Bond Requirements
0060001	AIA A312-2010- Payment Bond
0060002	AIA A312-2010- Performance Bond
0060003	AIA A310-2010- Bid Bond
007000	AIA A201-2007 General Conditions
007100	Contracting Definitions
081000	Partial Release and Waiver of Mechanic's Lien
081200	Final Release and Waiver of Mechanic's Lien
081300	AIA G707-1994 Consent of Surety to Final Payment Form
085000	Prevailing Wage Rates
009999	Certification of Compliance with Harassment – NYS
	Iran Divestment Form – January 202

City of Ithaca Apprenticeship Incentive Program

DIVISION 01 - GENERAL REQUIREMENTS

011200	Multiple Contract Summary
012100	Allowances
012200	Unit Prices
012300	Alternates
012600	Contract Modification Procedures
012900	Payment Procedures
013100	Project Management and Coordination
013101	Request for Information Form
013200	Construction Progress Documentation
013233	Photographic Documentation
013300	Submittal Procedures
014000	Quality Requirements
014200	References
014533	Code Required Special Inspections and Procedures
015000	Temporary Facilities and Controls
015700	Stormwater Pollution Prevention Plan
016000	Product Requirements
017300	Execution
017700	Closeout Procedures

- 017823 Operation and Maintenance Data
- 017839 Project Record Documents
- 017900 Demonstration and Training

DIVISION 02 - EXISTING CONDITIONS

- 023200 Geotechnical Investigation
- 024100 Demolition

DIVISION 03 - CONCRETE

- 033000 Cast-in-Place Concrete
- 033300 Architectural Concrete
- 033500 Concrete Finishing
- 034113 Precast Concrete Hollow Core Planks
- 036000 Grouting

DIVISION 04 - MASONRY

- 040513 Masonry Mortaring
- 040523 Masonry Accessories
- 042200 Concrete Unit Masonry
- 042613 Masonry Veneer
- 044313 Stone Masonry Veneer
- 047200 Cast Stone Masonry

DIVISION 05 - METALS

051200	Structural	Steel	Framing
--------	------------	-------	---------

- 053100 Steel Decking
- 054000 Cold Formed Metal Framing
- 054400 Cold-Formed Metal Trusses
- 055000 Metal Fabrications
- 055100 Metal Stairs
- 055133 Metal Ladders
- 055213 Pipe and Tube Railings

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

061000	Rough Carpentry
--------	-----------------

- 064100 Architectural Wood Casework
- 066000 Cellular PVC Fabrications

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

071300	Sheet Waterproofing
072100	Thermal Insulation
072119	Foamed-In-Place Insulation
072500	Weather Barriers
073113	Asphalt Shingles
075300	Elastomeric Membrane Roofing
076200	Sheet Metal Flashing and Trim

077100 Roof Specialties

- 077123 Manufactured Gutters and Downspouts
- 077200 Roof Accessories
- 078400 Firestopping
- 079200 Joint Sealants

DIVISION 08 – OPENINGS

DIVISION 09 - FINISHES		
088000	Glazing	
087113	Automatic Door Operators	
087100	Door Hardware	
085200	Wood Windows	
084313	Aluminum-Framed Storefronts	
083613	Sectional Doors	
083100	Access Doors and Panels	
081416	Flush Wood Doors	
081113	Hollow Metal Doors and Frames	

- 090613 Materials Legend
- 092116 Gypsum Board Assemblies
- 092400 Stucco Cement
- 093000 Tiling
- 095100 Acoustical Ceilings

096700	Fluid Applied Flooring
--------	------------------------

- 096813 Tile Carpeting
- 099000 Painting and Coating
- 099656 Epoxy Wall Coating-
- 099724 Exterior Textured Finish System

DIVISION 10 - SPECIALTIES

101100	Visual Display Units
101400	Signage
102123	Cubicle Curtains and Track
102600	Wall and Door Protection
102800	Toilet, Bath, and Laundry Accessories
102815	Interior Trench Drains
104400	Fire Protection Specialties
105129	Phenolic Lockers
105613	Metal Storage Shelving
107500	Flagpoles

DIVISION 11- EQUIPMENT

110600 Schedules for Equipment

DIVISION 12 - FURNISHINGS

- 123100 Manufactured Metal Casework
- 123600 Countertops
- 123900 Site Furnishings

DIVISION 14 - CONVEYING EQUIPMENT

142400 Hydraulic Elevators

VOLUME TWO – DIVISIONS 21 - 33

DIVISION 21 - FIRE SUPPRESSION

210500	Common Work Results for Fire Suppression
210523	General-Duty Valves for Water-Based Fire-Suppression Piping
210548	Vibration and Seismic Controls for Fire Suppression Piping and Equipment
210553	Identification for Fire Suppression Piping and Equipment
211100	Facility Fire-Suppression Water-Service Piping
211300	Fire-Suppression Sprinkler Systems
DIVISION 22 - PLUMBING	
220517	Sleeves and Sleeve Seals for Plumbing Piping

- 220519 Meters and Gauges for Plumbing Piping
- 220523 General-Duty Valves for Plumbing Piping
- 220529 Hangers and Supports for Plumbing Piping and Equipment
- 220548 Vibration and Seismic Controls for Plumbing Piping and Equipment

220553	Identification for Plumbing Piping and Equipment
220719	Plumbing Piping Insulation
220719.11	Under-Lavatory Pipe and Supply Covers - Plumberex
221005	Plumbing Piping
221006	Plumbing Piping Specialties
221500	General-Service Compressed-Air Systems
223000	Plumbing Equipment
224000	Plumbing Fixtures
224500	Emergency Plumbing Fixtures

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

230010	General Mechanical Requirements
230513	Common Motor Requirements for HVAC Equipment
230517	Sleeves and Sleeve Seals for HVAC Piping
230519	Meters and Gauges for HVAC Piping
230523	General-Duty Valves for HVAC Piping
230529	Hangers and Supports for HVAC Piping and Equipment
230548	Vibration and Seismic Controls for HVAC
230553	Identification for HVAC Piping and Equipment
230593	Testing, Adjusting, and Balancing for HVAC
230713	Duct Insulation

230719	HVAC Piping Insulation
230800	Commissioning of HVAC
230923	Direct-Digital Control System for HVAC
230963	Gas Detection and Accessories
230993	Sequence of Operations for HVAC Controls
232113	Hydronic Piping
232113.33	Ground-Loop Heat-Pump Piping
232114	Hydronic Specialties
232123	Hydronic Pumps
232300	Refrigerant Piping
232500	HVAC Water Treatment
232923	Variable Frequency Motor Controllers
233100	HVAC Ducts and Casings
233300	Air Duct Accessories
233413	Axial HVAC Fans
233423	HVAC Power Ventilators
233449	Destratification Fans
233600	Air Terminal Units
233700	Air Outlets and Inlets
237200	Roof Accessories
237210	Air-to-Air Energy Recovery Equipment

- 238129 Variable Refrigerant Flow HVAC Systems
- 238200 Convection Heating and Cooling Units
- 238241 Water-to-Water Heat Pumps
- 238300 Radiant Heating and Cooling Units

DIVISION 26 - ELECTRICAL

260519	Low-Voltage Electrical Power Conductors and Cables
260526	Grounding and Bonding for Electrical Systems
260529	Hangers and Supports for Electrical Systems
260533.13	Conduit for Electrical Systems
260533.16	Boxes for Electrical Systems
260536	Cable Trays for Electrical Systems
260548	Vibration and Seismic Controls for Electrical Systems
260553	Identification for Electrical Systems
260573	Power System Studies
260923	Lighting Control Devices
262413	Switchboards
262416	Panelboards
262416.1	Power Distribution Panelboards
262726	Wiring Devices
262816.16	Enclosed Switches

263213 Engine Generators

- 263600 Transfer Switches
- 264300 Surge Protective Devices
- 265100 Interior Lighting
- 265600 Exterior Lighting

DIVISION 27 - COMMUNICATIONS

- 270529 Hangers and Supports for Communications Systems
- 270533.13 Conduit for Communications Systems
- 275116 Public Address Systems

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

DIVISION 31	- EARTHWORK
284600	Fire Detection and Alarm
284500	Gas Detection and Accessories
284400	Refrigerant Detection and Alarm
283111	Building Intrusion Detection
282000	Video Surveillance
281000	Access Control

- 310000 Site Earthwork
- 310519 Geosynthetics for Earthwork
- 311000 Site Clearing and Demolition
- 312316 Excavation

312323 Fill

316216.13 Sheet Steel Piles

DIVISION 32- EXTERIOR IMPROVEMENTS

- 321216 Asphalt Pavement
- 321313 Cement Concrete Pavement
- 321640 Stone Curbs
- 323113 Fences and Gates
- 329113 Soil Preparation
- 329200 Turf and Grasses
- 329300 Plants

DIVISION 33 - UTILITIES

- 331000 Water Distribution
- 333000 Sanitary Sewerage
- 334000 Storm Sewerage
- 334100 Subdrainage

END OF SECTION

NOTICE TO BIDDERS

<u>Owner</u>

City of Ithaca 108 East Green Street Ithaca, NY 14850

Project Information

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

Architect/Construction Manager

Architect: Mitchell Associates Architects, PLLC 29 Thacher Park Road Voorheesville, NY 12186 (518) 765-4571

Construction Manager: Wendel Construction Inc. 427 Karner Road 2nd Floor, Suite 2 Albany, NY 12205 (716) 688-0766

The Project consists of an approximately 13,400 sf new fire station facility located at 403 Elmwood Avenue, Ithaca, NY

This Project will be awarded to Multiple Prime Contractors as follows:

- A. Contract No. 01 General Construction Contract
- B. Contract No. 02 Heating, Ventilation and Air Conditioning
- C. Contract No. 03 Electrical
- D. Contract No. 04 Plumbing
- E. Contract No. 05 Fire Protection
- F. Contract No. 06 Site/Utility

A Bidder may submit a bid on a single Bid Package, or multiple Bid Packages. If the Bidder chooses to submit on multiple Bid Packages, the Bidder must complete a separate Bid Form for each Bid Package the Bidder chooses to bid on.

Bidders shall be properly licensed under the laws of New York governing their respective trades and be able to obtain insurance and Performance and Payment Bonds as specified and required for the work.

BID SUBMITTAL AND OPENING

One copy of sealed bids for each Prime Contract will be received by <u>Scott Andrew</u> at the Office of the City Controller of the City of Ithaca, 108 East Green Street, Ithaca, NY 14850 until 2:00pm Eastern Standard Time, on Tuesday September 19, 2023.

Bids will be opened publicly and read aloud; any bids received after this time will not be accepted. Bids must contain the bid form completed in its entirety and any other items specified in the contract documents. A bid security shall be submitted with each bid in the amount of five (5%) percent of the bid amount on AIA Document A310-2010 – Bid Bond. No bids may be withdrawn for a period of 60 days after opening of bids.

Bids shall not include New York State sales and compensating use taxes on materials and supplies incorporated into the Work, the Owner being exempt therefrom.

DOCUMENTS

Complete sets of Electronic bidding document drawings and specifications may be obtained from Avalon plan room (<u>https://www.avalonsyr-planroom.com/</u>) after 3:00 pm Eastern Standard Time on Thursday August 17, 2023 or they may be downloaded from the City's Website at: <u>www.cityofithaca.org/bids</u>). Contractors are responsible for the verification of correct scale of drawings and to arrange for printing of documents, if desired.

PREBID MEETING

A non-mandatory pre-bid meeting has been scheduled for 3:00pm Eastern Standard Time on Thursday August 24, 2023 at Fire Headquarters 310 W. Green Street, Ithaca, NY 14850

A walk through of the site will follow the pre-bid meeting at 4:00 pm Eastern Standard Time for those interested at the Project Site.

Attendance at this meeting is recommended as the Owner, Architect and Construction Manager will be present to discuss the Project. Attendees should anticipate a 30-minute Q & A session. The Construction Manager will transmit a record of the pre-bid meeting minutes and attendance in a subsequent Addendum. All questions shall be submitted as an RFI and will be answered in a formal addendum any answers at the walk thru are non binding.

ADDENDA

All pre-bid questions and/or product substitutions must be submitted on form included in the specification manual and in PDF format by e-mail to <u>khandrich@wendelcompanies.com</u> by 10:00am Eastern Standard Time on Tuesday September 5, 2023 to be answered/considered. A final addendum, if necessary, is scheduled to be available after 3:00pm Eastern Standard Time on Monday September 11, 2023 and will be made available from Avalon plan room (<u>https://www.avalonsyr-planroom.com/</u>) Plan holders will be notified.

MINORITY/WOMEN-OWNED BUSINESS REQUIREMENTS

The successful bidder must make a good faith effort in complying with the Minority and Women Owned Business Participation Goals as indicated below. Applicable forms (Form A – MBE Utilization Plan and Form B – WBE Utilization Plan) following the Bid Form must be completed and submitted with the Bid. M/WBE Participation Goal for EACH Prime Contract: **30%** of Contract Sum

TIME OF COMPLETION AND LIQUIDATED DAMAGES

The successful bidder shall begin the Work on receipt of the Notice to Proceed and shall achieve Substantial Completion by January 17, 2025 and Final Completion by February 14, 2025. The Contractor shall pay the Owner liquidated damages for each and every calendar day that he shall be in default in completing the Work, within the times set forth in this Contract, the sum of five-hundred dollars (\$500.00).

SCHEDULE ACKNOWLEDGEMENT

All bidders will be required to sign the Schedule Acknowledgement that is part of the Bid Proposal Certification included in the bid form, whereby each bidder acknowledges that time is the essence of the project schedule as outlined in specification section 011200 Multiple Contract Summary and they have formally confirmed all specified materials and equipment will be procured and installed within the stipulated project schedule or be subject to liquidated damages as specified.

NOTIFICATION

The Owner reserves the right to waive any informalities or irregularities in the Bids received, reject any or all Bids without explanation, or solicit for new bids, if in its sole opinion the best interest of the Owner will be promoted. The Owner is not responsible for any expenses incurred in the preparation of bids.

END OF DOCUMENT 001113



Instructions to Bidders

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

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

THE OWNER:

(Name, legal status, address, and other information) City of Ithaca 108 E. Green Street Ithaca, NY 14850

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

Mitchell Associates Architects, PLLC 29 Thacher Park Road Voorheesville, NY 12186

TABLE OF ARTICLES

- 1 DEFINITIONS
- 2 BIDDER'S REPRESENTATIONS
- 3 BIDDING DOCUMENTS
- 4 BIDDING PROCEDURES
- 5 CONSIDERATION OF BIDS
- 6 POST-BID INFORMATION
- 7 PERFORMANCE BOND AND PAYMENT BOND
- 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

ADDITIONS AND DELETIONS:

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

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

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

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

AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1786132848)

ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

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

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

ARTICLE 2 **BIDDER'S REPRESENTATIONS**

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

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents:
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 **BIDDING DOCUMENTS**

§ 3.1 Distribution

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

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

AIA Document A701 - 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1786132848)

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

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

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

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

§ 3.2 Modification or Interpretation of Bidding Documents

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

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least ten days prior to the date for receipt of Bids. (Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

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

§ 3.3 Substitutions

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

§ 3.3.2 Substitution Process

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

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

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

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

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

AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1786132848)

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

§ 3.4 Addenda

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

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

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

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

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

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

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

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

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

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

§ 4.2 Bid Security

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

5% and AIA A310 Bid Security Form

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

AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1786132848)

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310TM, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning60 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

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

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

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

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

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

§ 4.4 Modification or Withdrawal of Bid

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

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

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

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

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

AIA Document A701 - 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (1786132848)**User Notes:**

§ 5.2 Rejection of Bids

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

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

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

§ 6.2 Owner's Financial Capability

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

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

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

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

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

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1786132848)

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

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

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

100% use attached AIA A312 Bond forms

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

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

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

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

ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS **ARTICLE 8**

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

AIA Document A101[™]–2017, Standard Form of Agreement Between Owner and Contractor, unless .1 otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

- .2 AIA Document A101[™]–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below. (Insert the complete AIA Document number, including year, and Document title.)
- .3 AIA Document A201TM–2017, General Conditions of the Contract for Construction, unless otherwise stated below. (Insert the complete AIA Document number, including year, and Document title.)

.4 (Paragraphs deleted) Drawings

Number

Title **Bid Plans** Date April 3, 2023

(Paragraphs deleted) .5 Specifications

AIA Document A701 - 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

	Section	Title Project Manual	Date April 3, 2023	Pages
(Paragraphs .6	<i>deleted)</i> Addenda:			
	Number	Date	Pages	
(Paragraphs	deleted)			

Additions and Deletions Report for

AIA[®] Document A701[®] – 2018

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:34:26 ET on 08/16/2023.

PAGE 1

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

•••

<u>City of Ithaca</u> <u>108 E. Green Street</u> Ithaca, NY 14850

•••

Mitchell Associates Architects, PLLC 29 Thacher Park Road Voorheesville, NY 12186 PAGE 3

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven ten days prior to the date for receipt of Bids. **PAGE 4**

5% and AIA A310 Bid Security Form PAGE 5

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning beginning60 days after the opening of Bids, withdraw its Bid and request the return of its bid security. **PAGE 6**

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305TM, Contractor's Qualification Statement, Statement (following this section), unless such a Statement has been previously required and submitted for this Bid. **PAGE 7**

100% use attached AIA A312 Bond forms

•••

User Notes:

Additions and Deletions Report for AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "AiA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com.

- .4 AIA Document E203[™] 2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below: (Insert the date of the E203-2013.)
- .5 Drawings

...

		Bid Plans	April 3, 2023	
.6	Specifications			
	Section	Title	Date	Pages
.7	Addenda:.5 Specifications	Data	Pagas	
	NUTTICF	Date	rayes	
	Section	Title	Date	Pages
		Project Manual	April 3, 2023	
.8	Other Exhibits: (Check all boxes that apply and incl	ude appropriate information	identifying the exh	ihit where
	required.)			
	required.) [] AIA Document E204™_20 (Insert the date of the E204	17, Sustainable Projects Exhi -2017.)	bit, dated as indica	ted below:
	required.) []AIA Document E204™_20 (Insert the date of the E204 	17, Sustainable Projects Exhi 	bit, dated as indica	ted below:
	required.) [] AIA Document E204™ 20 (Insert the date of the E204 	17, Sustainable Projects Exhi 2017.)	bit, dated as indica	ted below:
	required.) [] AIA Document E204™ 20 (Insert the date of the E204 	17, Sustainable Projects Exhi -2017.) Date	bit, dated as indica Pages	ted below:
[−]	required.) [] AIA Document E204™ 20 <i>(Insert the date of the E204</i>	17, Sustainable Projects Exhi -2017.) Date s of the Contract:.6 Addend	bit, dated as indica Pages a:	ted below:
[−]	required.) [-] AIA Document E204™ 20 <i>(Insert the date of the E204</i>	17, Sustainable Projects Exhi -2017.) Date s of the Contract:.6 Addend Title	bit, dated as indica Pages <u>a:</u> Date	ted below: Pages

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

Additions and Deletions Report for AIA Document A701 – 2018. Copyright © 1970, 1974, 1978, 1987, 1997 and 2018>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents[®] Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:34:26 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA[®] Document A701[™] - 2018, Instructions to Bidders, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright @ 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:26 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@alacontracts.com. **User Notes:** (1786132848)



Trade::	Licens	e No:			Date:	
COMPANY INFORMATION (ple	ase print or type)					
Legal Business Name:			Type of Company (General business):			
Street Address:			Years in Business	(current name):	Federal Tax ID:	
City:	State:	Zip:	Business Type:	Corporation	Sole Proprietor Other	Partnership
Mailing Address:			Labor Affiliation: National Agreeme	Union Merit	t Shop 🔲 Not Applica	ble eements):
City:	State:	Zip:				
President: (or equivalent)	alent) Vice President: (or equivalent)		Company Certifications (check if appropriate):			
Principal Contact:	Contact's Title:					
Telephone Number:	Toll-Free Number:		Minority/Disadvantaged Business Enterprise Relations/Participation: Do you use Subconsultants/Subcontractors/Suppliers that qualify as: Minority Enterprises? Yes Disadvantaged Business Enterprises? Yes Disadvantaged Business Enterprises? Yes			
Fax Number:	Mobile Number:		Associations/Affili	ations (list associations,	i.e. AIA, ASCE, IEEE, ASHRA	E, AWWA):
Email address:			·			
Company website:						
Parent Company or Subsidiary Inforr	nation:					
Parent Company Name			Subsidiary Name			
Street Address			Street Address			
City, State, Zip			City, State, Zip			
Telephone Number			Telephone Numbe	er		
Fax Number			Fax Number			
List any Employee Identification No., from that under which a contract or	Social Security No., I agreement will be sig	Name, DBA, trade nam ned.	ne or abbreviation pi	reviously or currently	v used by your busine	ss which is different
Do you have a company Substance	Abuse Policy?	🗌 Yes 🗌 No	Do you have an Af	firmative Action Plar	n for employees?	🗌 Yes 🗌 No
Do you include training/orientation of harassment in the workplace?	on sexual	🗌 Yes 🗌 No	Are you an Equal (Opportunity Employe	'n	🗌 Yes 🗌 No



COMPANY INFORMATION CONTINUED

Permanent Employees: Indicate the number of permaner	nt personnel by c	lassification		
Total # of Employees		Engineers/Architects		
Executive / Management		Draftsmen		
Project Management		Foreman		
Project Engineers		Skilled Craftsmen		
Project Superintendents		Unskilled Labor		
Estimators		Other		
Do you have a Quality Control Program?	🗌 Yes 🗌 No	In-house engineering or fabrication capabilities?	🗌 Yes 🔲 No	
Do you have Design/Build capabilities?	🗌 Yes 🗌 No	Annual employee turnover percentage?		%
What is the percentage of total annual work performed ir	or for the const	ruction industry? %		
What is your desired project size? Maximum	\$	Minimum		
List data for three most recently completed fiscal years.		¥		
Fiscal Year Max. Contract Value		Annual Company Revenue	Current Year C	Company Workload
\$	\$	5		
\$	4		\$	
¢	d		· · · ·	
¥	iorme Indicate n	eroentages self-nerformed by company vs. s	ubconsultants for each	
(List additional scopes, if needed, on a separate sheet)	orms. mulcate p	ercentages sen-performed by company vs. s		i scope.
1		Self-Performed %:	Subcontracted %:	
2		Self-Performed %:	Subcontracted %:	
3		Self-Performed %:	Subcontracted %:	
4		Self-Performed %:	Subcontracted %:	
SAFETY INFORMATION				
Safety performance for the past three years (if applicable	:)	Does your company have a written Safety	Program?	Yes 🗌 No
Year		Do you have a Company Safety Director or	other Safety	Yes 🔲 No
OSHA Recordable Incident Rate			mente2	
Experience Modification Rate (EMR)		Are all employees trained in safety require		
Number of Lost workdays Number of Recordable Injury Cases		Has your company ever had its Workers Co Insurance dropped? If yes, provide reason.	ompensation	Yes 🗌 No
Total Employees Hours Worked Number of Fatalities		Have you had any OSHA fines in the past 3 If yes, provide details and circumstances for each incide	syears?	Yes 🗌 No
INSURANCE INFORMATION (Attach copies of c	urrent insura	nce certificates.)		
Do you carry, or can you obtain the following <u>minimum</u> in coverage? (Insurance requirements will vary by project.)	surance	Insurance Company:		
Worker's Comp Statutory Max at Project Site Location?	Yes No	Address:		
General Liability \$1,000,000 Occurrence		Insurance Agent:		
Auto Liability \$1,000,000		Telephone:		
Protessional Liability \$1,000,000 Occurrence (if applicable) \$2,000,000 Aggregate	□ Yes □ No □ Yes □ No			
Umbrella/Excess \$1,000,000 Occurrence \$2,000,000 Aggregate	☐ Yes ☐ No ☐ Yes ☐ No			
		•		



Bonding Company:		Total Bonding Capacity \$	
Contact:	Phone:	Current Available Bonding Capacity \$	
PROJECT EXPERIENC	E INFORMATION		
List 3 largest projects CURRENTLY in progress		List 3 largest projects COMPLETED IN LAST 5 YEARS	
Project #1:		Project #1:	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount: Completion Date:	
Architect Name / Phone:		Architect Name / Phone:	
GC/CM Name / Phone:		GC/CM Name / Phone:	
Owner Name / Phone:		Owner Name / Phone:	
Project #2:		Project #2:	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount: Completion Date:	
Architect Name / Phone:		Architect Name / Phone:	
GC/CM Name / Phone:		GC/CM Name / Phone:	
Owner Name / Phone:		Owner Name / Phone:	
Project #3:		Project #3:	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount: Completion Date:	
Contract Amount: Architect Name / Phone:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Reference #1:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact:	Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Contact: Contact: Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact: Reference #3:	Completion Date: Phone: Phone:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Contact: Contact: Phone: Reference #3: Contact:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact: Reference #3: Contact:	Completion Date: Phone: Phone: Phone:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Contact: Contact: Phone: Reference #3: Contact: Contact: Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact: Reference #3: Contact: BANK or CREDIT REF	Completion Date: Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Contact: Contact: Phone: Reference #3: Contact: Contact: Phone:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact: Reference #3: Contact: BANK or CREDIT REF Financial Institution #1:	Completion Date: Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #2: Contact: Contact: Phone: Reference #3: Contact: Financial Institution #2: Financial Institution #2:	
Contract Amount: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: TRADE REFERENCES Reference #1: Contact: Reference #2: Contact: Reference #3: Contact: BANK or CREDIT REF Financial Institution #1: Contact:	Completion Date: Completion Date:	Contract Amount: Completion Date: Architect Name / Phone: GC/CM Name / Phone: Owner Name / Phone: Owner Name / Phone: CONSULTANT, OWNER, GC, or CM REFERENCES Reference #1: Contact: Phone: Reference #1: Contact: Contact: Phone: Reference #2: Contact: Contact: Phone: Reference #3: Contact: Contact: Phone: Financial Institution #2: Phone:	

LEGAL



Contractor Qualification Form

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

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

 Printed Name
 Signature

 Title
 Date

 Return completed form:
 E-mail:

 Kaitlyn Handrich KHandrich@wendelcompanies.com
 Date

 Wendel,427New Karner Road 2nd Floor, Suite 2 Albany, NY 12205

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

MA Mitchell Associates Architects PLLC

SUBSTITUTION REQUEST FORM

PROJECT:	Ithaca Fire Station					
OWNER:	City of Ithaca					
TO Mitchell Asso 29 Thacher P	Architect/Engineer ociates Architects PL ark Road	LC	FROM]	Contractor	
Voorheesville, NY 12186						
CONTRACTO	DR'S REQUEST, WI	TH SUPPORTING DA	TA			
1. Specification Sections to which this request applies: Product data for proposed substitution is attached (description product, reference standards, performance and test data).						
Sample	e is attached			Sample	will be sent if requ	ired by Architect
2. Itemiz	ed comparison of pro-	oposed substitution with	n product sj	pecified.		
	SPECIFIED PROD		UCT		PROPOSED	SUBSTITUTION
Nam	e, Brand:					
Cata	log No.:					
Man	ufacturer:					
Warr	canty:					
Sign	ificant:					
Varia	ations:					



Reduce/Increase Contract Time by days. No change.						
Proposed Change in Contract Sum:						
Credit to Owner \$						
Effect of the proposed substitution on other parts of the Work, or on other contracts.						

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

We have investigated the proposed substitution and we:

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

Contractor Signature (s) Date

Г

4.

5.
MA Mitchell Associates Architects PLLC

ARCHITECT'S REVIEW AND ACTION

Wendel

Date

BID FORM

To: City of Ithaca Ithaca Fire Station 403 Elmwood Ave Ithaca, NY 14850

In compliance with the Notice to Bidders, the undersigned:

(Name of firm, partnership, or Corporation)

hereby proposes to furnish all supervision, labor, materials, plant, tools, equipment, transportation, overhead and profit, and other facilities related to, proper for, or incidental to the Bid Package noted below for the Ithaca Fire Station, in strict accordance with the Project Manuals dated April 2, 2023 and the Drawings mentioned therein, and including any subsequently issued addenda for consideration of the following breakdown:

BID PACKAGE: (check one)

□ Bid Package No.01 – General Construction (GCC)

□ Bid Package No.02 – Heating, Ventilation and Air Conditioning (MC)

□ Bid Package No.03 – Electrical (EC)

□ Bid Package No.04 – Plumbing (PC)

□ Bid Package No.05 – Fire Protection (FSC)

□ Bid Package No.06 – Site Utility (SC)

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

LUMP SUM COST OF CONSTRUCTION

Dollars (\$)

REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL WITH COMPACTED

<u>STRUCTURAL FILL</u> – Unit price of \$____/CY, times assumed quantity of 2,000CY. (Fill in unit price and computed total for this bid item, applicable to Bid Package No. 06 ONLY)

<u>Computed Total</u> <u>Dollars</u> (\$ <u>)OPEN EXCAVATION ROCK REMOVAL</u> – Unit price of \$ ____/CY, times assumed quantity of 500CY. (Fill in unit price and computed total for this bid item, applicable to Bid Package No. 06 ONLY)

 Computed Total
 Dollars

 (\$)PLACEMENT OF LEAN CONCRETE FILL MATERIAL – Unit price of

 \$/CY, times assumed quantity of 250CY. (Fill in unit price and computed total for this bid item,

applicable to Bid Package No. 06 ONLY)

Computed Total	Dollars
(\$)]	PIER AND TRENCH ROCK REMOVAL – Unit price of \$ /CY, times
assumed quantity of	250CY. (Fill in unit price and computed total for this bid item, applicable to Bid
Package No. 06 ON	LY)
Computed Total	Dollars
(\$)]	LUID APPLIED FLOORING MOISTURE MITIGATION – Unit price of
\$ /SF, times	assumed quantity of 4,000SF.
(Fill in unit price an	d computed total for this bid item, applicable to Bid Package No. 06 ONLY)
Computed Total	Dollars
(\$)	WINTER CONDITIONS FOR FOUNDATION WORK – Allowance of \$200,000.00
for winter condition	s for foundation work only (applicable to Bid Package No. 01 ONLY)
Computed Total	Dollars
(\$200,000.00)TOTA	L LUMP SUM BASE BID (LUMP SUM OF CONSTRUCTION + APPLICABLE
ITEMS ABOVE)	
	Dollars (\$)
<u>ALTERNATES:</u> R description of work	efer to Division 01 Section 011200 "Multiple Contract Summary" for specific trade and 012300 "Alternates" for complete description.
Alternate #1. Arch	tectural Wood Casework in rooms 108 "DAV ROOM/ KITCHEN/ DINING" and

Alternate #1: Architectural Wood Casework in rooms 108 "DAY ROOM/ KITCHEN/ DINING" and ROOM 109 "LIVING ROOM".

ADD _____ Dollars (\$____)

NOTE: BASIS OF CONTRACT AWARD WILL BE IN ACCORDANCE WITH ARTICLE 5 OF "INSTRUCTION TO BIDDERS"

MINORITY/WOMEN-OWNED BUSINESS REQUIREMENTS

The undersigned agrees to make a good faith effort in complying with the Minority and Women Owned Business Participation Goal as indicated below. The applicable forms (Form A – MBE Utilization Plan and Form B – WBE Utilization Plan) following this Bid Form must be completed and submitted with the Bid Form. M/WBE Participation Goal for General Construction Contract: 30% of Contract Sum

SUBCONTRACTORS

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

1. SUBCONTRACTOR NAME PHONE #

TRADE

MBE: YES/NO WBE: YES/NO		
SUMMARY OF WORK:		
SUBCONTRACTOR NAME	<u>PHONE #</u>	TRADE
MBE: YES/NO WBE: YES/NO		
SUMMARY OF WORK:		
SUBCONTRACTOR NAME	<u>PHONE #</u>	TRADE
MBE: YES/NO WBE: YES/NO		
SUMMARY OF WORK:		
SUBCONTRACTOR NAME	<u>PHONE #</u>	TRADE
MBE: YES/NO WBE: YES/NO		
SUMMARY OF WORK:		

PHONE #	<u>TRADE</u>
	<u>PHONE #</u>

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

The Bidder agrees that this Proposal shall be good and may not be withdrawn for a period of sixty (60) calendar days from the date of Bid opening. Furthermore, the undersigned will, within five (5) days of written Notice of Award of this bid, execute a contract in the form specified and submit specified insurance certificates and Performance and Payment Bonds. The undersigned also agrees that the alternate prices on this proposal shall be valid and will not increase for a period of Twelve (12) months from the date of Bid opening. The undersigned also agrees that the unit prices on this proposal, if any, shall be valid and will not increase from the date of Bid opening.

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

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

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

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

Contractor Qualification Form, shall be completed and delivered to the Construction Manager, by the two (2) low bidders of each bid package, within 48 hrs after the Bid opening, upon receiving the request for the submittals by the Construction Manager.

Dated _____, 20____

(Sign Bid Here) By:

Legal Business Address:

Legal name of person, partnership, or corporation

Name and Title

Street

City and State

Phone Number

Email

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

Name of Members or Partners	Legal Residence
IF BIDDER IS A CORPORATIO	ON, COMPLETE THE FOLLOWING:
State of Incorporation:	
Name and Title	Legal Residence
President	
Vice President	
Secretary	

WAIVER OF IMMUNITY CLAUSE

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

- (a) Such person, any firm, partnership, or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any municipal corporation or any public department, agency or official thereof, for goods, work or services, for a period of five years after such refusal, and
- (b) Any and all contracts made with any municipal corporation or any public department, agency or official thereof, since the effective date of this law, by such person, and by any firm, partnership, or corporation of which he is a member, partner, director of officer may be canceled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid.

Individual

Corporation

Date _____ By:

AFFIRMATIVE ACTION AGREEMENT

Firm Name:

Business Address:

Telephone Number: _____

Non-discrimination Clauses:

- 1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, or national origin and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, sex, color, or national origin. Such action shall be taken with reference, but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
- 2. The Contractor will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State of New York Equal Rights Division, advising such labor union or representative of the Contractor's agreement under clauses (1) through (7) (hereinafter called "non-discrimination clauses"). If the Contractor was directed to do so by the contracting agency as part of the bid or negotiation of this Contract, the Contractor shall request such labor union or representative to furnish him with a written statement that such labor union or representative will not discriminate because of race, creed, sex, color or national origin and that such labor union or representative either will affirmatively cooperate, within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses or that it consents and agrees that recruitment, employment and the terms and conditions of employment under this Contract shall be in accordance with the purposes and provisions of these nondiscrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the Contractor shall promptly notify the State Commission for Human Rights of such failure or refusal.
- 3. The Contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State of New York Equal Rights Division setting forth the substance of the provisions of clauses (1) and (2) and such provisions of the State's laws against discrimination as the State of New York Equal Rights Division shall determine.
- 4. The Contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, sex, color, or national origin.
- 5. The Contractor will comply with all applicable local, state and federal non-discrimination laws will furnish all information and reports deemed necessary by the State of New York Equal Rights Division under these non-discrimination clauses and such sections of the Executive Law, and will permit access to his books, records and accounts by the State of New York Equal Rights Division,

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

- 6. This Contract may be forthwith canceled, terminated or suspended, in whole or in part, by the contracting agency upon the basis of a finding made by the State of New York Equal Rights Division that the Contractor has not complied with these non-discrimination clauses, and the Contractor may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the state, until he satisfies the State of New York Equal Rights Division that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the State of New York Equal Rights Division after conciliation efforts by the New York Employment Relations Commission have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the New York Employment Relations Commission , notice thereof has been given to the Contractor and an opportunity has been afforded him to be heard publicly before members of the New York Employment Relations Commission. Such sanctions may be imposed and remedies invoked dependently of or in addition to sanctions and remedies otherwise provided by law.
- 7. The Contractor will include the provisions of clauses (1) through (6) in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The Contractor will take such action in enforcing such provisions of such subcontract or purchase order as the contracting agency may direct, including sanctions or remedies for non-compliance. If the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor shall promptly so notify the Attorney General, requesting him to intervene and protect the interests of the State of New York.

Signature (Authorized): _____

Title: _____

BID PROPOSAL CERTIFICATIONS

Firm N	Name	
Busine	ness Address	
Teleph	phone Number Date of Bid	
I.	General Bid Certification	
	The bidder certifies that he will furnish, at the prices herein quoted, the n and/or services as proposed on this bid.	naterials, equipment,
II.	Non-Collusive Bidding Certifications	
	By submission of this bid proposal, the bidder also certifies compliance	with the following:
	Statement of non-collusion in bids and proposals to political sub Every bid or proposal hereafter made to a political subdivision of the stat department, agency or official thereof where competitive bidding is requ regulation, or local law, for work or services performed or to be perform sold, shall contain the following statement subscribed by the bidder and as true under the penalties of perjury: Non-collusive bidding certification	division of the state. The or any public ired by statute, rule, ed or goods sold or to be affirmed by such bidder n.
	(a) By submission of this bid, each bidder and each person signi bidder certifies, and in the case of a joint bid, each party thereto certifies organization, under penalty of perjury, that to the best of knowledge and	ng on behalf of any as to its own belief:
	(1) The prices in this bid have been arrived at independently wit consultation, communication or agreement, for the purpose of restricting matter relating to such prices with any other bidder or with any competite	hout collusion, competition, as to any or;
	(2) Unless otherwise required by law, the prices which have been not been knowingly disclosed by the bidder and will not knowingly be di- prior to opening, directly or indirectly, to any other bidder to any compet	n quoted in this bid have sclosed by the bidder itor; and

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

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning subparagraph one (a).

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

III. Schedule Acknowledgement Certification

The bidder certifies, that he acknowledges that time is the essence of the project schedule as outlined in specification section 011200 Multiple Contract Summary and they have formally confirmed all specified materials and equipment will be procured and installed within the stipulated project schedule or be subject to liquidated damages as specified.

Signature (Authorized)

Title _____

WOMEN/MINORITY OWNED BUSINESS ENTERPRISES

NEW YORK STATE LAW

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

In order to meet state established Women/Minority-Owned Business Enterprises goals, the contractor must document good faith efforts to provide meaningful participation by MWBEs as contractors, subcontractors or suppliers in the performance of the Contract and Contractor agrees that Wendel may withhold payment pending receipt of the required MWBE documentation. The Contractor is required to complete and submit the MWBE Utilization Plan with their bid.

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

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

MBE UTILIZATION PLAN – FORM A MINORITY OWNED BUSINESS ENTERPRISE (MBE) INFORMATION

In order to achieve the MBE Goals, grantee expects to subcontract/purchase with New York State certified MINORITY-OWNED entities as follows: (add additional pages as needed)

MBE Firm	Description of Work (Products/Services) [MBE]	Projected MBE Expenditure Amount
Name		
Name		<u>\$</u>
Address		
City, State, ZIP		
Employer I.D.		
Telephone Number		
() -		
Name		
		\$
Address		
City, State, ZIP		
Employer I.D.		
Telephone Number		
() -		
Name		
Adduses		<u>\$</u>
Address		
City, State, ZIP		
Employer I.D.		
Telephone Number () -		

WBE UTILIZATION PLAN – FORM B WOMEN OWNED BUSINESS ENTERPRISE (WBE) INFORMATION

In order to achieve the MBE Goals, grantee expects to subcontract/purchase with New York State certified WOMEN-OWNED entities as follows: (add additional pages as needed)

WBE Firm (Exactly as Registered)	Description of Work (Products/Services) [WBE]	Projected WBE Expenditure Amount
Name		
Address		<u>\$</u>
City, State, ZIP		
Employer I.D.		
Telephone Number		
() -		
Name		¢.
Address		<u>></u>
City, State, ZIP		
Employer I.D.		
Telephone Number		
Name		
Address		<u>\$</u>
City, State, ZIP		
Employer I.D.		
Telephone Number () -		



Standard Form of Agreement Between Owner and Contractor where the basis of

payment is a Stipulated Sum

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

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

City of Ithaca 108 E. Green Street Ithaca, NY 14850

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

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

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

Wendel Project No. 618601

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

Mitchell Associates Architects, PLLC 29 Thacher Road Voorheesville, NY 12186

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

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

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

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

AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects at 99:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION 3
- CONTRACT SUM 4
- 5 PAYMENTS
- 6 **DISPUTE RESOLUTION**
- 7 **TERMINATION OR SUSPENSION**
- 8 **MISCELLANEOUS PROVISIONS**
- **ENUMERATION OF CONTRACT DOCUMENTS** 9

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

- []] The date of this Agreement.
- [X] A date set forth in a notice to proceed issued by the Owner.
- [] Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

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

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

§ 3.3 Substantial Completion

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

Init. 1

AlA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 2 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

[] Not later than () calendar days from the date of commencement of the Work.

[X] By the following date: July 4, 2024 and Final Completion of the entire Work by August 1, 2024

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

Portion of Work **Substantial Completion Date**

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

ltem	Price

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

ltem	Price	Conditions for Acceptance
3 4.3 Allowances, if any, included <i>Identify each allowance.)</i>	in the Contract Sum:	
Item	Price	
3 4.4 Unit prices, if any: Identify the item and state the unit	t price and quantity limitations, if any, to v	which the unit price will be applicable.)

Item

ł

5

Units and Limitations

Price per Unit (\$0.00)

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

The Owner and Contractor recognize that time is of the essence and that the Owner will suffer financial loss if the work is not complete within the times specified in the Contract. If the Contractor fails to achieve Substantial Completion July 4, 2024, the Owner and Contractor agree that as liquidated damages, and not as a penalty for delay in performance, the Contractor shall pay the Owner in the amount of five hundred dollars (\$500.00) for each and every working day that expires beyond the agreed upon date for Substantial completion and that the Owner shall have the right to deduct liquidated damages from any amount due or that may become due to the Contractor, or to collect such liquidated damages from the Contractor or its Surety. The Owner has the option to enforce such liquidated damages or to waive such damages.

Init.

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 4.6 Other:

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

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

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

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the 25th day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 25th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than Thirty (30) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

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

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

§ 5.1.6 In accordance with AIA Document A201TM-2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

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

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of Five (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201[™]-2017, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of Five (5%);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- 4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201-2017.

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

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

4

Init.

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

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

(Paragraph deleted)

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

(Paragraphs deleted)

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

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

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

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

§ 5.2 Final Payment

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

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

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

§ 5.3 Interest

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

%

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201-2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker. (If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Mitchell Associates Architects, PLLC 29 Thatcher Road Voorheesville, NY 12186

§ 6.2 Binding Dispute Resolution

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

- [] Arbitration pursuant to Section 15.4 of AIA Document A201-2017
- [X] Litigation in a court of competent jurisdiction
- Other (Specify) []

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

TERMINATION OR SUSPENSION ARTICLE 7

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

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

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

MISCELLANEOUS PROVISIONS ARTICLE 8

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

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

Wendel Construction, Inc. 427 New Karner Road Albany, NY 12205

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

Init.

AIA Document A101 - 2017. Copyright @ 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 6 The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com User Notes:

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

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101TM-2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101TM-2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Other provisions:

(Paragraphs deleted)

ENUMERATION OF CONTRACT DOCUMENTS ARTICLE 9

§ 9.1 This Agreement is comprised of the following documents:

- AIA Document A101TM–2017, Standard Form of Agreement Between Owner and Contractor .1
- .2 AIA Document A101TM-2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201TM-2017, General Conditions of the Contract for Construction
- .4

.4

Drawings Title Date Number Bid Plans April 3, 2023 .6 Specifications Title Date Section Pages Project Manual April 3, 2023 .7 Addenda, if any: Number Date Pages

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

Other Exhibits: .8

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

AIA Document E204TM-2017, Sustainable Projects Exhibit, dated as indicated below: [] (Insert the date of the E204-2017 incorporated into this Agreement.)

Init.

AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 7 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

[] The Sustainability Plan:

	Title	Date	Pages	
[] Supplementary and other Condi			
	Document	Title	Date	Pages

Other documents, if any, listed below: (List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201TM–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

Scope Review Meeting Minutes

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

OWNER (Signature)

.9

(Printed name and title)

CONTRACTOR (Signature)

(Printed name and title)

AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 8 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

Additions and Deletions Report for

AIA[®] Document A101[®] – 2017

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:34:29 ET on 08/16/2023.

PAGE 1

City of Ithaca 108 E. Green Street Ithaca, NY 14850

...

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

Wendel Project No. 618601

...

Mitchell Associates Architects, PLLC 29 Thacher Road Voorheesville, NY 12186 PAGE 2

[X] A date set forth in a notice to proceed issued by the Owner. PAGE 3

[X] By the following date: July 4, 2024 and Final Completion of the entire Work by August 1, 2024

....

The Owner and Contractor recognize that time is of the essence and that the Owner will suffer financial loss if the work is not complete within the times specified in the Contract. If the Contractor fails to achieve Substantial Completion July 4, 2024, the Owner and Contractor agree that as liquidated damages, and not as a penalty for delay in performance, the Contractor shall pay the Owner in the amount of five hundred dollars (\$500.00) for each and every working day that expires beyond the agreed upon date for Substantial completion and that the Owner shall have the right to deduct liquidated damages from any amount due or that may become due to the Contractor, or to collect such liquidated damages from the Contractor or its Surety. The Owner has the option to enforce such liquidated damages or to waive such damages.

PAGE 4

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the 25th day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 25th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than <u>Thirty</u> (<u>30</u>) days after the Architect receives the Application for Payment.

Additions and Deletions Report for AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@alacontracts.com. User Notes:

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

- .1 That Take that portion of the Contract Sum properly allocable to completed Work; Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of Five (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201TM-2017, General Conditions of the Contract for Construction;
- .2 That Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and writing), less retainage of Five (5%);
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified. Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2017.

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

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

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

- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- 4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and 2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2017.

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

Additions and Deletions Report for AIA Document A101 – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

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

(Insert any other conditions for release of retainage upon Substantial Completion.)

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

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

PAGE 6

Mitchell Associates Architects, PLLC 29 Thatcher Road Voorheesville, NY 12186

...

[X] Litigation in a court of competent jurisdiction

...

Wendel Construction, Inc. 427 New Karner Road Albany, NY 12205 PAGE 7

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201 2017, may be given in accordance with AIA Document E203TM 2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203 2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)Other provisions:

. . .

§-8.7 Other provisions:

•••				
	.4 (Inse	AIA Document E203 [™] 2013, Buildir indicated below: ert the date of the E203-2013 incorporat	ng Information Modeling and ed into this Agreement.)	l Digital Data Exhibit, dated as
•••				
	5	1 Drawings		
	.0			
				A
			<u>Bid Plans</u>	<u>April 5, 2025</u>
PAGE 8			Project Manual	<u>April 3, 2023</u>

Scope Review Meeting Minutes

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:34:29 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA[®] Document A101[™] - 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright @ 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "All A," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:29 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:** (1332556129)

REQUIRED LEVEL OF CONTRACTOR'S GENERAL LIABILITY INSURANCE.

The level of Contractor's General Liability Insurance (CGL) should be set to reflect the scope of work and risks associated with the work being done under the contract; *but never less than \$1,000,000 per occurrence*. In the event where a Project may consist of multiple contracts between an Owner and contractors, most often the same insurance requirements are applicable to all Contractors on the Project. But with a larger Project there may be justification for differing levels of coverage for some Project contracts based on the contract amount and the risks involved in the work being performed under each specific contract. For example, a major structural contractor might be hired on a \$50M contract while a commissioning contractor might be hired on a \$50K contract. It's not necessarily cost advantageous to require the same levels of insurance coverage for a lower risk \$50K contract as one would require for a higher risk \$5M contract.

For this reason, there is no specific amount of Umbrella policy insurance required from a contractor herein. The General Liability Insurance amount can be set to levels required for a contract, and the contractor can meet that requirement with a combination of CGL and Umbrella/Excess policies.

BUILDERS RISK INSURANCE

Builder's Risk is a special type of property insurance which indemnifies against damage to buildings while they are under construction. Builder's risk insurance is "coverage that protects a person's or organization's insurable interest in materials, fixtures and/or equipment being used in the construction or renovation of a building or structure should those items sustain physical loss or damage from a covered cause."

There should be only one builders risk policy covering a Project and only one of the project participants should be responsible for putting the policy in place. Typically, a builders risk policy is purchased by either the Owner or a General Contractor [or contract/construction manager at risk (CMR)]. If there is no Project general contractor then the Owner should purchase the Builder's Risk policy.

While working out the details of a given construction project the Owner, with advice from their attorney and insurance agent, should determine what Builder's Risk coverage is required (there is no such thing as a "standard" Builder's Risk policy per se) and whether the Owner or a General Contractor will be responsible for purchasing the policy. All of the parties with a vested interest in the project (including owner, general contractor, trades contractors and subcontractors) should be listed as "named insured" or "additional insured" on the Builder's Risk policy.

In most of Wendel's projects we are crafting multiple contracts between an Owner and several individual trade contractors. Given that fact, the Owner is the only participant that is in a position to purchase "one" builders risk policy that covers the entirety of the Project.

PROTECTIVE LIABILITY INSURANCE NOTES:

The stand alone Owners/Contractors Protective Liability policy has fallen out of favor over the past 10 years or so. Most Owners will likely not ask for this policy, but there are some owners who still will want it; most likely on larger projects or a public entity project.

Section 11 under Contractor's Insurance Requirements below includes the Protective Liability insurance language that has been a part of Wendel's insurance specs for some years. Note that the text in Section 11 is underlined with dotted lines. This means that the text is "hidden" and should not print. You can check that by doing a print preview of the document in your Word application; Section 11 should not show in the print preview.

OWNER'S INSURANCE REQUIREMENTS

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

The Owner shall also purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, (1) property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. This insurance shall be maintained until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. The insurance shall include the interests of the Owner, Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C., Wendel Construction, Inc., Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds.

The policy must state that the following are to be named as additional insured in all liability insurance policies: Owner: Town of Lisbon and Lisbon Emergency Response, LLC, Fire Department: Lisbon Fire Department, Inc.; Architect: Mitchell Associates Architects, PLLC; Civil Engineer: CLA Engineers, Inc.; Structural Engineer: Craig A. Maloney, P.E.; and MEP/FP Engineer: MH Professional Engineering, Inc.; and their respective members, officers, employees and agents. Coverage is to be primary and non-contributory including umbrella liability coverage. A wavier of subrogation in favor of the owner and their agents shall apply. Additional insured waiver should include coverage for both premises and operations as well as completed operations. Additional insured should be provided using Insurance Services Office, Inc. (ISO) forms CG 2010 and CG 2037 or their equivalents.

This insurance shall include the interests of mortgagees as loss payees. The insurance shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. The insurance shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup; debris removal, including demolition occasioned by enforcement of any applicable legal requirements; and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Prior to commencement of the Work, the Owner shall secure the insurance set forth in this paragraph, and provide evidence of the coverage required and, upon the Contractor's request, provide a copy of the property insurance policy or policies. The copy of the policy or policies provide shall contain all applicable conditions, definitions, exclusions, and endorsements.

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

CONTRACTOR'S INSURANCE REQUIREMENTS

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

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

✓ Waiver of Subrogation endorsement

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

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

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

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

4. <u>Automobile Liability Insurance</u> covering all vehicles, including owned, and non-owned vehicles, used by the Contractor with policy limits of not less than \$1,000,000 per accident for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles, along with any other statutorily required automobile coverage.

The following Automobile Liability endorsements are required and must be provided with the Certificate of Insurance.

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

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

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

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

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

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

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

9. <u>Builder's Risk</u>. The Contractor shall also purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, (1) property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a

replacement cost basis and (2) Equipment Breakdown insurance. This insurance shall be maintained until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C., Wendel Construction, Inc., Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees. The insurance shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. The insurance shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup; debris removal, including demolition occasioned by enforcement of any applicable legal requirements; and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Prior to commencement of the Work, the Contractor shall secure the insurance set forth in this paragraph, and provide evidence of the coverage required and, upon the Owner's request, provide a copy of the policy or policies. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

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

- 11. <u>Protective Liability Insurance (OCP)</u> shall be furnished as indicated below:
 - Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under this Contract.
 - Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under this Contract performed for the Contractor by Subcontractors.
 - Owner's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Owner with respect to all operations under the Agreement by the Contractor or by his Subcontractors, including omissions and supervisory acts of the Owner and of the agents and employees of the insured. Such insurance shall name as an additional insured or insureds, the person, persons or corporation specified in detail in the Information for Bidders and/or the agents, observers and employees of this or any other municipal body or public utility which may have granted permits in connection with the work. Owner's Protective Liability shall be written with a limit of liability of not less than <u>\$1,000,000</u> for all damages arising out of bodily injury, including death, at any time resulting therefrom,

sustained by any one person in any one accident: and a limit of liability of not less than <u>\$1,000,000</u> aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than <u>\$1,000,000</u> for all property damage sustained by any one person in any one accident; and a limit of liability of not less than <u>\$1,000,000</u> aggregate for any such damage sustained by two or more persons in any one accident.

- Names of insured for Owner's Protective Liability Policy: The Owner, Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C., Wendel Construction, Inc., and both their agents and employees.
- Contractual Liability Insurance issued to and covering the liability imposed by Contract upon the Owner for work performed on private land with respect to all operations under the Agreement by the Contractor or by his Subcontractors.
- Contractual Liability Insurance issued to and covering the liability imposed by Contract upon the Owner for work performed on private land with respect to all operations under the Agreement by the Contractor or by his Subcontractors.

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

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

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

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

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

2. Other Insurance Provisions

• CGL, Automobile, Umbrella and Pollution policies should be endorsed with the following two endorsements: (1) **Primary and Noncontributory endorsement**, (2) **Additional**
AIA A101-2017 EXHIBIT A – INSURANCE AND BOND REQUIREMENTS

Insured endorsement(s) covering the entities listed in the Additional Insureds table below as additional insured.

Town of Lisbon and Lisbon Emergency Response, LLC, Fire Department: Lisbon Fire Department, Inc.;	
Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.;	
Wendel Construction, Inc.;	
Mitchell Associates Architects, PLLC;	
CLA Engineers, Inc.;	
Craig A. Maloney, P.E.;	
MH Professional Engineering, Inc.;	
and their respective members, officers, employees and agents	

- The additional insured coverage shall be primary and non-contributory to any of the additional insured's general liability insurance policies and shall apply to both ongoing and completed operations.
- The CGL additional insured coverage shall be no less than that provided by ISO Forms CG 20 10 04 13 and CG 20 37 04 13, and with respect to the Architect and Architect's consultants, CG 20 32 04 13. If CGL additional insured coverage is afforded by blanket endorsement it is required to be on ISO forms CG 20 38 12 19 and CG 20 40 12 19.
- CGL Policy coverage shall apply separately to each insured and additional insured party against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability. The insurance afforded to the additional insureds shall be at least as broad as that afforded the first named insured.
- Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any insurance policy endorsement(s) that may be necessary to affect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the Owner for all work performed by the Contractor, its employees, agents and subcontractors.
- The CONTRACTOR shall not self-insure or have a self-insured retention without approval from the Owner. Any policy deductible shall be on an "occurrence" basis. The CONTRACTOR shall be responsible for payment of premiums for all of the insurance coverage required. The CONTRACTOR further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the CONTRACTOR is responsible hereunder, the CONTRACTOR shall be solely responsible for all deductibles without reimbursement by Owner.

AIA A101-2017 EXHIBIT A – INSURANCE AND BOND REQUIREMENTS

• Where commercially available, each insurance policy required shall provide that coverage shall not be canceled except with thirty (30) days advance notice to the Owner. The Contractor shall promptly (but in any event within three Business Days of receipt thereof) inform the Owner if Contractor receives notice of cancellation of any insurance policy required to be maintained pursuant to this Agreement.

3. Verification of Coverage

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

4. Subcontractors

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

5. Special Risks or Circumstances

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

SURETY BONDS

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

- AIA A310 Bid Bond 2010
- Modified AIA A312 Performance Bond 2010 (see attached)
- AIA A312 Payment Bond 2010

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



Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address) City of Ithaca 108 E. Grand Street Ithaca, NY 14850

CONSTRUCTION CONTRACT

Date: Amount: \$ Description: (Name and location)

BOND

Date: (Not earlier than Construction Contract Date)

Amount: \$				
Modifications to this Bond:	None See Section 18			
CONTRACTOR AS PRINCIPAL	SURETY			
Company: (Corporate Seal)	Company: (Corporate Seal)			
Signature:	Signature:			
Name and	Name and			
Title:	Title:			
(Any additional signatures appear on	the last page of this Payment Bond.)			
(FOR INFORMATION ONLY Name	e, address and telephone)			
AGENT or BROKER:	OWNER'S REPRESENTATIVE:			
	(Architect, Engineer or other party:)			
	Wendel Construction, Inc.			
	427 New Karner Road, 2 nd Fl, Suite			
	2			
	Albany, NY 12205			

ADDITIONS AND DELETIONS:

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

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.

AIA Document A312 - 2010 Payment Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "AAA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

AIA Document A312 - 2010 Payment Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

- § 16.1 Claim. A written statement by the Claimant including at a minimum:
 - the name of the Claimant; .1
 - .2 the name of the person for whom the labor was done, or materials or equipment furnished;
 - .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
 - .4 a brief description of the labor, materials or equipment furnished;
 - the date on which the Claimant last performed labor or last furnished materials or equipment for use in .5 the performance of the Construction Contract;
 - .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
 - .7 the total amount of previous payments received by the Claimant; and
 - .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

3

AIA Document A312 - 2010 Payment Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1481864783)

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for add CONTRACTOR AS PRINCIPAL	itional signatures of ad	ded parties, other than those a SURETY	appearing on the cover page.)
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and Title:		Name and Title:	
Address.		Address.	

Init.

AIA Document A312 - 2010 Payment Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Additions and Deletions Report for

AIA[®] Document A312[®] – 2010

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:34:45 ET on 08/16/2023.

PAGE 1

City of Ithaca 108 E. Grand Street Ithaca, NY 14850

...

Wendel Construction, Inc. <u>427 New Karner Road</u>, 2nd Fl, Suite <u>2</u> <u>Albany, NY 12205</u>

Additions and Deletions Report for AIA Document A312 – 2010 Payment Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1481864783)

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:34:45 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312[™] - 2010, Payment Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright @ 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:45 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:** (1481864783)

AIA[°] Document A312[°] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address) City of Ithaca 108 E. Green Street Ithaca, NY 14850

CONSTRUCTION CONTRACT

Date: Amount: \$ Description: (Name and location)

BOND

Date: (Not earlier than Construction Contract Date)

Amount: \$			
Modifications	to this Bond:	None	See Section 16
CONTRACTOR	R AS PRINCIPAL	SURETY	
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and		Name and	
Title:		Title:	
(Any addition	al signatures annear on th	he last name of this Pa	prformance Rond

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone) **OWNER'S REPRESENTATIVE:** AGENT or BROKER:

(Architect, Engineer or other party:) Wendel Construction, Inc. 427 New Karner Road 2nd Fl, Suite 200 Albany, NY 12205

ADDITIONS AND DELETIONS:

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

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init. 1

AIA Document A312 - 2010 Performance Bond. Copyright @ 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced by AIA software at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (3B9ADA46)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

Init.

AIA Document A312 - 2010 Performance Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

§7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

3

AIA Document A312 - 2010 Performance Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (3B9ADA46) User Notes:

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for addition CONTRACTOR AS PRINCIPAL	tional signatures of add	ded parties, other than those a SURETY	ppearing on the cover page.
Company: Signature:	(Corporate Seal)	Company: Signature:	(Corporate Seal)
Name and Title: Address:		Name and Title: Address:	

Init.

AIA Document A312 – 2010 Performance Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (3B9ADA46)

4

Additions and Deletions Report for AIA[®] Document A312[®] – 2010

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:34:39 ET on 08/16/2023.

PAGE 1

City of Ithaca 108 E. Green Street Ithaca, NY 14850

...

Wendel Construction, Inc. 427 New Karner Road 2nd Fl, Suite 200 Albany, NY 12205

PAGE 2

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

Additions and Deletions Report for AIA Document A312 – 2010 Performance Bond. Copyright © 2010. All rights reserved. "The American Institute of Architects," "AMerican Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (3B9ADA46)

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:34:39 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312TM - 2010, Performance Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright © 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," AMerican Institute of Architects, AMerican Institute of Architects, AMerican Institute of Archit Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:34:39 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**



Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address) City of Ithaca 108 E. Green Street Ithaca, NY 14850

BOND AMOUNT: \$

PROJECT:

(Name, location or address, and Project number, if any) Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850 Wendel Project No. 618601

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so

ADDITIONS AND DELETIONS:

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

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

1

AIA Document A310 - 2010. Copyright @ 1963, 1970 and 2010. All rights reserved. "The American Institute of Architects," "AMArchitects," "AIA, the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:35:44 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (862483538)

furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of ,

			(Contrac.	tor as Principal)	(Seal)	
(Witness)			(Title)			
			(Surety)			
(Witness)			(Title)			
4						
1.1.5 - 5				1. ×		
					1	

Additions and Deletions Report for

AIA[®] Document A310[™] – 2010

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:35:44 ET on 08/16/2023.

PAGE 1

City of Ithaca 108 E. Green Street Ithaca, NY 14850

...

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850 Wendel Project No. 618601

Additions and Deletions Report for AIA Document A310 – 2010. Copyright © 1963, 1970 and 2010. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:35:44 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (862483538)

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:35:44 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA[®] Document A310[™] – 2010, Bid Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright © 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:35:44 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (862483538)



General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

THE OWNER:

(Name, legal status and address)

City of Ithaca 108 E. Green Street Ithaca, NY 14850

THE ARCHITECT: (Name, legal status and address)

Mitchell Associates Architects, PLLC 29 Thatcher Park Road Voorheesville, NY 14186

TABLE OF ARTICLES

- **GENERAL PROVISIONS** 1
- 2 OWNER
- CONTRACTOR 3
- ARCHITECT 4
- **SUBCONTRACTORS** 5
- CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS 6
- **CHANGES IN THE WORK** 7
- TIME 8
- PAYMENTS AND COMPLETION 9
- 10 PROTECTION OF PERSONS AND PROPERTY
- **INSURANCE AND BONDS** 11
- 12 UNCOVERING AND CORRECTION OF WORK
- **MISCELLANEOUS PROVISIONS** 13

Init. 1

ADDITIONS AND DELETIONS:

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

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

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 1 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 **CLAIMS AND DISPUTES**

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 2 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

INDEX

(Topics and numbers in **bold** are Section headings.)

Acceptance of Nonconforming Work 9.6.6, 9.9.3, 12.3 Acceptance of Work 9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3 Access to Work 3.16, 6.2.1, 12.1 Accident Prevention 10 Acts and Omissions 3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5, 10.2.8, 13.3.2, 14.1, 15.1.2, 15.2 Addenda 1.1.1 Additional Costs, Claims for 3.7.4, 3.7.5, 10.3.2, 15.1.5 **Additional Inspections and Testing** 9.4.2, 9.8.3, 12.2.1, 13.4 Additional Time, Claims for 3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, 15.1.6 **Administration of the Contract** 3.1.3, 4.2, 9.4, 9.5 Advertisement or Invitation to Bid 111 **Aesthetic Effect** 4.2.13 Allowances 3.8 **Applications for Payment** 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10 Approvals 2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10.1, 4.2.7, 9.3.2, 13.4.1 Arbitration 8.3.1, 15.3.2, 15.4 ARCHITECT 4 Architect, Definition of 4.1.1 Architect, Extent of Authority 2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1 Architect, Limitations of Authority and Responsibility 2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2 Architect's Additional Services and Expenses 2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4 Architect's Administration of the Contract 3.1.3, 3.7.4, 15.2, 9.4.1, 9.5 Architect's Approvals 2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work 3.5, 4.2.6, 12.1.2, 12.2.1 Architect's Copyright 1.1.7, 1.5 Architect's Decisions 3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1, 13.4.2, 15.2 Architect's Inspections 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4 Architect's Instructions 3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2 Architect's Interpretations 4.2.11, 4.2.12 Architect's Project Representative 4.2.10Architect's Relationship with Contractor 1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2 Architect's Relationship with Subcontractors 1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3 Architect's Representations 9.4.2, 9.5.1, 9.10.1 Architect's Site Visits 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4 Asbestos 10.3.1 Attorneys' Fees 3.18.1, 9.6.8, 9.10.2, 10.3.3 Award of Separate Contracts 6.1.1, 6.1.2 Award of Subcontracts and Other Contracts for **Portions of the Work** 5.2 **Basic Definitions** 1.1 **Bidding Requirements** 1.1.1 **Binding Dispute Resolution** 8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1 Bonds, Lien 7.3.4.4, 9.6.8, 9.10.2, 9.10.3 Bonds, Performance, and Payment 7.3.4.4, 9.6.7, 9.10.3, 11.1.2, 11.1.3, 11.5 **Building Information Models Use and Reliance** 1.8 **Building Permit** 3.7.1 Capitalization 1.3 Certificate of Substantial Completion 9.8.3, 9.8.4, 9.8.5

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

Init. 1

Certificates for Payment 4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4 Certificates of Inspection, Testing or Approval 13.4.4 Certificates of Insurance 9.10.2 **Change Orders** 1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2 Change Orders, Definition of 7.2.1 **CHANGES IN THE WORK** 2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5 Claims, Definition of 15.1.1 Claims, Notice of 1.6.2, 15.1.3 **CLAIMS AND DISPUTES** 3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4 Claims and Timely Assertion of Claims 15.4.1 **Claims for Additional Cost** 3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, 15.1.5 **Claims for Additional Time** 3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, 15.1.6 Concealed or Unknown Conditions, Claims for 3.7.4 Claims for Damages 3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7 Claims Subject to Arbitration 15.4.1 **Cleaning Up** 3.15, 6.3 Commencement of the Work, Conditions Relating to 2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, 15.1.5 Commencement of the Work, Definition of 8.1.2 Communications 3.9.1, 4.2.4 Completion, Conditions Relating to 3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2 **COMPLETION, PAYMENTS AND** 9 Completion, Substantial 3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2 Compliance with Laws 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions 3.7.4, 4.2.8, 8.3.1, 10.3 Conditions of the Contract 1.1.1, 6.1.1, 6.1.4 Consent, Written 3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2 **Consolidation or Joinder** 15.4.4 **CONSTRUCTION BY OWNER OR BY** SEPARATE CONTRACTORS 1.1.4,6 Construction Change Directive, Definition of 7.3.1 **Construction Change Directives** 1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1 Construction Schedules, Contractor's 3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2 **Contingent Assignment of Subcontracts** 5.4, 14.2.2.2 **Continuing Contract Performance** 15.1.4 Contract, Definition of 1.1.2 CONTRACT, TERMINATION OR SUSPENSION OF THE 5.4.1.1, 5.4.2, 11.5, 14 **Contract Administration** 3.1.3, 4, 9.4, 9.5 Contract Award and Execution, Conditions Relating to 3.7.1, 3.10, 5.2, 6.1 Contract Documents, Copies Furnished and Use of 1.5.2, 2.3.6, 5.3 Contract Documents, Definition of 1.1.1 **Contract Sum** 2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, **9.1**, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, 15.1.5, 15.2.5 Contract Sum, Definition of 9.1 Contract Time 1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5 Contract Time, Definition of 8.1.1 CONTRACTOR 3 Contractor, Definition of 3.1, 6.1.2 **Contractor's Construction and Submittal** Schedules 3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Contractor's Employees 2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2.1.1 **Contractor's Liability Insurance** 11.1 Contractor's Relationship with Separate Contractors and Owner's Forces 3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4 Contractor's Relationship with Subcontractors 1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4 Contractor's Relationship with the Architect 1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1 Contractor's Representations 3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2 Contractor's Responsibility for Those Performing the Work 3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8 Contractor's Review of Contract Documents 32 Contractor's Right to Stop the Work 2.2.2, 9.7 Contractor's Right to Terminate the Contract 14.1 Contractor's Submittals 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3 Contractor's Superintendent 3.9, 10.2.6 Contractor's Supervision and Construction Procedures 1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4 Coordination and Correlation 1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1 Copies Furnished of Drawings and Specifications 1.5, 2.3.6, 3.11 Copyrights 1.5, 3.17 Correction of Work 2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1 **Correlation and Intent of the Contract Documents** 1.2 Cost, Definition of 7.3.4 Costs 2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14 **Cutting and Patching** 3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors 3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4 Damage to the Work 3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4 Damages, Claims for 3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7 Damages for Delay 6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2 Date of Commencement of the Work, Definition of 8.1.2 Date of Substantial Completion, Definition of 8.1.3 Day, Definition of 8.1.4 Decisions of the Architect 3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2 **Decisions to Withhold Certification** 9.4.1, 9.5, 9.7, 14.1.1.3 Defective or Nonconforming Work, Acceptance, Rejection and Correction of 2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1 Definitions 1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1 **Delays and Extensions of Time** 3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5 **Digital Data Use and Transmission** 1.7 Disputes 6.3, 7.3.9, 15.1, 15.2 **Documents and Samples at the Site** 3.11 Drawings, Definition of 1.1.5 Drawings and Specifications, Use and Ownership of 3.11 Effective Date of Insurance 8.2.2 Emergencies 10.4, 14.1.1.2, 15.1.5 Employees, Contractor's 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1 Equipment, Labor, or Materials 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2 Execution and Progress of the Work 1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Init. 1

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Extensions of Time 3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, 15.2.5 **Failure of Payment** 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2 Faulty Work (See Defective or Nonconforming Work) **Final Completion and Final Payment** 4.2.1, 4.2.9, 9.8.2, 9.10, 12.3, 14.2.4, 14.4.3 Financial Arrangements, Owner's 2.2.1, 13.2.2, 14.1.1.4 **GENERAL PROVISIONS** 1 **Governing Law** 13.1 Guarantees (See Warranty) **Hazardous Materials and Substances** 10.2.4. 10.3 Identification of Subcontractors and Suppliers 5.2.1 Indemnification 3.17, 3.18, 9.6.8, 9.10.2, 10.3.3, 11.3 Information and Services Required of the Owner 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5, 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4 **Initial Decision** 15.2 Initial Decision Maker, Definition of 118 Initial Decision Maker, Decisions 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5 Initial Decision Maker, Extent of Authority 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5 Injury or Damage to Person or Property 10.2.8, 10.4 Inspections 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 12.2.1, 13.4 Instructions to Bidders 1.1.1 Instructions to the Contractor 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2 Instruments of Service, Definition of 1.1.7 Insurance 6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, 11 Insurance, Notice of Cancellation or Expiration 11.1.4, 11.2.3 **Insurance, Contractor's Liability** 11.1 Insurance, Effective Date of 8.2.2, 14.4.2 Insurance, Owner's Liability 11.2 **Insurance**, **Property** 10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials 9.3.2 **INSURANCE AND BONDS** 11 Insurance Companies, Consent to Partial Occupancy 991 Insured loss, Adjustment and Settlement of 11.5 Intent of the Contract Documents 1.2.1, 4.2.7, 4.2.12, 4.2.13 Interest 13.5 Interpretation 1.1.8, 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1 Interpretations, Written 4.2.11, 4.2.12 Judgment on Final Award 15.4.2 Labor and Materials, Equipment 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2 Labor Disputes 8.3.1 Laws and Regulations 1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8, 15.4 Liens 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8 Limitations, Statutes of 12.2.5, 15.1.2, 15.4.1.1 Limitations of Liability 3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6, 4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3, 11.3, 12.2.5, 13.3.1 Limitations of Time 2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7, 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15, 15.1.2, 15.1.3, 15.1.5 Materials, Hazardous 10.2.4, 10.3 Materials, Labor, Equipment and 1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2 Means, Methods, Techniques, Sequences and Procedures of Construction 3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2 Mechanic's Lien 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8 Mediation 8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1, 15.4.1.1 **Minor Changes in the Work** 1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, 7.4

Init.

AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 6 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

MISCELLANEOUS PROVISIONS 13 Modifications, Definition of 1.1.1 Modifications to the Contract 1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2 **Mutual Responsibility** 6.2 Nonconforming Work, Acceptance of 9.6.6, 9.9.3, 12.3 Nonconforming Work, Rejection and Correction of 2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2 Notice **1.6**, 1.6.1, 1.6.2, 2.1.2, 2.2.2, 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1 Notice of Cancellation or Expiration of Insurance 11.1.4, 11.2.3 **Notice of Claims** 1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, 15.1.3, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1 Notice of Testing and Inspections 13.4.1, 13.4.2 Observations, Contractor's 3.2, 3.7.4 Occupancy 2.3.1, 9.6.6, 9.8 Orders, Written 1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1 OWNER 2 Owner, Definition of 2.1.1 **Owner, Evidence of Financial Arrangements** 2.2, 13.2.2, 14.1.1.4 Owner, Information and Services Required of the 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4 **Owner's** Authority 1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7 **Owner's Insurance** 11.2 Owner's Relationship with Subcontractors 1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2 **Owner's Right to Carry Out the Work** 2.5, 14.2.2

Owner's Right to Clean Up 6.3 **Owner's Right to Perform Construction and to Award Separate Contracts** 6.1 **Owner's Right to Stop the Work** 2.4 Owner's Right to Suspend the Work 14.3 Owner's Right to Terminate the Contract 14.2, 14.4 **Ownership and Use of Drawings, Specifications** and Other Instruments of Service 1.1.1, 1.1.6, 1.1.7, 1.5, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3 **Partial Occupancy or Use** 9.6.6. 9.9 Patching, Cutting and 3.14, 6.2.5 Patents 3.17 Payment, Applications for 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3 Payment, Certificates for 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4 **Payment**, Failure of 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2 Payment, Final 4.2.1, 4.2.9, 9.10, 12.3, 14.2.4, 14.4.3 Payment Bond, Performance Bond and 7.3.4.4, 9.6.7, 9.10.3, 11.1.2 **Payments**, **Progress** 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4 **PAYMENTS AND COMPLETION** Payments to Subcontractors 5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2 PCB 10.3.1 **Performance Bond and Payment Bond** 7.3.4.4, 9.6.7, 9.10.3, 11.1.2 Permits, Fees, Notices and Compliance with Laws 2.3.1, 3.7, 3.13, 7.3.4.4, 10.2.2 PERSONS AND PROPERTY, PROTECTION OF 10 Polychlorinated Biphenyl 10.3.1 Product Data, Definition of 3.12.2 **Product Data and Samples, Shop Drawings** 3.11, 3.12, 4.2.7 **Progress and Completion** 4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.4 **Progress Payments** 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Init. 1

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AMA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

Project, Definition of 1.1.4 **Project Representatives** 4.2.10 **Property Insurance** 10.2.5, 11.2 **Proposal Requirements** 1.1.1 **PROTECTION OF PERSONS AND PROPERTY** 10 **Regulations and Laws** 1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4 Rejection of Work 4.2.6, 12.2.1 Releases and Waivers of Liens 9.3.1, 9.10.2 Representations 3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1 Representatives 2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1 Responsibility for Those Performing the Work 3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10 Retainage 9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3 **Review of Contract Documents and Field Conditions by Contractor** 3.2, 3.12.7, 6.1.3 Review of Contractor's Submittals by Owner and Architect 3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2 Review of Shop Drawings, Product Data and Samples by Contractor 3 12 **Rights and Remedies** 1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2, 12.2.4, 13.3, 14, 15.4 **Royalties, Patents and Copyrights** 3.17 Rules and Notices for Arbitration 15.4.1 Safety of Persons and Property 10.2, 10.4 **Safety Precautions and Programs** 3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4 Samples, Definition of 3.12.3 Samples, Shop Drawings, Product Data and 3.11, 3.12, 4.2.7 Samples at the Site, Documents and 3.11 **Schedule of Values** 9.2, 9.3.1 Schedules, Construction 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Separate Contracts and Contractors 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2 Separate Contractors, Definition of 6.1.1 Shop Drawings, Definition of 3.12.1 Shop Drawings, Product Data and Samples 3.11, 3.12, 4.2.7 Site, Use of 3.13, 6.1.1, 6.2.1 Site Inspections 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4 Site Visits, Architect's 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4 Special Inspections and Testing 4.2.6, 12.2.1, 13.4 Specifications, Definition of 1.1.6 **Specifications** 1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14 Statute of Limitations 15.1.2, 15.4.1.1 Stopping the Work 2.2.2, 2.4, 9.7, 10.3, 14.1 Stored Materials 6.2.1, 9.3.2, 10.2.1.2, 10.2.4 Subcontractor, Definition of 5.1.1 **SUBCONTRACTORS** Subcontractors, Work by 1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7 **Subcontractual Relations** 5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1 Submittals 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3 Submittal Schedule 3.10.2, 3.12.5, 4.2.7 Subrogation, Waivers of 6.1.1, 11.3 Substances, Hazardous 10.3 **Substantial Completion** 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2 Substantial Completion, Definition of 9.8.1 Substitution of Subcontractors 5.2.3, 5.2.4 Substitution of Architect 2.3.3 Substitutions of Materials 3.4.2, 3.5, 7.3.8 Sub-subcontractor, Definition of 5.1.2

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 8 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

Subsurface Conditions 3.7.4 Successors and Assigns 13.2 Superintendent 3.9, 10.2.6 **Supervision and Construction Procedures** 1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4 Suppliers 1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1 Surety 5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7 Surety, Consent of 9.8.5, 9.10.2, 9.10.3 Surveys 1.1.7, 2.3.4 Suspension by the Owner for Convenience 14.3 Suspension of the Work 3.7.5, 5.4.2, 14.3 Suspension or Termination of the Contract 5.4.1.1, 14 Taxes 3.6, 3.8.2.1, 7.3.4.4 **Termination by the Contractor** 14.1, 15.1.7 Termination by the Owner for Cause 5.4.1.1, 14.2, 15.1.7 Termination by the Owner for Convenience 14.4 Termination of the Architect 2.3.3 Termination of the Contractor Employment 14.2.2 **TERMINATION OR SUSPENSION OF THE** CONTRACT

14 **Tests and Inspections** 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4 TIME 8 Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits 2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4 **Time Limits on Claims** 3.7.4, 10.2.8, 15.1.2, 15.1.3 Title to Work 9.3.2, 9.3.3 **UNCOVERING AND CORRECTION OF WORK** 12 **Uncovering of Work** 12.1 Unforeseen Conditions, Concealed or Unknown 3.7.4, 8.3.1, 10.3 Unit Prices 7.3.3.2, 9.1.2 Use of Documents 1.1.1, 1.5, 2.3.6, 3.12.6, 5.3 **Use of Site** 3.13, 6.1.1, 6.2.1 Values, Schedule of 9.2, 9.3.1 Waiver of Claims by the Architect 13.3.2 Waiver of Claims by the Contractor 9.10.5, 13.3.2, 15.1.7 Waiver of Claims by the Owner 9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7 Waiver of Consequential Damages 14.2.4, 15.1.7 Waiver of Liens 9.3, 9.10.2, 9.10.4 Waivers of Subrogation 6.1.1, 11.3 Warranty 3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2 Weather Delays 8.3, 15.1.6.2 Work, Definition of 1.1.3 Written Consent 1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2 Written Interpretations 4.2.11, 4.2.12 Written Orders 1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 9 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

ARTICLE 1 **GENERAL PROVISIONS**

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

Init. 1

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 10 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

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

.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

- .1 The AIA A101 Standard Form of Agreement Between Owner and Contractor;
- .2 Bid Addenda, with those of late date having precedence over those of earlier date;
- .3 The AIA A201 General Conditions of the Contract for Construction;
- .4 Project Drawings and Specifications

In the case of an inconsistency between the Drawings and the Specifications, or within either .2 Document - not clarified by Addendum, the better quality or greater quality or quantity of Work shall be provided. The Contractor shall submit his action in writing to the Architect for review and interpretation. The Architect's decision is final.

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

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

§ 1.6 Notice

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 11 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

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

(Paragraphs deleted)

§ 1.7 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 If required by the nature of the work, except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "American Institute of Architects," the AlA Logo, and "AlA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 12 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

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

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

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

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

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

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

§ 2.6 In no event shall the Owner, Architect or Construction Manager have control over, charge or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the **Owner in the Contract Documents.**

ARTICLE 3 CONTRACTOR

§ 3.1 General

Init.

1

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 13 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

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

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

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

§ 3.2.5 If the Contractor, during the progress of the work, discovers any discrepancies between the Drawings and the Specifications, errors and/or omissions on the Drawings, or any discrepancies between physical condition of the Work and the Drawings, he shall immediately notify the Architect in writing. Whether or not an error is believed to exist, deviations from the Drawings and dimensions given thereof. The Contractor shall make himself familiar with all conditions affecting the nature and manner of conducting the work.

§ 3.2.6 Whenever the Drawings show existing or other construction not required as part of the Contract Work, it is understood that it is so shown as a matter of information and that the Owner, while believing such information to be substantially correct, assumes no responsibility thereof. The Contractor shall make himself familiar with all conditions affecting the nature and manner of conducting the work.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "Ale Ala Logo, and "AIA Contract Documents" are registered trademarks of 14 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com User Notes:
specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

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

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

§ 3.4 Labor and Materials

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

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

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

§ 3.4.4 On receipt of signed Contract, Contractor will be expected to place firm orders with vendors for needed materials upon review by Architect of related product data sheets. If deemed necessary to assure delivery of materials at times needed, Contractor, with approval of Architect, may accept delivery of such materials at any time, and may include cost of such materials in next monthly application for payment, provided such materials have actually been delivered to Contractor and properly stored by him with approval or under direction of the Architect either at job site or in an approved storage shed or warehouse.

§ 3.4.4.1 If stored off site, Contractor shall furnish proof of title by Owner, provide photos of same and provide adequate insurance coverage.

§ 3.4.5 Contractor shall warrant that he has good title to all materials used by him as part of work of this Contract. No materials or supplies shall be purchased by Contractor or any of his subcontractors that are subject to any chattel mortgage, conditional sale or other agreement by which an interest is retained by Seller.

§ 3.4.6 Contractor shall deliver all materials at such times as will ensure speedy and uninterrupted progress of work.

§ 3.4.7 All articles, materials and equipment shall be applied, installed, connected, used, cleaned and conditioned in accord with directions of manufacturer unless otherwise specified herein.

§ 3.5 Warranty

Init.

1

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 15 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

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

§ 3.6 Taxes

§ 3.6.1.1 The Owner is exempt from payment of sales and compensating use taxes of the State of New York and all it's Cities and Counties, in accordance with all applicable State Laws and Regulations. These taxes are not to be included in the Contract Sum.

§ 3.6.1.2 Exception: Plumbing and Drainage Contractor/Subcontractor to obtain and pay for all necessary connection taxes and other service charges required by local sewer or water authorities to complete plumbing services.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

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

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

Init.

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of 16 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

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

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent English-speaking superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be the same person throughout the life of the project, unless as permitted in section 3.9.3.

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

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

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, within fourteen (14) days of notice of award, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

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

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

§ 3.10.4 This paragraph is supplemented by Division 1 specifications.

§ 3.11 Documents and Samples at the Site

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 17 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

§ 3.12.4.1 The Architect's review of the Contractor's submittals is limited to an initial submittal and one (1) resubmittal. If the Architect is required to review additional submittals because the initial submittal and one (1) resubmittal failed to conform to the information given, and the design concept expressed in the Contract Documents, the owner reserves the right to deduct any amounts paid to the Architect for additional re-submittal review services from payments otherwise due to the Contractor.

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

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

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

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

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

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

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 18 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

§ 3.12.11 This paragraph is supplemented by Division 1 specifications.

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§3.15.3 This paragraph is supplemented by Division 1 specifications.

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or

Init.

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of 19 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by applicable law and notwithstanding the limits of any insurance provided or maintained by the Contractor, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's Consultants and officers, employees, members and agents of any of them from and against all claims, actions, liabilities, damages, and costs (including, but not limited to, attorneys fees) of every nature and description arising out of or resulting from the acts, omissions, or negligence of the Contractor or his employees or agents or by anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable. The Contractor's duties and obligations pursuant to this subparagraph shall survive the termination or expiration of this agreement and shall not be limited by any provision herein requiring the Contractor to maintain specific insurance coverages.

(Paragraph deleted)

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

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Services of The Architect

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

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

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 20 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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

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

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

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

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

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

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

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

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

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

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 21 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

§ 4.2.15 All written claims for damages or extra work shall include time of occurrence, location and other identifying factors and shall be supported if so required by Architect, by letter, journals, or diaries, instructions, vouchers, or other pertinent or applicable records.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

(Paragraph deleted)

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

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "All rights of Architects," "American Institute of Architects," "Anerican Institute of Architects," "American Institute of Architects," "Anerican Institute of Architects," "American Institute of Architects," "American Institute of Architects," "Anerican Institute of Architects," "American Institute of Architects," American Institute of Architects," "American Institute of Architects," American Institute of Architects, "American Institute of 22 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 5.4 Contingent Assignment of Subcontracts

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

- assignment is effective only after termination of the Contract by the Owner for cause pursuant to .1 Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

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

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

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS **ARTICLE 6** § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

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

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

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

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

§ 6.2 Mutual Responsibility

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

Init. 1

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 23 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

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

§ 6.3 Owner's Right to Clean Up

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

CHANGES IN THE WORK **ARTICLE 7**

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

§ 7.3.4 If

(Paragraphs deleted)

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

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

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

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

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

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

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

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

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

Init. I

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 25 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect per Article 5 and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

§ 8.2 Progress and Completion

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

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

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

§ 8.2.4 In no case shall the Contractor delay the progress of the Work, or any part thereof, because of changes in the Work or disputes caused by proposed or ordered changes in the Work, or any disputes or disagreements as to equitable value of the changes.

§ 8.3 Delays and Extensions of Time

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

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

§ 8.3.3 The Owner shall not be liable to the Contractor and/or any subcontractor for claims or damages of any nature caused by or arising out of delays, including, but limited to claims or damages for delay, acceleration, or disruption. The sole remedy for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be subject to the claims procedure set forth herein. Except to the extent, if any,

Init.

AIA Document A201 - 2017. Copyright @ 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 26 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any claim for damages for delay, including, but not limited to, those resulting from acceleration; disruption; increased labor or material costs; directions given or not given by the Owner or Architect, or their respective employees or agents, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and requests for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Architect, or any other contractor on the project, or their respective employees and agents whether or not foreseeable or anticipated. The Contractor agrees that its sole right and remedy therefor shall be an extension of time, if appropriate, except in no event shall the Contractor be entitled to an extension of time for acts of the Owner, Architect, or their respective employees or agents, that result in a delay that is concurrent with (i) other delaying events within the contemplation of this Contract, or (ii) delaying events attributable, in whole or in part, to the Contractor or its subcontractor(s) or their respective employees or agents.

IT IS EMPHASIZED THAT THE CONTRACTOR WAIVES AND IS NOT ENTITLED TO ANY MONETARY DAMAGES OF ANY KIND FOR DELAY, ACCELERATION, OR DISRUPTION, FOR ANY REASON, WHETHER OR NOT FORESEEABLE OR ANTICIPATED, AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME.

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect, within fourteen (14) days of Contract Award, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the using Procore, a construction management web program, and supported by the data to substantiate its accuracy, required by the Architect, This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

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

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

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 27 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

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

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

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

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

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

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

§ 9.4 Certificates for Payment

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 28 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

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

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- defective Work not remedied; .1
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents;
- .8 reasonable evidence that the Work has not progressed as indicated on the Application for Payment pencil copy, or
- a substantial breach of a provision of this Agreement. .9

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

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

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

§ 9.6 Progress Payments

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

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

AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 29 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

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

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

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

§ 9.6.6 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

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

(Paragraph deleted)

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

Init.

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

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

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make a site visit to determine whether the Work or designated portion thereof is substantially complete. If the Architect's observations discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall,

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 30 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. Should the Architect, on the basis of this second inspection, determine that the work is not substantially complete, the Contractor shall submit a request for a third inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers, relative to Substantial Completion shall be back charged to the Contractor.

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

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

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

§ 9.9 Partial Occupancy or Use

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

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

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

§ 9.10 Final Completion and Final Payment

Init.

§ 9.10.1 When contemplating application for final payment, the Contractor shall schedule, one week in advance with the Architect, a joint punch list visit to the Project to determine if the Contract has been fully executed. Upon receipt of the Contractor's notice that the Work is ready for final review and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such review. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and observations, the Work has been completed in accordance with the Contract Documents.

AlA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AlA Logo, and "AlA Contract Documents" are registered trademarks of 31 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, (7) proof of receipt of Certificate of Occupancy, and (8) as-built drawings. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

- .1 employees on the Work and other persons who may be affected thereby;
 - .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 32 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

Init.

1

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection.

AIA Document A201 -- 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 33 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS § 11.1 Contractor's Insurance and Bonds

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

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

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

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 34 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

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

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

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

Init.

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

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

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 35 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts:com. User Notes:

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

§11.5 Adjustment and Settlement of Insured Loss

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

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 36 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

§ 12.4 Contractors Costs Related to Defective and Non-Conforming Work

The Contractor shall bear all, direct, indirect, and consequential costs attributable to evaluation of and decision to accept or reject Defective and/or Non-Conforming Work, including costs for the Architect and/or Engineers, (at their current rates in effect at the time of evaluation of such Defective and/or Non-Conforming Work) and any other costs to the Owner. These costs will be charged to the Contractor through Change Order **Procedures.**

ARTICLE 13 **MISCELLANEOUS PROVISIONS**

§ 13.1 Governing Law

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

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract DocumenIs" are registered trademarks of 37 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

§ 13.4 Tests and Inspections

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

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

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

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

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

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

§ 13.5 Interest

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

§ 13.6 Limitation of Liability

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

§ 13.7 Time Limits on Claims

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

Init.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 38 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

by applicable law, but in any case, not more than ten (10) years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

§ 13.8 Equal Opportunity

§ 13.8.1 The contractor shall maintain policies of employment as follows;

The Contactor and the Contractor's Subcontractors shall not discriminate against any .1 employee or applicant for employment on the basis of race, religion, color, gender, gender orientation, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, gender, gender orientation, or national origin. Such actions shall include, but not be limited to the following: employment upgrading, demotion or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

.2 The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, gender, gender orientation, or national origin.

§ 13.9 Contractor Representations

§ 13.9.1 Contractor makes the following representations:

Contractor has familiarized itself with the nature and extent of the Contract Documents, work, locality, and with local conditions, and Federal, state, and Local laws, ordinances, rules, and regulations that may in any manner affect costs, progress, or performance of the Work.

.2 Contractor has made examinations, investigations, tests, and studies at the Project Site, as he deems necessary for the performance of the Work at the Contract Price, and within the Contract Time. Contractor has correlated the results of all such observations, examinations, investigations, reports, and data with the terms and conditions of the Contract Documents.

Contractor has given the Architect written notice of all conflicts, errors or discrepancies that .3 he has discovered in the Contract Documents and the written resolution thereof by the Architect is acceptable to the Contractor.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

Init.

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

- Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be .1 stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the .3 reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

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

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 39 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- repeatedly refuses or fails to supply enough properly skilled workers or proper materials; .1
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents;
- disregards the instructions of the Architect, or Owner (when such instructions are based on the .5 requirements of the Contract Documents);

.6 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with the requirements of the Contract Documents;

fails or neglects to progress work in such a manner as to reasonably assure the completion of the Work .7 within the Contract time or in accordance with the Construction Schedule;

purposefully engages in a strike or work stoppage, is in any way responsible for hindering or delaying the .8 work of other trades, or ceases work due to picketing or labor disputes of any kind; or

filed for, or received any relief from creditors including bankruptcy or other insolvency laws. .9

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

- Exclude the Contractor from the site and take possession of all materials, equipment, tools, and .1
 - construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request 3 of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

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

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

§ 14.3 Suspension by the Owner for Convenience

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

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

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not 40 for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

§ 14.4 Termination by the Owner for Convenience

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

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

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement, but shall not be entitled to overhead and profit on the Work not executed.

ARTICLE 15 **CLAIMS AND DISPUTES**

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Time Limits on Claims

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

§ 15.1.3 Notice of Claims

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

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

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

Init.

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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 41 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

§ 15.1.6 Claims for Additional Time

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

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

- damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, .1 business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

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

§ 15.2 Initial Decision

Init.

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

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

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

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

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 42 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com User Notes:

Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution in a court of law.

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

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

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

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

§ 15.3 Mediation

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

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

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

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

(Paragraphs deleted)

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of 43 The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Additions and Deletions Report for

AIA[®] Document A201[®] – 2017

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:37:51 ET on 08/16/2023.

PAGE 1

Ithaca Fire Station 403 Elmwood Avenue Ithaca, NY 14850

...

City of Ithaca 108 E. Green Street Ithaca, NY 14850

...

Mitchell Associates Architects, PLLC 29 Thatcher Park Road Voorheesville, NY 14186 **PAGE 10**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Bidding Requirements (Advertisement or Invitation to Bid, Instructions to Bidders, Completed Bid Forms, Bid Bond, completed Contractor's Qualification Statement, and other sample forms). Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements. **PAGE 11**

In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

	.1 The AIA A101 Standard Form of Agreement Between Owner and Contractor;
	.2 Bid Addenda, with those of late date having precedence over those of earlier date;
	.3 The AIA A201 General Conditions of the Contract for Construction;
	.4 Project Drawings and Specifications
.2	In the case of an inconsistency between the Drawings and the Specifications, or within either
Docu	ment - not clarified by Addendum, the better quality or greater quality or quantity of Work shall be

clarified by Addendum, the better quality or greater quality or quantity of work shall be provided. The Contractor shall submit his action in writing to the Architect for review and interpretation. The Architect's decision is final.

....

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 1.6.1 Except as otherwise provided in Section 1.6.2, may be otherwise noted elsewhere in the contract documents, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement. **PAGE 12**

§ 1.7 Digital Data Use and Transmission

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

§ 1.8 Building Information Models Use and Reliance

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

§ 1.7 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 2.3.1 Except If required by the nature of the work, except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. **PAGE 13**

§ 2.6 In no event shall the Owner, Architect or Construction Manager have control over, charge or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the **Owner in the Contract Documents.**

PAGE 14

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

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

work, unless the Contractor asked for and obtained written decision before submission of proposal as to which method or materials will be required.

...

§ 3.2.5 If the Contractor, during the progress of the work, discovers any discrepancies between the Drawings and the Specifications, errors and/or omissions on the Drawings, or any discrepancies between physical condition of the Work and the Drawings, he shall immediately notify the Architect in writing. Whether or not an error is believed to exist, deviations from the Drawings and dimensions given thereof. The Contractor shall make himself familiar with all conditions affecting the nature and manner of conducting the work.

§ 3.2.6 Whenever the Drawings show existing or other construction not required as part of the Contract Work, it is understood that it is so shown as a matter of information and that the Owner, while believing such information to be substantially correct, assumes no responsibility thereof. The Contractor shall make himself familiar with all conditions affecting the nature and manner of conducting the work.

PAGE 15

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

...

§ 3.4.4 On receipt of signed Contract, Contractor will be expected to place firm orders with vendors for needed materials upon review by Architect of related product data sheets. If deemed necessary to assure delivery of materials at times needed, Contractor, with approval of Architect, may accept delivery of such materials at any time, and may include cost of such materials in next monthly application for payment, provided such materials have actually been delivered to Contractor and properly stored by him with approval or under direction of the Architect either at job site or in an approved storage shed or warehouse.

§ 3.4.4.1 If stored off site, Contractor shall furnish proof of title by Owner, provide photos of same and provide adequate insurance coverage.

§ 3.4.5 Contractor shall warrant that he has good title to all materials used by him as part of work of this Contract. No materials or supplies shall be purchased by Contractor or any of his subcontractors that are subject to any chattel mortgage, conditional sale or other agreement by which an interest is retained by Seller.

§ 3.4.6 Contractor shall deliver all materials at such times as will ensure speedy and uninterrupted progress of work.

§ 3.4.7 All articles, materials and equipment shall be applied, installed, connected, used, cleaned and conditioned in accord with directions of manufacturer unless otherwise specified herein.

PAGE 16

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.§ 3.6.1.1 The Owner is exempt from payment of sales and compensating use taxes of the State of New York and all it's Cities and Counties, in accordance with all applicable State Laws and Regulations. These taxes are not to be included in the Contract Sum.

§ 3.6.1.2 Exception: Plumbing and Drainage Contractor/Subcontractor to obtain and pay for all necessary connection taxes and other service charges required by local sewer or water authorities to complete plumbing services.

Additions and Deletions Report for AIA Document A201 - 2017. Copyright @ 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

PAGE 17

§ 3.9.1 The Contractor shall employ a competent English-speaking superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be the same person throughout the life of the project, unless as permitted in section 3.9.3.

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

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

...

§ 3.10.1 The Contractor, promptly after being awarded the Contract, within fourteen (14) days of notice of award, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

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

...

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

§ 3.12.4.1 The Architect's review of the Contractor's submittals is limited to an initial submittal and one (1) resubmittal. If the Architect is required to review additional submittals because the initial submittal and one (1) resubmittal failed to conform to the information given, and the design concept expressed in the Contract Documents, the owner reserves the right to deduct any amounts paid to the Architect for additional re-submittal review services from payments otherwise due to the Contractor.

PAGE 19

§ 3.12.11 This paragraph is supplemented by Division 1 specifications.

§3.15.3 This paragraph is supplemented by Division 1 specifications.

PAGE 20

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify applicable law and notwithstanding the limits of any insurance provided or maintained by the Contractor, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's consultants, and agents and employees-Consultants and officers, employees, members and agents of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, all claims, actions, liabilities, damages, and costs (including, but not limited to, attorneys fees) of every nature and description arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, the acts, omissions, or negligence of the Contractor or his employees or agents or by anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18 the Contractor or anyone for whose acts the Contractor may be liable. The Contractor's duties and obligations pursuant to this subparagraph shall survive the termination or expiration of this agreement and shall not be limited by any provision herein requiring the Contractor to maintain specific insurance coverages.

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

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

...

§ 4.2 Administration of the ContractServices of The Architect

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

PAGE 21

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

...

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, not show partiality to either the Owner or Contractor, and will not be liable for results of interpretations or decisions so rendered in good faith. **PAGE 22**

§ 4.2.15 All written claims for damages or extra work shall include time of occurrence, location and other identifying factors and shall be supported if so required by Architect, by letter, journals, or diaries, instructions, vouchers, or other pertinent or applicable records.

Additions and Deletions Report for AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

...

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

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

...

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection. **PAGE 24**

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.may. elect to complete such clean up with his own forces, or to contract with others for this service, either on a specific occasion, or for the balance of the project. In either event, the Architect shall determine, at his sole discretion, what portion of these costs shall be back charged to each Contractor. **PAGE 25**

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

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

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

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

- .1 Labor, including foreman, (including Supplements).
- .2 Materials entering permanently into the work.
- .3 Use of equipment employed directly on the work.
- .4 Power and consumable supplies for the operation of power equipment.
- .5 Insurance (Workmen's Compensation, Social Security and Unemployment Insurance).
- .6 Sales taxes and other local taxes (if applicable).
- .7 For work performed by the Contractor with his own forces, there shall be added a percentage fee for the Contractor equal to 10 percent of items. (.1) through (.5) above.

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, Is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com.
- For work performed by a Subcontractor, there shall be added a percentage fee for the Subcontractor equal to 10 percent of items (.1) through (.5) above. To this total amount there shall be added an additional percentage fee of 5 percent for the Contractor.
- .9 The percentage fee shall be compensation to cover the cost of supervision, overhead, profit and any other general expenses, which are not included in the cost of the work as defined above. Bond costs shall be added or deducted from total cost of the change directive.
- The percentage fees as indicated herein shall also apply to Sub-Paragraph 7.3.3 .10
- 3 -Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; 11 Nothing in this article shall excuse the Contractor from proceeding with the extra work as directed ...
- Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and 12 If Contractors are requested to submit lump sum proposal for extra work, such proposals shall include a detailed breakdown for all labor, materials and equipment including a breakdown of subcontractors' prices.

Costs of supervision and field office personnel directly attributable to the change.§ 7.3.4.2 For changes -5resulting in a credit to the Owner, the cost shall be the estimated costs as they would have been expended according to 7.3.4.1, or the value or prorated value of said work submitted in the Contractor's Schedule of Values, whichever is greater

PAGE 26

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect per Article 5 and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

...

§ 8.2.4 In no case shall the Contractor delay the progress of the Work, or any part thereof, because of changes in the Work or disputes caused by proposed or ordered changes in the Work, or any disputes or disagreements as to equitable value of the changes.

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

...

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents. The Owner shall not be liable to the Contractor and/or any subcontractor for claims or damages of any nature caused by or arising out of delays, including, but limited to claims or damages for delay, acceleration, or disruption. The sole remedy for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be subject to the claims procedure set forth herein. Except to the extent, if any, expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any claim for damages for delay, including, but not limited to, those resulting from acceleration; disruption; increased labor or material costs; directions given or not given by the Owner or Architect, or their respective employees or agents, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and requests for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Architect, or any other contractor on the

Additions and Deletions Report for AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com **User Notes:**

project, or their respective employees and agents whether or not foresceable or anticipated. The Contractor agrees that its sole right and remedy therefor shall be an extension of time, if appropriate, except in no event shall the Contractor be entitled to an extension of time for acts of the Owner, Architect, or their respective employees or agents, that result in a delay that is concurrent with (i) other delaying events within the contemplation of this Contract, or (ii) delaying events attributable, in whole or in part, to the Contractor or its subcontractor(s) or their respective employees or agents.

IT IS EMPHASIZED THAT THE CONTRACTOR WAIVES AND IS NOT ENTITLED TO ANY MONETARY DAMAGES OF ANY KIND FOR DELAY, ACCELERATION, OR DISRUPTION, FOR ANY REASON, WHETHER OR NOT FORESEEABLE OR ANTICIPATED, AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME.

§ 8.3.4 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents. PAGE 27

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, Architect, within fourteen (14) days of Contract Award, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, using Procore, a construction management web program, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

PAGE 28

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

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

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

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

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

Additions and Deletions Report for AIA Document A201 – 2017. Copyright @ 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 9.3.1.5 Each application for payment shall include a copy of payroll records of the Contractor and Subcontractors for the period covered by the application for payment. **PAGE 29**

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

...

repeated failure to carry out the Work in accordance with the Contract Documents; .7 reasonable evidence that the Work has not progressed as indicated on the Application for Payment pencil .8 copy, or

.9 a substantial breach of a provision of this Agreement.

PAGE 30

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor. There shall be retained 5 percent on the estimated amounts of completed work-in-place and on materials stored at the project site and 25 percent retained on the estimated amounts of materials stored off site until final completion and acceptance of all work covered by the Contract. Payment for material stored off site is subject to the conditions of Paragraph 9.3.2. No further or partial payments will be made after the time fixed for final completion of the work, or the time to which final completion may be extended under the terms of the Contract, until full and final completion and acceptance of the work. Payments for work under sub-contract of Contractors shall be subject to the above conditions applying to the prime contracts.

...

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4. A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents. Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary

Additions and Deletions Report for AIA Document A201 - 2017. Copyright @ 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision. Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection a site visit to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection observations discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. Should the Architect, on the basis of this second inspection, determine that the work is not substantially complete, the Contractor shall submit a request for a third inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers, relative to Substantial Completion shall be back charged to the Contractor. **PAGE 31**

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

...

...

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

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" 10 are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

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

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. (7) proof of receipt of Certificate of Occupancy, and (8) as-built drawings. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

PAGE 37

§ 12.4 Contractors Costs Related to Defective and Non-Conforming Work

The Contractor shall bear all, direct, indirect, and consequential costs attributable to evaluation of and decision to accept or reject Defective and/or Non-Conforming Work, including costs for the Architect and/or Engineers, (at their current rates in effect at the time of evaluation of such Defective and/or Non-Conforming Work) and any other costs to the Owner. These costs will be charged to the Contractor through Change Order Procedures.

...

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4. State of New York, County of Tompkins shall be the respective jurisdiction and venue for any legal action arising out of or in connection with this Contract. The laws of the State of New York shall apply with regard to construction, interpretation, performance and information pertaining to this Contract. PAGE 38

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

...

Additions and Deletions Report for AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" 11 are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

§ 13.6 Limitation of Liability

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

§ 13.7 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case, not more than ten (10) years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

§ 13.8 Equal Opportunity

§ 13.8.1 The contractor shall maintain policies of employment as follows;

The Contactor and the Contractor's Subcontractors shall not discriminate against any .1 employee or applicant for employment on the basis of race, religion, color, gender, gender orientation, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, gender, gender orientation, or national origin. Such actions shall include, but not be limited to the following: employment upgrading, demotion or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

The Contractor and the Contractor's Subcontractors shall, in all solicitations or .2 advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, gender, gender orientation, or national origin.

§ 13.9 Contractor Representations

§ 13.9.1 Contractor makes the following representations:

Contractor has familiarized itself with the nature and extent of the Contract Documents, .1 work, locality, and with local conditions, and Federal, state, and Local laws, ordinances, rules, and regulations that may in any manner affect costs, progress, or performance of the Work.

Contractor has made examinations, investigations, tests, and studies at the Project Site, as he .2 deems necessary for the performance of the Work at the Contract Price, and within the Contract Time. Contractor has correlated the results of all such observations, examinations, investigations, reports, and data with the terms and conditions of the Contract Documents.

Contractor has given the Architect written notice of all conflicts, errors or discrepancies that .3 he has discovered in the Contract Documents and the written resolution thereof by the Architect is acceptable to the Contractor.

PAGE 39

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, profit, and costs incurred by reason of such termination. PAGE 40

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

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" 12 are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

disregards the instructions of the Architect, or Owner (when such instructions are based on the requirements of the Contract Documents);

.6 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with the requirements of the Contract Documents;

.7 fails or neglects to progress work in such a manner as to reasonably assure the completion of the Work within the Contract time or in accordance with the Construction Schedule;

.8 purposefully engages in a strike or work stoppage, is in any way responsible for hindering or delaying the work of other trades, or ceases work due to picketing or labor disputes of any kind; or

filed for, or received any relief from creditors including bankruptcy or other insolvency laws. .9 **PAGE 41**

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement. Agreement, but shall not be entitled to overhead and profit on the Work not executed.

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.law.

...

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Failure of the Contractor to initiate a Claim within 21 days shall constitute a waiver to any Claim the Contactor may have, including but not limited to delays. PAGE 42

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

...

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

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision

Additions and Deletions Report for AIA Document A201 - 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" 13 are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. **User Notes:**

Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.resolution in a court of law.

PAGE 43

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

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

...

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" 14 are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

Additions and Deletions Report for AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017>. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AlA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report 15 copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

Certification of Document's Authenticity

AIA[®] Document D401[™] – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:37:51 ET on 08/16/2023 under Order No. 4104237337 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201TM - 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

AIA Document D401 - 2003. Copyright @ 1992 and 2003. All rights reserved. "The American Institute of Architects," "American Institute of Architects," American Institute of Architects," American Institute of Architects, American Institects, American Institute of Architects, American Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 09:37:51 ET on 08/16/2023 under Order No.4104237337 which expires on 10/30/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1098479156)

SECTION 007100 CONTRACTING DEFINITIONS

PART 1 GENERAL

1.01 APPLICABILITY: THESE DEFINITIONS ARE INTEGRAL TO THE AGREEMENT.

1.02 DEFINITIONS - CONTRACT DOCUMENTS

- A. Contract Documents: As defined in the Conditions of the Contract and as follows:
 - 1. At the time of execution of the Agreement, Contract Documents consist of the following:
 - a. The Agreement and Conditions of the Contract, and other documents listed on the Table of Contents under the heading Contracting Requirements.
 - 2. From time to time after execution of the Agreement, upon approval by the Owner, the following types of documents will be incorporated into Contract Documents:
 - a. Drawings and other documents documenting the design.
 - b. Construction drawings and specifications detailing the execution of the design.
- 1.03 DEFINITIONS TIME PERIODS AND MILESTONE DATES
 - A. Construction: The time period from the beginning of work on the project site until final payment as defined by the Conditions of the Contract.
 - B. Substantial Completion: The date as defined in the Conditions of the Contract. Date of Substantial Completion is the due date for the following:
 - 1. Contractor's comprehensive list of all items to be completed and corrected prior to final payment, submitted to the Architect.
 - 2. Compliance with requirements of governing authorities, for submittals, inspections, and permits.
 - 3. Compliance with Owner's requirements for access to areas occupied by the Owner.
 - C. Closeout: The time period during which all details of both construction and commissioning are completed.
 - 1. The Closeout period is the time from Date of Substantial Completion until final payment, both as defined by the Conditions of the Contract.
 - 2. Before and during the Closeout period, the Owner will ascertain whether the completed project complies with Contract Documents.
 - 3. Training of Owner's personnel in operation and maintenance occurs during the Closeout period, unless specifically indicated otherwise for certain items.
 - D. Occupancy: The time period during which the project is occupied for its intended purpose.
 - 1. The Occupancy period begins at Date of Substantial Completion, as defined by the Conditions of the Contract.
 - 2. Move-in may occur before the end of the Closeout period.
 - 3. Owner is responsible for operation and maintenance of the project during the Occupancy period, unless specifically indicated otherwise for certain items.
 - E. Correction Period: The time period defined by the Conditions of the Contract.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PARTIAL RELEASE AND WAIVER OF MECHANIC'S LIEN

PROJECT NAME: PROJECT ADDRESS: OWNER: CONTRACTOR/SUPPLIER: CONTRACTOR/SUPPLIER'S CONTRACT NUMBER: THROUGH PERIOD ENDING: PARTIAL PAYMENT AMOUNT:

CONTRACTOR/SUPPLIER has provided labor, materials, rentals and/or services (collectively, "Work") on the above-described Project.

CONTRACTOR/SUPPLIER, for and in consideration of Partial Payment Amount to be paid upon execution of this Partial Release, does for itself, its successors, administrations and assigns, hereby affirm and agree as follows with respect to all Work performed to date and for which payment has been made pursuant to this Partial Release, except as noted below in Paragraph 3:

- 1. All labor employed in connection with the Work and the Project and all related payroll taxes and charges (such as withholding taxes, social security taxes and worker's compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and
- 2. All materials, tools, equipment, supplies and services furnished and used upon or in connection with the Work and the Project have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and
- 3. Upon receipt by CONTRACTOR/SUPPLIER of a check from OWNER in the Partial Payment Amount described above, payable to the CONTRACTOR/SUPPLIER, and when the check has been paid, this document shall become effective to release and forever discharge the OWNER and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of the Project from any and all claims, demands, liens and claims of lien whatsoever, which it now has or hereafter might or could have arising out of the performance of all Work for which payment has been made.

CONTRACTOR/SUPPLIER will, at its sole cost and expense, forever hold harmless OWNER from any and all claims and demands and will defend against and obtain the discharge of any liens and claims of lien of others arising out of or in connection with the work, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of the CONTRACTOR/SUPPLIER (or any employee or supplier of any subcontractor/supplier of the undersigned), governmental agency or any insurance carrier; and

CONTRACTOR/SUPPLIER warrants that the amount of payments received or to be received represents the total value earned by CONTRACTOR/SUPPLIER for materials, labor, rentals, equipment, and services supplied to the Project for the period indicated above, for the above-described contract.

CONTRACTOR/SUPPLIER warrants that it has not and will not assign any claims for payment or right to perfect a lien against such land and improvements and appurtenances and warrants that it has the right to execute this waiver and release.

This release and waiver may not be changed orally.

CONTRACTOR/SUPPLIER agrees that the OWNER of the Project, any lender, and any title insurer may rely upon this waiver and release.

IN WITNESS WHEREOF,	, of		
has hereunto set her/his hand this	day of, 20		
	CONTRACTOR/SUPPLIER:		
WITNESS:	SIGNATURE:		
	TITLE:		
STATE OF NEW YORK)			
) SS.: COUNTY OF)			
On the day of, personally known	_ in the year 20 before me, the undersigned, a Notary Public in and for said State, personal to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s)		

On the _____ day of ______ in the year 20____ before me, the undersigned, a Notary Public in and for said State, personally appeared _______, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

(Signature and office of individual taking acknowledgment.)

FINAL RELEASE AND WAIVER OF MECHANIC'S LIEN

PROJECT NAME: OWNER: CONTRACTOR/SUPPLIER: CONTRACTOR/SUPPLIER'S CONTRACT NUMBER: THROUGH PERIOD ENDING: PARTIAL PAYMENT AMOUNT:

CONTRACTOR/SUPPLIER has provided labor, materials, rentals and/or services (collectively, "Work") on the above-described Project.

CONTRACTOR/SUPPLIER, for and in consideration of Payment Amount to be paid upon execution of this Final Release, does for itself, its successors, administrations and assigns, hereby affirm and agree as follows with respect to all Work performed to date and for which payment has been made pursuant to this Final Release, except as noted below in Paragraph 3:

- 1. All labor employed in connection with the Work and the Project and all related payroll taxes and charges (such as withholding taxes, social security taxes and worker's compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and
- 2. All materials, tools, equipment, supplies and services furnished and used upon or in connection with the Work and the Project have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and
- 3. Upon receipt by CONTRACTOR/SUPPLIER of a check from the OWNER in the Payment Amount described above, payable to the CONTRACTOR/SUPPLIER, and when the check has been paid, this document shall become effective to release and forever discharge the OWNER and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of the Project from any and all claims, demands, liens and claims of lien whatsoever, which it now has or hereafter might or could have arising out of the performance of all Work for which payment has been made.

CONTRACTOR/SUPPLIER will, at its sole cost and expense, forever hold harmless, OWNER from any and all claims and demands and will defend against and obtain the discharge of any liens and claims of lien of others arising out of or in connection with the work, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of the CONTRACTOR/SUPPLIER (or any employee or supplier of any subcontractor/supplier of the undersigned), governmental agency or any insurance carrier; and

CONTRACTOR/SUPPLIER warrants that the amount of payments received or to be received represents the total value earned by CONTRACTOR/SUPPLIER for materials, labor, rentals, equipment and services supplied to the Project for the above-described contract.

CONTRACTOR/SUPPLIER warrants that it has not and will not assign any claims for payment or right to perfect a lien against such land and improvements and appurtenances and warrants that it has the right to execute this waiver and release.

This release and waiver may not be changed orally.

CONTRACTOR/SUPPLIER agrees that the OWNER of the Project, any lender, any title insurer may rely upon this waiver and release.

IN WITNESS WHEREOF,	, of
has hereunto set her/his hand this	day of, 20
	CONTRACTOR/SUPPLIER:AUTHORIZED AGENT:
WITNESS:	SIGNATURE:
	TITLE:
STATE OF NEW YORK)	
) s	
COUNTY OF)	
On the day of	in the year 20 before me, the undersigned, a Notary Public in and for said State, personally appeared
	ensuring known to me or proved to me on the basis of satisfactory evidence to be the many dual(s) whose name(s) is $p_{i}(s_{i}) = p_{i}(s_{i}) = p_{i}(s_{$

______, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

(Signature and office of individual taking acknowledgment.)

AIA Document G707[®] – 1994

Consent Of Surety to Final Payment

PROJECT : (Name and address)	ARCHITECT'S PROJECT NUMBER:	OWNER:
Ithaca Fire Station	CONTRACT FOR	ARCHITECT:
Ithaca, NY 14850	CONTRACT FOR.	CONTRACTOR:
		SURETY:
City of Ithaca	CONTRACT DATED:	
108 E. Green Street		
Ithaca, NY 14850		
In accordance with the provisions of the C (Insert name and address of Surety)	Contract between the Owner and the Contractor as indicated above,	the
		SURETY.
on bond of		,001011,
(Insert name and address of Contractor)		
		, CONTRACTOR,
hereby approves of the final payment to the not relieve the Surety of any of its obligat (Insert name and address of Owner)	he Contractor, and agrees that final payment to the Contractor shall tions to	
		OWNER
as set forth in said Surety's bond.		, 0,,
(Insert in writing the month followed by the	s hereunto set its hand on this date: he numeric date and year.)	
	(Surety)	
	(Signature of authorized represe	entative)
Attest:	(Printed name and title)	
(Sour).	() () () () () () () () () () () () () (

PREVAILING WAGE RATES

1. <u>COMPLIANCE WITH STATE AND MUNICIPAL ORDINANCES</u>

A. Each and every provision of law and clause required by law shall be deemed to be inserted herein and the contract shall be read and enforced as though it was included therein.

2. WAGE SCALE

- A. The minimum wage rates to be paid for all work under this Contract shall conform to the Prevailing Rate Schedule published by the State of New York Department of Labor. The Prevailing Rate Schedule to immediately follow this page. (*The Prevailing Rate Schedule will be inserted prior to bidding for latest rates.*)
- B. Wages paid each mechanic or laborer of the Contractor or subcontractor engaged in work under this Contract shall not be less than wages required by the Prevailing Rate Schedule regardless of any contractual relationship which may be alleged to exist between the Contractor or a subcontractor and such laborers or mechanics.
- C. The Prevailing Rate Schedule is updated annually in July, unless otherwise determined by the State of New York Department of Labor. The Contractor is responsible for obtaining the updated schedule on the Department of Labor's web site, <u>www.labor.ny.us</u>. Updates are not available in any other manner. The wage rates and supplemental benefits to be paid shall always be those prevailing at the time work is being performed.

Roberta Reardon, Commissioner



Kathy Hochul, Governor

City of Ithaca

Kaitlyn Handrich, Project Administrative Asst. 375 Éssjay Road Suite 200 Williamsville NY 14221

Schedule Year Date Requested 08/11/2023 PRC#

2023 through 2024 2023009659

Location 403 Elmwood Avenue Project ID# This project consists of an approximately 13,400 sf new fire station located at 403 Elmwood Avenue Ithaca, Project Type NY

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2023 through June 2024. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice. **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed:

Date Cancelled:

Name & Title of Representative:

Phone: (518) 457-5589 Fax: (518) 485-1870 W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemperaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8. Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220e(b)). The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Roberta Reardon, Commissioner



Kathy Hochul, Governor

City of Ithaca

Kaitlyn Handrich, Project Administrative Asst. 375 Essjay Road Suite 200 Williamsville NY 14221 Schedule Year Date Requested PRC#

2023 through 2024 08/11/2023 2023009659

 Location
 403 Elmwood Avenue

 Project ID#
 This project consists of an approximately 13,400 sf new fire station located at 403 Elmwood Avenue Ithaca, NY.

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Federal Employer Identification Number:					
Name:					
Address:					
City:	State	e: Zip:			
Amount of Contract:	\$	Contract Type:			
Approximate Starting Date:	/	 [] (01) General Construction [] (02) Heating/Ventilation [] (02) Electrical 			
Approximate Completion Date:	/	[] (03) Electrical [] (04) Plumbing [] (05) Other :			

Contractor Information All information must be supplied

Phone: (518) 457-5589 Fax: (518) 485-1870 W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, https://dol.ny.gov/public-work-and-prevailing-wage

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: <u>dol.misclassified@labor.ny.gov</u>.

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will suffice.

(12.20)

To all State Departments, Agency Heads and Public Benefit Corporations IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor Administrative Finance Bureau-PWEF Unit Building 12, Room 464 State Office Campus Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.



Required Notice under Article 25-B of the Labor Law

Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

The law says that you are an employee unless:

- You are free from direction and control in performing your job, and
- You perform work that is not part of the usual work done by the business that hired you, and
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.

Penalties for paying workers off the books or improperly treating employees as independent contractors:

•	Civil Penalty	First offense: Up to \$2,500 per employee
		Subsequent offense(s): Up to \$5,000 per employee
•	Criminal Penalty	First offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing public work for up to one year.
		Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a \$50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to <u>dol.misclassified@labor.ny.gov</u>. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name: IA 999 (09/16)
New York State Department of Labor Bureau of Public Work

Attention Employees

THIS IS A: PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007: These wages are set by law and must be posted at the work site. They can also be found at:

https://dol.ny.gov/public-work-and-prevailing-wage

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany Binghamton Buffalo Garden City New York City Newburgh

(518) 457-2744 (607) 721-8005 (716) 847-7159 (516) 228-3915 (212) 932-2419 (845) 568-5156 Patchogue Rochester Syracuse Utica White Plains

(631) 687-4882 (585) 258-4505 (315) 428-4056 (315) 793-2314 (914) 997-9507

 For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or <u>www.comptroller.nyc.gov</u> – click on Bureau of Labor Law.

Contractor Name:

Project Location:

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (Note: Completion cards do not have an expiration date.)
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$3 million in Bronx, Kings, New York, Queens and, Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stopbid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a countyby-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor Bureau of Public Work State Office Campus, Bldg. 12 Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Tompkins County General Construction

Boilermaker

JOB DESCRIPTION Boilermaker

ENTIRE COUNTIES

Cayuga, Clinton, Cortland, Franklin, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

Per hour:	07/01/2023	01/01/2024
Boilermaker	\$ 36.98	\$ 37.98
SUPPLEMENTAL BENEFITS Per hour:		
Journeyman	\$ 26.31* + 1.48	\$ 26.62* + 1.48

*This portion of the benefits subject to the same premium rate as shown for overtime wages.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 15, 25) on HOLIDAY PAGE
NOTE: When a holiday falls	on Sunday, the day observed by the S

NOTE: When a holiday falls on Sunday, the day observed by the State or Nation shall be observed. When Christmas Day and New Year's fall on Saturday, Friday will be observed as the holiday.

REGISTERED APPRENTICES

WAGES per hour: Six month terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%
SUPPLEME	NTAL BENEF	ITS per hour:					
\$ 19.58*	\$ 19.58*	\$ 20.54*	\$ 21.49*	\$ 22.44*	\$ 23.42*	\$24.40*	\$ 25.35*
+ 1.48	+ 1.48	+ 1.48	+ 1.48	+ 1.48	+ 1.48	+ 1.48	+ 1.48

*This portion of the benefits subject to the same premium rate as shown for overtime wages.

Carpenter - Buildin	ng			08/01/2023
JOB DESCRIPTION	Carpenter - Building		DISTRICT 2	
ENTIRE COUNTIES Chemung, Cortland, S	3 Schuyler, Steuben, Tompkin	S		
PARTIAL COUNTIE Allegany: Only the To	E S ownship of Alfred.			
WAGES				
Per hour:	07/01/2023	07/01/2024 Additional	07/01/2025 Additional	
Carpenter	\$ 30.50	\$ 1.00*	\$ 1.00*	
Floor Coverer	30.50	1.00*	1.00*	
Carpet Layer	30.50	1.00*	1.00*	
Dry-Wall	30.50	1.00*	1.00*	
Diver-Wet Day	61.25	0.00	0.00	
Diver -Dry Day	31.50	1.00*	1.00*	
Diver Tender	31.50	1.00*	1.00*	
*To be allocated at a l	ater date			

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):

Pile Drivers/Dock Builders shall receive \$0.25 per hour over the journeyman's rate of pay when performing piledriving/dock building work.
 Certified welders shall receive \$1.00 per hour over the journeyman's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work

- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive his regular hourly rate plus \$1.50 per hour.

DISTRICT 6

08/01/2023

6-175

- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):

- 0' to 80' no additional fee
 - 81'to 100' additional \$.50 per foot
 - 101'to 150' additional \$0.75 per foot
 - 151'and deeper additional \$1.25 per foot

- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):

- 0' to 50' no additional fee
- 51' to 100' additional \$.75 per foot
- 101' and deeper additional \$1.00 per foot

- Diver rates applies to all hours worked on dive day.

SHIFT WORK

On Agency/Owner mandated shift work, the following rates will be applicable:

1st Shift - Regular Rate

2nd Shift - Premium of 7% of base wage per hour

3rd Shift - Premium of 14% of base wage per hour

Shift work shall be defined as implementing at least two (2) shifts in a twenty-four (24) consecutive hour period. Shift work must be for a minimum of three (3) consecutive days.

NOTE - The 'Employer Registration' (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 22.48

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY Paid:

See (1) on HOLIDAY PAGE See (5, 6) on HOLIDAY PAGE Overtime:

Note: Any holiday which occurs on Sunday shall be observed the following Monday. If Christmas falls on a Saturday, it shall be observed on the prior Friday.

REGISTERED APPRENTICES

CARPENTER APPRENTICES

Wages per hour (1300 hour terms at the following percentage of journeyman's base wage):

1st	2nd	3rd	4th		
65%	70%	75%	80%		
Supplemental Benefits per hour:					
\$ 12.50	\$ 12.50	\$ 15.10	\$ 15.10		

PILEDRIVER/DOCK BUILDER APPRENTICES

Wages per hour (1300 hour terms at the following percentage of journeyman's base wage):

1st	2nd	3rd	4th
65%*	70%*	75%*	80%

*Pile Driver/Dock Builder apprentices shall receive an additional \$0.25 per hour worked when performing piledriving/dock building work.

Supplemental Benefits per hour: \$ 12.50

\$ 12.50 \$15.10 \$15.10

LINOLEUM, RESILIENT TILE, AND CARPET LAYER APPRENTICES

Wages per hour (1300 hour terms at the following percentage of journeyman's base wage):

1st	2nd	3rd	4th		
65%	70%	75%	80%		
Supplemental Benefits per hour:					
\$ 12.50	\$ 12.50	\$ 15.10	\$ 15.10		

ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:

- Certified welders shall receive \$1.00 per hour over the apprentices rate of pay when the apprentice is required to be certified and performs DOT or ABS specified welding work

- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive his regular hourly rate plus \$1.50 per hour.

Carpenter - Building / Heavy&Highway

DISTRICT 2

08/01/2023

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

V	٨	I	(G	Ε	S
---	---	---	---	---	---	---

Wages per hour:	07/01/2023	07/01/2024 Additional
Carpenter - ONLY for Artificial Turf/Synthetic		
Sport Surface	\$ 34.48	\$ 2.25*

*To be allocated at a later date

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL	BENEFITS
Por hour:	

Per hour:

Journeyman \$26.30

OVERTIME PAY See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid:	See (5) on HOLIDAY PAGE
Overtime:	See (5, 6, 16) on HOLIDAY PAGE

Notes:

When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES

Wages per hour (1300 hour terms at the following percentage of Journeyman's wage):

1st	2nd	3rd	4th
65%	70%	75%	80%
Supplem	ental Benefits	per hour:	
1st term		-	\$ 17.56
2nd term			18.04
3rd term			20.06
4th term			20.54

Carpenter - Heavy&Highway

JOB DESCRIPTION Carpenter - Heavy&Highway

ENTIRE COUNTIES

Broome, Cayuga, Chemung, Cortland, Delaware, Jefferson, Lewis, Onondaga, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Yates

WAGES

Per hour	07/01/2023	05/01/2024
		Additional
Carpenter	\$ 35.78	\$ 2.75*
Piledriver	35.78	2.75*
Diver-Wet Day	60.78	2.75*
Diver-Dry Day	36.78	2.75*
Diver-Tender	36.78	2.75*

*To be allocated at a later date.

Page 22

DISTRICT 2

2-42AtSS

08/01/2023

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):

- When project owner mandates a single irregular work shift, the employee will receive an additional \$3.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.

- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.50 per hour.

- Certified welders when required to perform welding work will receive an additional \$2.50 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:

- Divers and Tenders shall receive one and one half (1 1/2) times their regular diver and tender rate of pay for Effluent and Slurry diving.

- Divers and tenders being paid at the specified rate for Effluent and Slurry diving shall have all overtime rates based on the specified rate plus the appropriate overtime rates (one and one half or two times the specified rate for Slurry and Effluent divers and tenders).

- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.

- All crew members aboard a submersible shall receive the Diver-Wet Day rate.

- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):

0' to 50' no additional fee

51'to 100' additional \$.50 per foot

101'to 150' additional \$0.75 per foot

151'and deeper additional \$1.25 per foot

- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):

0' to 50' no additional fee

51' to 100' additional \$.75 per foot

101' and deeper additional \$1.00 per foot

- Diver rates applies to all hours worked on dive day.

NOTE - The 'Employer Registration' (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$26.30

OVERTIME PAY See (B, E, Q) on OVERTIME PAGE

HOLIDAY Paid:

See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

- In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday. Employee must work scheduled work day before and after the Holiday.

- The employee must work their scheduled workday before and their scheduled workday after the holiday to receive holiday pay.

REGISTERED APPRENTICES

CAPRENTER APPRENTICES

Wages per hour (1040 hour terms at the following percentage of journeyman's base wage):

1st	2nd	3rd	4th	5th
65%	70%	75%	80%	85%
Supplemental	Benefits per l	nour:		
\$ 17.56	\$ 18.04	\$ 20.01	\$ 20.49	\$ 20.97

PILEDRIVER/DOCKBUILDER APPRENTICES

Wages per hour (1300 hour terms at the following percentage of journeyman's base wage):

0 1	`		01
1st	2nd	3rd	4th
65%	70%	80%	85%
Supplementa	I Benefits per l	hour:	
\$ 17.56	\$ 18.04	\$ 20.49	\$ 20.97

NOTE ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED: - When project owner mandates a single irregular work shift, the employee will receive an additional \$3.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.

- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.50 per hour.

- Certified welders when required to perform welding work will receive an additional \$2.50 per hour.

2-277HH-Bro

ENTIRE COUNTIES

Cortland, Herkimer, Madison, Oneida, Oswego

PARTIAL COUNTIES

Cayuga: Townships of Ira, Locke, Sempronius, Sterling, Summerhill and Victory. Chenango: Only the Townships of Columbus, New Berlin and Sherburne. Onondaga: Entire County except Townships of Elbridge and Skaneateles.

Otsego: Only the Townships of Plainfield, Richfield, Springfield, Cherry Valley, Roseboom, Middlefield, Otsego, Exeter, Edmeston, Burlington, Pittsfield and New Lisbon. Tompkins: Only the Township of Groton.

Wayne: Only the Townships of Huron, Wolcott, Rose and Butler.

WAGES	
Per hour:	07/01/2023
Electrician	\$ 44.00
Teledata	44.00
Cable Splicer	48.40

NOTE: Additional premiums for the following work listed:

- Additional \$2.00 per hour for work performed over 35 feet above the ground, floor, or roof levels or where work is required in tunnels, shafts, or under compressed air 35 feet below the ground level.

- Additional \$2.50 per hour for working over 50 feet above or below ground, floor, or roof level. This includes work on ladders, "toothpicks", scaffolds, boatswain chairs, towers, smokestacks or other open structures, or mechanical lifts used over 60 feet.

SHIFT WORK: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF EIGHT (8) HOURS FOR AT LEAST FIVE (5) DAYS DURATION WHICH MAY HAVE BEEN WORKED. WHEN TWO (2) SHIFTS OR THREE (3) SHIFTS ARE WORKED:

1ST SHIFT	8:00AM - 4:30PM:	Regular wage rate
2ND SHIFT	4:30 PM - 1:00 AM:	Regular wage rate plus 15%
3RD SHIFT	12:30 AM - 9:00 AM:	Regular wage rate plus 25%

Occupied Conditions: When necessary to perform alteration and/or renovation work and owner mandates (due to occupied conditions) prevent the work from being performed during "normal" working hours (defined as between 6:00 a.m. and 4:30 p.m. Monday through Friday), alternate hours may be worked, provided: 1) The hours are established for a minimum of five (5) days duration or the length of the job, whichever is shorter; and 2) An entire work scope within a job-site area is performed utilizing the varied hours. If these conditions are satisfied, all hours worked Monday through Friday of a shift that starts before or ends after the "normal" hours, shall be paid at the appropriate rate plus fifteen percent (15%). However, the following restrictions shall apply:

1) "Alternate" hours shall consist of a minimum of eight consecutive hours per day

2) Hours worked in excess of eight (8) hours per day, Monday through Friday, shall be paid at a rate of one and one-half times the applicable rate (day-shift + 15%)

- 3) Hours worked on Saturday shall be paid at time and one-half the applicable rate.
- 4) Hours worked on Sundays and Holidays shall be paid at double the straight time rate.

5) Work of a new construction nature may not be worked under these conditions.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

	\$ 30.17 plus
Journeyman	3% of hourly
	wage paid*

*NOTE: The 3% is based on the hourly wage paid, straight time or premium rate.

OVERTIME PAY

See (B, *E, Q) on OVERTIME PAGE

* NOTE: On Saturday the first 10 hours worked shall be paid at a rate of one and one-half times the applicable rate. All additional hours are payable at double the straight time rate.

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

DISTRICT 6

Overtime:

See (5, 6) on HOLIDAY PAGE

NOTE: If any of the above holidays fall on Saturday, Friday shall be observed as the holiday. If any of the above holidays fall on Sunday, Monday shall be observed as the holiday.

REGISTERED APPRENTICES

WAGES per hour: Hourly terms at the following percentage of Journeyman's wage.

1st period 40% (0-1000 hrs.)	\$ 17.60
2nd period 45% (1001-2000)	19.80
3rd period 50% (2001-3500)	22.00
4th period 60% (3501-5000)	26.40
5th period 70% (5001-6500)	30.80
6th Period 80% (6501-8000)	35.20

SUPPLEMENTAL BENEFITS per hour:

1st period	\$ 13.59*
2nd period	\$ 13.59*
3rd period	\$ 27.42*
4th period	\$ 27.97*
5th period	\$ 28.52*
6th period	\$ 29.07*

* PLUS 3% OF HOURLY WAGE PAID, STRAIGHT TIME RATE OR PREMIUM RATE.

6-43

Electrician				08/01/2023
JOB DESCRIPTION Electri	cian		DISTRICT 6	
ENTIRE COUNTIES				
PARTIAL COUNTIES Cayuga: Only the Township o Schuyler: Only the Townships Seneca: Only the Townships Tioga: Only the Townships of Tompkins: Entire county exce	f Genoa. s of Cayuta, Catharine, and Hecto of Lodi and Covert. Spencer and Candor. pt the Township of Groton.	r.		
WAGES Per hour:	07/01/2023	06/01/2024		
rei noui.	07/01/2025	Additional		
Electrician	\$ 40.00	\$ 2.75*		
* To be allocated at a later dat	e			

Additional \$1.00 per hour for work from trusses, scaffolds, frames, spider baskets, ladders, etc. 40 feet or more from ground floor or in underground mines or tunnels. Work done from personal lift equipment that complies with OSHA requirements are excluded.

Additional \$2.00 per hour when required to work under compressed air, on radio towers, on asbestos abatement projects which require the use of a respirator, work of a hazardous nature, work where gas masks are required or work requiring use of protective arc flash suits.

SHIFT WORK: THE FOLLOWING RATES WILL APPLY WHEN SHIFT WORK IS MANDATED EITHER IN THE JOB SPECIFICATION OR BY THE CONTRACTING AGENCY:

1ST SHIFT	8:00 AM to 4:30 PM
2ND SHIFT	4:30 PM to 1:00 AM
3RD SHIFT	12:30 AM to 9:00 AM

SUPPLEMENTAL BENEFITS

	\$ 28.80 plus
Journeyman	3% of hourly
	wage paid*

Regular wage rate plus 17.3% Regular wage rate plus 31.4%

* NOTE: The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, *E, Q) on OVERTIME PAGE

* NOTE: On Saturday the first 8 hours worked shall be paid at a rate of one and one-half times the applicable rate. All additional hours are payable at double the straight time rate.

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE Overtime: See (5, 6) on HOLIDAY PAGE

NOTE: When a holiday falls on a Saturday, the day preceding shall be celebrated as such, and when falling on a Sunday, Monday will be celebrated as the holiday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of Journeyman's wage.

1st year (47.5%)	\$ 19.00
2nd year (55%)	22.00
3rd year (65%)	26.00
4th year (75%)	30.00
5th year (85%)	34.00

SUPPLEMENTAL BENEFITS per hour:

1st year	\$ 13.25*
2nd year	12.25*
3rd year	21.81*
4th year	23.28*
5th year	24.75*

* PLUS 3% OF HOURLY WAGE PAID, STRAIGHT TIME RATE OR PREMIUM RATE.

6-241

Elevator Constructor				08/01/2023
JOB DESCRIPTION Elevato	or Constructor		DISTRICT 6	
ENTIRE COUNTIES Broome, Cayuga, Chenango, C	Cortland, Franklin, Jefferson, Lew	<i>r</i> is, Onondaga, Oswego, St.	Lawrence, Tioga, Tompkins	
PARTIAL COUNTIES Delaware: Only the towns of: A Madison: Only the towns of: Ca Oneida: Only the towns of: Ca	Tompkins, Walton, Masonville, S azenovia, DeRuyter, Eaton, Fenı mden, Florence and Vienna.	idney, Franklin and Deposit ner, Georgetown, Lebanon,	Lenox, Nelson and Sullivan.	
WAGES				
Per hour:	07/01/2023	01/01/2024	01/01/2025	01/01/2026
Elevator Constructor	\$ 53.69	\$ 56.02	\$ 58.455	\$ 61.003
Helper	37.58	39.21	40.92	42.70
NOTE - The "Employer Registr projects prior to June 30, 2023 For Pre-Registered Projects Fo be used as a make-up day. Tur	ation" (30.1) use of a '4 Day/10 H will expire within the granted time our (4), Ten (10) hour days may b esday thru Friday may be worked	Hour Work schedules' will no e frame. De worked at straight time du d with no make-up day. For f	o longer be accepted or proce uring a week, Monday thru Th further clarification contact yo	ursday. Friday may pur local Bureau
Office.				
SUPPLEMENTAL BENEFIT Per hour:	'S			
Journeyman	\$ 37.335*	\$ 37.885*	\$ 38.435*	\$ 38.985*
*NOTE - add 6% of regular hou OVERTIME PAY See (D. O) on OVERTIME PAC	irly rate for all hours worked. Add	18% of regular hourly rate if	more than 5 years of service	
HOLIDAY Paid: Se Overtime: Se NOTE: When a paid holiday fal Monday.	e (5, 6, 15, 16) on HOLIDAY PA e (5, 6, 15, 16) on HOLIDAY PA ls on a Saturday, it shall be obse	GE GE erved on Friday. When a paie	d holiday falls on Sunday, it s	hall be observed on

6-62.1

REGISTERED APPRENTICES

WAGES per hour: 1 year terms at the following percentage of the Elevator Constructor wage.

0-6	6-12	2nd	3rd	4th
months	months	year	year	year
50%	55%	65%	70%	80%

SUPPLEMENTAL BENEFITS per hour:

0-6 months: 6% of the hourly apprentice rate paid, no additional supplemental benefits.

All other terms: Same as Journeyman.

Glazier		08/01/2023
JOB DESCRIPTION G	Blazier	DISTRICT 5
ENTIRE COUNTIES Broome, Chemung, Chen	ango, Delaware, Otsego, Schuyler, Steuben, Tiog	a, Tompkins
WAGES		
Per hour:	07/01/2023	
Glazier	\$ 27.90	
** NOTE-The "Employer I	Registration" (30.1) use of a '4 Day/10 Hour Work	schedules' will no longer be accepted or processed. All registered

For Pre-Registered Projects Four(4), Ten(10) hour days may be worked at straight time during a week Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 28.70
------------	----------

projects prior to JUNE 30, 2023 will expire within the granted time frame.

OVERTIME PAY

See (B, E*, E2, Q**) on OVERTIME PAGE.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

1000 hour terms

Appr. 1st term	\$17.50
Appr. 2nd term	18.50
Appr. 3rd term	19.50
Appr. 4th term	20.50
Appr. 5th term	21.50
Appr. 6th term	22.50
Appr. 7th term	23.50
Appr. 8th term	24.50

Supplemental Benefits per hour:

Appr. 1st term	\$ 12.91
Appr. 2nd term	12.91
Appr. 3rd term	18.91
Appr. 4th term	18.91
Appr. 5th term	19.91
Appr. 6th term	19.91
Appr. 7th term	20.91
Appr. 8th term	20.91

08/01/2023

Insulator - Heat & Frost

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 6

ENTIRE COUNTIES

Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins

Per hour:	07/01/2023
Asbestos Installer	\$ 38.50
Insulation Installer	38.50
(On mechanical systems only)	

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED SHIFTS WORKED.

1ST SHIFT	\$ 38.50
2ND SHIFT	44.27
3RD SHIFT	46.20

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$25.09

OVERTIME PAY See (*B1, **K, P) on OVERTIME PAGE *NOTE: First 10 hours on Saturday. **NOTE: Holidays that fall on Sunday are subject to double time.

HOLIDAY Paid:

Ov

id:	See (1) on HOLIDAY PAGE
ertime:	See (2*,4,6,28) on HOLIDAY PAGE
	*Triple time for Labor Day if worked

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of Journeyman's wage.

60% \$ 23.10	70% \$ 26.95	80% \$ 30.80	4tn 90% \$ 34.65	
SUPPLEMENTAL BE	NEFITS per hour:			
\$ 22.59	\$ 22.59	\$ 25.09	\$ 25.09	6-30-Syracuse

Ironworker

JOB DESCRIPTION Ironworker

DISTRICT 6

ENTIRE COUNTIES

Broome, Cayuga, Cortland, Onondaga, Oswego, Seneca, Tioga, Tompkins

PARTIAL COUNTIES

Chenango: Only the Townships of Lincklaen, Otselic, Pitcher, Pharsalia, German, McDonough, Preston, Norwich, Smithville, Oxford, Guilford, Greene, Coventry, Bainbridge and Afton. Jefferson: Only the Townships of Alexandria, Theresa, Clayton, Orleans, Cape Vincent, Lyme, Brownville, Pamelia, LeRay, Hounsfield, Watertown, Rutland, Adams, Henderson, Rodman, Ellisburg, Lorraine and Worth. Madison: Only the Townships of Sullivan, Lenox, Lincoln, Fenner, Smithfield, Cazenovia, Nelson, DeRuyter and Georgetown. Schuyler: Only the Townships of Cayuta, Catharine, Hector and Montour.

Wayne: Only the Townships of Galen, Savannah, Rose, Butler, Huron and Wolcott

WAGES

08/01/2023

Structural, Reinforcing, Re-bar, Machinery Mover & Rigger, Ornamental & Curtain Wall, Window Wall, Pre-Glazed Metal Framed Windows Attached to Steel or Masonry Including Caulking, Fence Erector (Chain Link/Security), Sheeter/Bridge Rail, Pre-Cast Erector, Stone Derrickman, Pre-Engineered Building Erector, Welder

Per hour:	07/01/2023
-----------	------------

Ironworker \$ 33.00

NOTE: Shift work mandated by the project owner. All shifts will be (8) hours.

1st Shift	\$ 33.00
2nd Shift	36.30
3rd Shift	37.95

WHEN A SINGLE IRREGULAR SHIFT IS WORKED, WITH START TIMES BASED ON SECOND AND THIRD SHIFTS, ADD 10 % TO THE WAGE RATE POSTED ABOVE.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$30.83

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

 Paid:
 See (1) on HOLIDAY PAGE

 Overtime:
 See (5, 6) on HOLIDAY PAGE

 NOTE: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following rates.

1st	2nd	3rd	4th
\$ 19.50	\$ 21.50	\$ 23.50	\$ 25.50

SUPPLEMENTAL BENEFITS per hour:

1st year	\$ 12.03
2nd year	20.26
3rd year	21.43
4th year	22.61

Laborer - Building

JOB DESCRIPTION Laborer - Building

ENTIRE COUNTIES Cortland, Tompkins

PARTIAL COUNTIES

Schuyler: Only the Township of Catherine including the Village of Odessa. Tioga: Townships of Candor & Spencer

WAGES

Per hour:

GROUP #1: Basic Laborer - excavation, concrete vibrator, power-driven buggie, demolition (including acetylene torch work) that is customarily done by a laborer

GROUP #2: Air Tool Operators, Mason Tenders

GROUP #3: Blaster, Rock Drill (compressor driven)

GROUP #4: Asbestos, Hazardous, Toxic Waste, Lead and Mold Remediation

07/01/2023	07/01/2024	07/01/2025	07/01/2026
	Additional	Additional	Additional
\$ 26.25	\$ 1.00*	\$ 1.00*	\$ 1.25*
27.25	1.00*	1.00*	1.25*
28.25	1.00*	1.00*	1.25*
28.25	1.00*	1.00*	1.25*
	07/01/2023 \$ 26.25 27.25 28.25 28.25	07/01/2023 07/01/2024 Additional \$ 26.25 \$ 1.00* 27.25 1.00* 28.25 1.00* 28.25 1.00*	07/01/2023 07/01/2024 07/01/2025 Additional Additional \$ 26.25 \$ 1.00* \$ 1.00* 27.25 1.00* 1.00* 28.25 1.00* 1.00* 28.25 1.00* 1.00*

DISTRICT 2

6-60

*To be allocated at a later date.

IMPORTANT NOTES:

- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.

- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

NOTE - The 'Employer Registration' (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$21.95

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

 Paid:
 See (1) on HOLIDAY PAGE

 Overtime:
 See (5, 6) on HOLIDAY PAGE

 When a holiday falls on Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES

WAGES: 1000 hour terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

1st term	\$ 14.60
2nd term	15.85
3rd term	16.73
4th term	17.60

Laborer - Heavy&Highway

JOB DESCRIPTION Laborer - Heavy&Highway

ENTIRE COUNTIES

Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES

Chenango: Entire County except the Townships of Sherburne, Columbus and New Berlin. Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES

Per hour:

GROUP A: Drill Helper, Flagman, Outboard and Hand Boats.

GROUP B: Basic Rate, Bull Float (where used for strike off only), Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operators (1-1/2" & Single Diaphragm), Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, and Air Tool Operators, Wrecking Laborer.

GROUP C: Drilling equipment - only where a separate air compressor unit supplies power, Acetylene Torch Operators, Asphalt Raker, Powder Man, Tail or Screw Operator on Asphalt Paver.

GROUP D: Blasters, Form Setters (slab steel forms on highways, roads, streets & airport runways), Stone or Granite Curb Setters.

GROUP E: Hazardous Waste defined as when an employee performs hazardous waste removal, lead abatement and removal, asbestos abatement and removal work on State and/or Federally designated waste site and were relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

DISTRICT 2

2-785b

08/01/2023

	07/01/2023	07/01/2024
		Additional
A	\$ 35.06	\$ 2.50*
В	35.26	2.50*
С	35.46	2.50*
D	35.66	2.50*
E	38.26	2.50*
	A B C D E	07/01/2023 A \$ 35.06 B 35.26 C 35.46 D 35.66 E 38.26

*To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS FOR THE FOLLOWING CONDITIONS:

- A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional \$3.00 per hour.

- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full-face replaceable cartridge respirator for more than (2) hours, then in such case said employee(s) will be paid the Group E rate for the shift.

IMPORTANT NOTES:

- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.

- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

SUPPLEMENTAL BENEFITS

Per hour:

\$23.85

OVERTIME PAY See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Journeyman

See (5, 6) on HOLIDAY PAGE Paid: See (5, 6) on HOLIDAY PAGE Overtime:

- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Saturday.

- An Employee must work the scheduled working day before and the scheduled working day after a holiday to receive holiday pay. However, an employee not able to report because of proven sickness, death in immediate family, or accident shall be entitled to holiday pay.

REGISTERED APPRENTICES

WAGES: 1000 hour terms at the following percentage of Journeyman's GROUP B wage:

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL B	BENEFITS per hour:	
1st term	\$ 21.60	
2nd term	22.35	
3rd term	22.73	
4th term	23.10	
		2-78

Laborer - Tunnel

08/01/2023

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 2

ENTIRE COUNTIES

Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES

Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin. Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES

Per hour:

GROUP A: Change House Man

GROUP B: Miners and all Machine Men, Safety Miner, All Shaft work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Man, Shield Driven Tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Blaster

GROUP D: Hazardous waste removal work on a State and/or Federally designated waste site where relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2023	07/01/2024
		Additional
Group A	\$ 38.24	\$ 2.50*
Group B	38.44	2.50*
Group C	41.24	2.50*
Group D	41.44	2.50*

*To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS FOR THE FOLLOWING CONDITIONS:

- A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional \$3.00 per hour.

- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full face replaceable cartridge respirator for more then (2) hours, then in such case said employee(s) will be paid the Group D rate for the shift.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$23.85

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Friday.

- An Employee must work the scheduled working day before and the scheduled working day after a holiday to receive holiday pay. However, an employee not able to report because of proven sickness, death in immediate family, or accident shall be entitled to holiday pay.

HOLIDAY	
Paid	

Overtime:

See (5, 6) on HOLIDAY PAGE See (5, 6) on HOLIDAY PAGE

If the holiday falls on Saturday, it will be celebrated on Friday. If the holiday falls on Sunday, it will be celebrated on Monday

REGISTERED APPRENTICES

WAGES: 1000 hour terms at the following percentage of Group B wage

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

1st Term	\$ 8.25
2nd Term	8.25
3rd Term	16.25
4th Term	23.85

2-785T

Lineman Electrician

08/01/2023

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe, or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. (Ref #14.01.01)

Per hour:	07/01/2023	05/06/2024
Lineman, Technician	\$ 57.40	\$ 58.90
Crane, Crawler Backhoe	57.40	58.90
Welder, Cable Splicer	57.40	58.90
Digging Mach. Operator	51.66	53.01
Tractor Trailer Driver	48.79	50.07
Groundman, Truck Driver	45.92	47.12
Equipment Mechanic	45.92	47.12
Flagman	34.44	35.34

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work". (Ref #14.02.01-A)

Lineman, Technician	\$ 57.40	\$ 58.90
Crane, Crawler Backhoe	57.40	58.90
Cable Splicer	63.14	64.79
Certified Welder,		
Pipe Type Cable	60.27	61.85
Digging Mach. Operator	51.66	53.01
Tractor Trailer Driver	48.79	50.07
Groundman, Truck Driver	45.92	47.12
Equipment Mechanic	45.92	47.12
Flagman	34.44	35.34

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates apply on switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. (Ref #14.02.01-B)

Lineman, Tech, Welder	\$ 58.72	\$ 60.22
Crane, Crawler Backhoe	58.72	60.22
Cable Splicer	64.59	66.24
Certified Welder,		
Pipe Type Cable	61.66	63.23
Digging Mach. Operator	52.85	54.20
Tractor Trailer Driver	49.91	51.19
Groundman, Truck Driver	46.98	48.18
Equipment Mechanic	46.98	48.18
Flagman	35.23	36.13

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. (Ref #14.03.01)

Lineman, Tech, Welder	\$ 59.91	\$ 61.41
Crane, Crawler Backhoe	59.91	61.41
Cable Splicer	59.91	61.41
Digging Mach. Operator	53.92	55.27
Tractor Trailer Driver	50.92	52.20
Groundman, Truck Driver	47.93	49.13
Equipment Mechanic	47.93	49.13
Flagman	35.95	36.85

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT

2ND SHIFT **3RD SHIFT**

4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 % 12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2023	05/06/2024
Lineman, Technician, or Equipment Operators with Crane License	\$ 29.40 *plus 7% of the hourly wage paid	\$ 30.90 *plus 7% of the hourly wage paid
All other Journeyman	\$ 26.40 *plus 7% of the hourly wage paid	\$ 26.90 *plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction. NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

05/06/2024

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

07/01/2023

SUPPLEMENTAL BENEFITS per hour:

\$ 26.40	\$ 26.90
*plus 7% of	*plus 7% of
the hourly	the hourly
wage paid	wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

Lineman Electrician - Teledata

JOB DESCRIPTION Lineman Electrician - Teledata

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour:

For outside work, stopping at first point of attachment (demarcation).

07/01/2023 01/01/2024 **DISTRICT** 6

6-1249a

08/01/2023

Cable Splicer	\$ 37.73	\$ 39.24	\$ 40.81
Installer, Repairman	\$ 35.81	\$ 37.24	\$ 38.73
Teledata Lineman	\$ 35.81	\$ 37.24	\$ 38.73
Tech., Equip. Operator	\$ 35.81	\$ 37.24	\$ 38.73
Groundman	\$ 18.98	\$ 19.74	\$ 20.53

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT 2ND SHIFT 3RD SHIFT	REGULAR RATE REGULAR RATE PLU REGULAR RATE PLU	US 10% US 15%	
SUPPLEMENTAL BENEFITS	07/01/2023	01/01/2024	01/01/2025
Journeyman	\$ 5.70	\$ 5.70	\$ 5.70
	*plus 3% of the hourly wage paid	*plus 3% of the hourly wage paid	*plus 3% of the hourly wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE Overtime: See (5, 6, 16) on HOLIDAY PAGE

Lineman Electrician - Traffic Signal, Lighting

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only. (Ref #14.01.01)

Per hour:	07/01/2023	05/06/2024
Lineman, Technician	\$ 49.32	\$ 50.54
Crane, Crawler Backhoe	49.32	50.54
Certified Welder	51.79	53.07
Digging Machine	44.39	45.49
Tractor Trailer Driver	41.92	42.96
Groundman, Truck Driver	39.46	40.43

08/01/2023

6-1249LT - Teledata

DISTRICT 6

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

	07/01/2023	05/06/2024
Lineman, Technician, or Equipment Operators with Crane License	\$ 29.40 *plus 7% of the hourly wage paid	\$ 30.90 *plus 7% of the hourly wage paid
All other Journeyman	\$ 26.40 *plus 7% of the hourly wage paid	\$ 26.90 *plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction. NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day. Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2023	05/06/2024
\$ 26.40	\$ 26.90
*plus 7% of	*plus 7% of
the hourly	the hourly
wage paid	wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

JOB DESCRIPTION Lineman Electrician - Tree Trimmer

Published by the New York State Department of Labor PRC Number 2023009659 Tompkins County

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

Per hour:	07/01/2023	12/31/2023
Tree Trimmer	\$ 29.80	\$ 31.44
Equipment Operator	26.35	27.80
Equipment Mechanic	26.35	27.80
Truck Driver	21.95	23.15
Groundman	18.07	19.07
Flag person	14.20	14.20*

*NOTE- Rate effective on 01/01/2024 - \$15.00 due to minimum wage increase

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2023	12/31/2023
Journeyman	\$ 10.48 *plus 4.5% of	\$ 10.48 *plus 4.5% of
	the hourly wage paid	the hourly wage paid

* The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid:	See (5, 6, 8, 15) on HOLIDAY PAGE
Overtime:	See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
NOTE: All paid holida	s falling on a Saturday shall be observed on the preceding Friday.
All paid holidavs fallir	on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building			08/01/2023
JOB DESCRIPTION Mason - Building		DISTRICT 5	
ENTIRE COUNTIES Cortland, Tompkins			
WAGES			
Per hour:	07/01/2023		
Building:			
Brick/Blocklayer, Cement Mason	\$ 33.18		
Plasterer/EFIS, Stone Mason, Tuck Pointer			

** NOTE-The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to JUNE 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four(4), Ten(10) hour days may be worked at straight time during a week Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman

OVERTIME PAY See (B,E,E2*,Q) on OVERTIME PAGE \$ 27.19

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY	
Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
\$ 21.25	\$ 26.23	\$ 27.29	\$ 29.86

Supplemental Benefits per hour:

1st	2nd	3rd	4th
\$ 22.91	\$ 23.33	\$ 25.87	\$ 26.91

Mason - Heavy&Highway

JOB DESCRIPTION Mason - Heavy&Highway

ENTIRE COUNTIES

Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Cattaraugus: Enitre county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies. Erie: Only the Bricklayer classification applies.

Niagara: Only the Bricklayer classification applies.

WAGES

07/01/2023
\$ 36.88
36.88

** NOTE-The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to JUNE 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four(4), Ten(10) hour days may be worked at straight time during a week Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY Paid: Overtime:

See (1) on HOLIDAY PAGE See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

\$23.53

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

\$ 14.03
\$ 22.97
\$ 23.11
\$ 23.25

08/01/2023

DISTRICT 5

5-3B Ith - Z2

08/01/2023

JOB DESCRIPTION Mason - Tile Finisher

ENTIRE COUNTIES

Broome, Chenango, Cortland, Delaware, Otsego, Tioga, Tompkins

V	V	A	G	E	S		
۰.		_	 _	_			

Wages	
Per hour:	07/01/2023
Building:	
Marble, Slate, Terrazzo	\$ 31.00
and Tile Finisher	

** NOTE-The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to JUNE 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four(4), Ten(10) hour days may be worked at straight time during a week Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 20.47 Journeyman

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE *Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd
\$ 18.60	\$ 21.70	\$ 24.80

Supplemental benefits per hour:

1st	2nd	3rd
\$ 13.29	\$ 13.58	\$ 17.93

Mason - Tile Setter

JOB DESCRIPTION Mason - Tile Setter

ENTIRE COUNTIES

Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES

Allegany: Towns of Alfred, Almond, Andover and Burns.

WAGES	
Wages	
Per Hour:	07/01/2023
Building:	
Marble, Slate, Terrazzo	\$ 33.24
and Tile Setter	

** NOTE-The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to JUNE 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four(4), Ten(10)hour days may be worked at straight time during a week Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 24.01 **OVERTIME PAY** See (B,E,E2*,Q) on OVERTIME PAGE

DISTRICT 5

5-3TF - Z4

08/01/2023

DISTRICT 5

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY	
Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Joureyman's wage:

1st	2nd	3rd	4th
\$ 19.94	\$ 23.27	\$ 26.59	\$ 29.92
Supplementa	I benefits per l	hour:	
1st	2nd	3rd	4th
\$ 13.76	\$ 14.12	\$ 23.26	\$ 23.63
Millwright			

JOB DESCRIPTION Millwright

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

THE FOLLOWING RATE APPLIES TO ANY GAS/STEAM TURBINE AND OR RELATED COMPONENT WORK, INCLUDING NEW INSTALLATIONS OR MAINTENANCE AND ANY/ALL WORK PERFORMED WITHIN THE PROPERTY LIMITS OF A NUCLEAR FACILITY.

Per hour:	07/01/2023	07/01/2024	07/01/2025
		Additional	Additional
Millwright - Power Generation	\$ 43.05	\$ 2.50	\$2.50

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums): - Certified Welders shall receive an additional \$1.75 per hour provided he/she is directed to perform certified welding.

- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive an additional \$1.50 per hour.

- An employee performing the work of a machinist shall receive an additional \$2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.

- When performing work underground at 500 feet and below, the employee shall receive an additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour paid: Journeyman

\$ 27.40*

*NOTE: Subject to OT premium

OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE

HOLIDAY Paid: Overtime:

See (1) on HOLIDAY PAGE See (5, 6) on HOLIDAY PAGE

NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of Journeyman's wage:

Appr. 1st year	65 %*
Appr. 2nd year	75 %*
Appr. 3rd year	80 %*
Appr. 4th year	90 %*

*NOTE: Additional premium for the following work listed below:

Certified Welder	
Hazardous Waste Work	

\$ 1.75 1.50

Millwright		08/01/2023
		6-1163Power
Appr. 4th year	25.85	
Appr. 3rd year	24.30	
Appr. 2nd year	22.75	
Appr. 1st year	\$ 11.89	
SUPPLEMENTAL BENEFITS per hour:		
(500' and below)		
Underground	1.00	
Machinist	2.00	

JOB DESCRIPTION Millwright

DISTRICT 6

ENTIRE COUNTIES

Chemung, Cortland, Livingston, Monroe, Ontario, Orleans, Schuyler, Steuben, Tompkins, Wayne, Wyoming

WAGES

Per hour:	07/01/2023	07/01/2024	07/01/2025
		Additional	Additional
Building	\$ 34.55	\$ 2.25	\$ 2.25
Heavy & Highway	37.55	2.75	2.25

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums): - Certified Welders shall receive an additional \$1.75 per hour provided he/she is directed to perform certified welding.

- On Building projects. If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a

minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive an additional \$1.50 per hour. - H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional \$2.00 per

hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.

- An employee performing the work of a machinist shall receive an additional \$2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.

- When performing work underground at 500 feet and below, the employee shall receive an additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 26.13

OVERTIME PAY See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

See (1) on HOLIDAY PAGE Paid: Overtime:

See (5, 6) on HOLIDAY PAGE

NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of Journeyman's wage:

Appr. 1st year	65 %*
Appr. 2nd year	75 %*
Appr. 3rd year	80 %*
Appr. 4th year	90 %*

*NOTE: Additional premium for the following work listed below:

Certified Welder	\$ 1.75
Hazardous Waste (Bldg)	1.50
Hazardous Waste (H/H)	2.00
Machinist	2.00
Underground	1.00
(500' and below)	

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	\$ 11.89
Appr. 2nd year	21.86
Appr. 3rd year	23.28
Appr. 4th year	24.71

DISTRICT 6

6-1163

Operating Engineer - Building

08/01/2023

JOB DESCRIPTION Operating Engineer - Building

ENTIRE COUNTIES

Cayuga, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

WAGES

NOTE:

---If a prime contract is let for site work only, meaning no buildings are involved in their site contract, the Heavy/Highway rates would be applicable. When a prime contract is let for site work and building excavation is part of that contract, the Building rates would be applicable for the Operators classification.

---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.

---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C.

CLASS A1*: Cranes, All types (A1 Includes Boom Truck, Cableway, Cherry Picker, Derrick, Dragline, Dredge, Overhead Crane, Pile Driver, Tower Crane, Truck Crane, Whirlies)

CLASS A: Air Plako, Asphalt & Blacktop Roller, Automated Concrete Spreader (CMI or equivalent), Automated Fine Grade Machine (CMI), Backhoe, Barrel Shredder, Belt Placer, Blacktop Spreader (such as Barber-Greene & Blaw Knox), Blacktop Plant (automated), Blast or Rotary Drill (Truck or Cat mounted), Burning Plant Operator, Caisson Auger, Central Mix Plant (automated), Concrete Pump, Crusher (Rock), De-watering Press, Diesel Power Unit, Dirt Filter Press with Operation Equipment, Dual Drum Paver, Elevating Grader (selfpropelled or towed), Elevator Hoist - Two Cage, Excavator - all purpose hydraulically operated, Fork Lift (Loed/Lull and other rough terrain type), Front End Loader (4 c.y. and over), Gradall, Grader (Power), Head Tower (Saurman or equal), Hoist (2 or 3 Drum), Hydroblaster (Laser Pump), Light Plants - Compressors and Generators, Locomotive, Maintenance Engineer, Maintenance Welder, Mine Hoist, Mucking Machine or Mole, Quarry Master or Equivalent, Refrigeration Equipment (for soil stabilization), Scraper, Sea Mule, Shovel, Side Boom, Slip Form Paver, Straddle Buggy (Ross Carrier, Lumber Carrier), Tractor Drawn Belt Type Loader (Euclid Loader), Trenching Machine (digging capacity of over 4ft. depth), Truck or Trailer Mounted Log Chipper (self-feeder), Tug Operator (Manned, rented equipment excluded), Tunnel Shovel, Vibro or Sonic Hammer Controls (when not mounted in proximity to Rig Operator), Work Boat Operator including LCM's.

CLASS B: "A" Frame Truck, Back Dumps, Blacktop Plant (non-automatic), Boring Machine, Bulldozer, Cage-Hoist, Central Mix Plant (nonautomated), Compressor, Pump, Generator or Welding machine (when used in battery of not more than five (5)), Concrete Paver (single drum over 16'), Core boring machine, Drill Rigs - tractor mounted, Elevator - as material hoist, Farm Tractor (with or without accessories), Fork Lift (over 10 ton with or without attachments), Front End Loader (under 4 c.y.), Grout Pump, Gunite Machine, High Pressure Boiler (15 lbs. & over), Hoist (one drum), Hydraulic Breaking Hammer (Drop Hammer), Kolman Plant Loader (screening gravel), Maintenance Grease Man, Mixer for stabilized base - self-propelled (Seaman Mixer), Monorail Machine, Parapet Concrete or Pavement Grinder, Parts Man, Post Driver (truck or tractor mounted), Post Hole Digger (truck or tractor mounted), Power Sweeper (Wayne or similar), Pump-Crete or Squeeze-Crete, Road Widener (front end of Grader or self-propelled), Roller, Self-contained hydraulic bench drill, Shell Winder (motorized), Skid steer (Bobcat type loader), Snorkel (overhead arms), Snowblower control man, Tractor (with or without accessories), Trenching Machine (digging capacity of 4 ft. or less), Tugger Hoist, Vacuum Machine (self-propelled or mounted), Vibro Tamp, Well Drill / Well Point System (Submersible pumps when used in lieu of Well Point System), Winch (Motor driven), Winch Cat, Winch Truck

CLASS C: Compressor (up to 500 cfm), Concrete Paver or Mixer (under 16'), Concrete Pavement Spreaders & Finishers (not automated), Conveyor (over 12 ft), Electric Submersible Pump (4" and over), Fine Grade Machine (not automated), Fireman, Fork Lift ("with or without" attachments, 10 ton and under), Form Tamper, Generator (2,500 watts and over), Hydraulic Pump, Mechanical Heaters (More than two (2) Mechanical Heaters or any Mechanical Heater or Heaters whose combined output exceeds 640,000 BTU per hour (manufacturer's rating) plus one self-contained heating unit - i.e. Sundog or Air Heat type - New Holland Hay Dryer type excluded), Mulching Machine, Oiler, Power Driven Welding Machine (300 amp and over, other than all electric. One Welding Machine under 300 amp will not require an engineer unless in a battery), Power Heaterman (hay dryer), Pumps (water and trash), Revinus Widener (road widener), Single Light Plant, Steam Cleaner or Jenny.

Per hour: Building	07/01/2023	07/01/2024	07/01/2025
Class A1*	\$ 45.75	\$ 47.62	\$ 49.61
Class A	44.25	46.12	48.11
Class B	42.13	44.00	45.99
Class C	37.91	39.78	41.77

Additional \$2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

(*) TONNAGE PREMIUMS:

All cranes 65 ton to 110 ton capacity - A1 rate plus \$ 1.50 All cranes 111 ton to 199 ton capacity - A1 rate plus \$ 2.00 All cranes 200 ton to 399 ton capacity - A1 rate plus \$ 3.00 All cranes 400 ton to 599 ton capacity - A1 rate plus \$ 4.00 All cranes 600 ton to 799 ton capacity - A1 rate plus \$ 5.00

DISTRICT 6

All cranes 800 ton to 999 ton capacity - A1 rate plus \$ 6.00 All cranes 1000 ton capacity and over - A1 rate plus \$ 7.00

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 29.91	\$ 31.02	\$ 32.12

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE
NOTE: If the	oliday falls on Sunday, it will be celebrated on Monday

REGISTERED APPRENTICES

WAGES per hour: One thousand hour terms at the following percentage of Journeyman's CLASS A wage:

1st year	60%
2nd year	65%
3rd year	70%
4th year	80%

Additional \$2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

SUPPLEMENTAL BENEFITS per hour:

	07/01/2023	07/01/2024	07/01/2025	
All Terms:	\$ 29.85	\$ 30.95	\$ 32.05	
				6-158-545b.s

Operating Engineer - Heavy&Highway	08/01/2023

JOB DESCRIPTION Operating Engineer - Heavy&Highway

ENTIRE COUNTIES

Cayuga, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Seneca, St. Lawrence, Tompkins

WAGES

NOTE:

---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.

---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C

CLASS A1*: Cranes, All types (Boom Truck, Cherry Picker, Derrick, Dragline, Overhead Crane (Gantry or Straddle Type), Pile Driver, Tower Crane (including self erecting), Truck Crane)

CLASS A: Asphalt Curb Machine (self-propelled, slipform); Asphalt Paver; Automated Concrete Spreader (CMI type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Backhoe Excavator, Full Swing (CAT 212 or similar type); Back Filling Machine; Belt Placer (CMI type); Blacktop Plant (automated);Blacktop Roller; Cableway; Bull Dozer being operated with active GPS; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled, slipform); Concrete Pump; Directional Boring/Drilling Machine; Dredge; Dual Drum Paver; Excavator (all purpose-hydraulic, Gradall or similar); Front End Loader (4 cu. yd. & over); Head Tower (Sauerman or equal); Hoist (two or three drum); Holland Loader; Maintenance Engineer; Mine Hoist; Mucking Machine or Mole; Pavement Breaker (SP Wertgen; PB-4 and similar type); Profiler (over 105 h.p.); Power Grader; Quad 9; Quarry Master (or equivalent); Rotating Telehandler; Scraper (including challenger type); Shovel; Slip Form Paver; Tractor Drawn Belt-Type Loader; Truck or Trailer Mounted Chipper (self-feeder); Tug Operator (manned rented equipment excluded); Tunnel Shovel

CLASS B: Backhoe (tractor mounted, rubber tired); Bituminous Recycler Machine; Bituminous Spreader and Mixer; Blacktop Plant (nonautomated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Bridge Deck Finishing Machine; Brokk; Cage Hoist; Central Mix Plant (non-automated) and All Concrete Batching Plants; Concrete Paver (over 16'); Crawler Drill (self-contained); Crusher; Diesel Power Unit; Drill Rigs (truck or tractor mounted); Front End Loader (under 4 cu. yd.); Greaseman - Lubrication Engineer; HiPressure Boiler (15 lbs & over); Hoist (one drum); Hydro-Axe; Kolman Plant Loader & similar type loaders; Locomotive; Material Handling Knuckle Boom; Mini Excavators (under 18,000 lbs.); Mixer (for stabilized base, self-propelled); Monorail Machine; Profiler (105 h.p. and under); Plant Engineer; Prentice Loader; Pug Mill; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above subgrade, See Class A for Blacktop Roller); Sea Mule; Self-contained ride-on Rock Drill (excluding Air-Track type drill); Skidder; Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Vacuum Machine (mounted or towed); Vermeer Saws (ride-on, any size or type); Welder; Winch and Winch Cat; Work Boat Operator including L.C.M.'s CLASS C: "A" Frame Winch Hoist (On Truck); Aggregate Plant; Articulated Heavy Hauler; Asphalt or Concrete Grooving Machine (ride-on); Ballast Regulator (ride-on); Bituminous Heater (self-propelled); Boat (powered); Boiler (used in conjunction with production); Cement & Bin Operator; Compressors**; Concrete Pavement Spreader and Finisher; Concrete Paver or Mixer (16' & under); Concrete Saw (self-propelled); Conveyor; Deck Hand; Directional Boring/Drilling Machine Locator; Drill (Core); Drill (Well); Dust Collectors**; Electric Pump When Used in Conjunction with Well Point System; Farm Tractor with accessories; Fine Grade Machine; Fireman; Fork Lift; Form Tamper; Generators**; Grout Pump; Gunite Machine; Hammers (hydraulic self-propelled); Heaters**; Hydra-Spiker (ride-on); Hydraulic Pump (jacking system); Hydro-Blaster (water); Light Plants**; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Post Hole Digger (excluding handheld); Post Driver; Power Broom (towed); Power Heaterman; Power Sweeper; Pumps**; Revinius Widener; Roller (subgrade & fill); Scarifier (ride-on); Shell Winder; Skid Steer Loader (Bobcat or similar, including all attachments); Span Saw (ride-on); Steam Cleaner; Tamper (rideon); Tie Extractor (ride-on); Tie Handlers (ride-on); Tie Inserters (ride-on); Tie Spacers (ride-on); Tire Repair; Track Liner (ride-on); Tractor; Tractor (with towed accessories); Vacuum Machine (self-propelled); Vibratory Compactor; Vibro Tamp; Welding Machines**; Well Point

**CLASS C NOTE: Considered Hands-Off (unmanned). Includes only operation and maintenance of the equipment.

Per hour: H/H	07/01/2023	07/01/2024	07/01/2024
CLASS A1*	\$ 54.30	\$ 56.51	\$ 58.85
CLASS A	51.30	53.51	55.85
CLASS B	50.42	52.63	54.97
CLASS C	47.14	49.35	51.69

(*) TONNAGE PREMIUMS:

All cranes 65 ton to 110 ton capacity - A1 rate plus \$ 1.50 All cranes 111 ton to 199 ton capacity- A1 rate plus \$ 2.00 All cranes 200 ton to 399 ton capacity - A1 rate plus \$ 3.00 All cranes 400 ton to 599 ton capacity - A1 rate plus \$ 4.00 All cranes 600 ton to 799 ton capacity - A1 rate plus \$ 5.00 All cranes 800 ton to 999 ton capacity - A1 rate plus \$ 6.00 All cranes 1000 ton capacity and over - A1 rate plus \$ 7.00

- Cranes in Luffer Configuration - A1 rate plus \$ 5.00

- Cranes with external ballast (Tray or Wagon) - A1 rate plus \$ 5.00

Additional \$2.50 per hour for hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SINGLE IRREGULAR WORK SHIFT: Additional \$2.50 per hour for all employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENE	FITS		
Per hour:	07/01/2023	07/01/2024	07/01/2025
Journeyman	\$ 31.35	\$ 32.45	\$ 33.55
OVERTIME PAY See (B, E, Q) on OVERTIM	E PAGE		
HOLIDAY			
Paid:	See (5, 6) on HOLIDAY PAGE		
Overtime:	See (5, 6) on HOLIDAY PAGE		
NOTE: If a holiday falls on S	Sunday, it will be celebrated on Mon	day. If an employee works o	n this Monday, they
allowed at the second sec		· · · · · · · · · · · · · · · · · · ·	

NOTE: If a holiday falls on Sunday, it will be celebrated on Monday. If an employee works on this Monday, they shall be compensated at double time plus the holiday pay (triple time). If a holiday falls on a Saturday, employees who work a Saturday Holiday shall be paid double time plus the holiday pay.

REGISTERED APPRENTICES

WAGES per hour: One thousand hour terms at the following percentage of Journeyman's CLASS B wage.

60%
70%
80%
90%

Additional \$2.50 per hour for hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SUPPLEMENTAL BENEFITS per hour: Same as Journeyman

6-158-545h

08/01/2023

Operating Engineer - Survey Crew

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 12

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north. Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES

These rates apply to Building, Tunnel and Heavy Highway.

Per hour: SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party. Instrument Person - One who operates the surveying instruments. Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2023

Party Chief	\$ 49.47
Instrument Person	45.49
Rod Person	33.87

Additional \$3.00/hr. for Tunnel Work Additional \$2.50/hr. for Hazardous Work Site

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$28.90

OVERTIME PAY

See (B, E, P, *X) on OVERTIME PAGE *Note: \$24.60/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

07/01/2023

60%
70%
80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	\$ 20.68 / F	ΉP	\$17.53
1001-2000	23.70 /	"	19.95
2001-3000	26.73 /	"	22.43
NOTE: PHP is premium hours paid when w	vorked.		

Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 12

12-158-545 D.H.H.

08/01/2023

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north. Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES

These rates apply to feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour: SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party. Instrument Person - One who operates the surveying instruments. Rod Person - One who holds the rods and assists the Instrument Person.

Party Chief	\$ 48.97
Instrument Person	44.99
Rod Person	33.37

Additional \$3.00/hr. for Tunnel Work.

Additional \$2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman

\$ 28.90

07/01/2023

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE *Note: \$24.10/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on percentage of Rod Persons Wage:

07/01/2023

0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	\$ 2	20.68	3 /	PI	ΗP	\$17.53
1001-2000	\$ 2	23.70)/		"	19.95
2001-3000	\$ 2	26.73	3/	,	"	22.43
NOTE: PHP is premium hours paid when	wo	rked				

Operating Engineer - Tunnel

JOB DESCRIPTION Operating Engineer - Tunnel

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: Northern part of Dutchess, to the northern boundary line of the City of Poughkeepie, then due east to Route 115 to Bedell Road, then east along Bedell Road to VanWagner Road, then north along VanWagner Road to Bower Road, then east along Bower Road to Rte. 44 east to Rte. 343, then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains, to the borderline of the State of Connecticut.

Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

12-158-545 DCE

08/01/2023

DISTRICT 7

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine(Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Automated Central Mix Concrete Plant; Backhoe (topside); Backhoe (track mounted, rubber tired); Backhoe (topside); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant(non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Vacuum Machine (mounted or towed); Welder; Winch; Winch Cat.

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 or any type combination)); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Gunite Machine; Hammers (hydraulic-self-propelled); Hydra-Spiker (ride-on); Hydra-Blaster (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill); Scarifer (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less or any type or combination)); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinius Widener; Shell Winder; Steam Cleaner; Tractor.

Per hour:	07/01/2023	07/01/2024	07/01/2025
CLASS A	\$ 53.52	\$ 55.91	\$ 58.43
CLASS B	52.30	54.69	57.21
CLASS C	49.51	51.90	54.42
CLASS D	46.50	48.89	51.41

Additional \$5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection. Fringe benefits will be paid at the hourly wage premium.

CRANES:

Crane 1: All cranes, including self-erecting.

Crane 2: All Lattice Boom Cranes and all cranes with a manufacturer's rating of fifty (50) ton and over.

Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks.

Crane 1	\$ 57.52	\$ 59.51	\$ 62.03
Crane 2	56.52	58.91	61.43
Crane 3 55.52		57.91	60.43
SUPPLEMENTA	L BENEFITS		
Per hour:			
	\$ 24.20	\$ 25.05	\$ 25.55
	+ 9.60*	+ 9.60*	+ 9.60*

* This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY	
Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE
If a holiday falls on Sunday,	it shall be observed on Monday

REGISTERED APPRENTICES

WAGES:(1000) hours terms at the following percentage of Journeyman's Class B wage.

1st term	60%
2nd term	65%
3rd term	70%
4th term	75%

SUPPLEMENTAL BENEFITS per hour: Same as Journeyman.

Painter				08/01/2023
JOB DESCRIPTION Painter			DISTRICT 2	
ENTIRE COUNTIES Cortland, Tompkins				
WAGES				
Per hour:				
	07/01/2023	05/01/2024 Additional	05/01/2025 Additional	
Painter	\$ 27.00	\$ 1.35*	\$ 1.60*	
Taper, Paperhangers, and Vinyl hangers	28.35	1.38*	1.64*	

*To be allocated at a later date.

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):

- Additional \$ 1.10 per hour for Brush and Roll Epoxy (Solvent Base Only)

- Additional \$ 0.60 per hour for Swing Scaffold, Boatswain chair, Spray helper, Steam cleaning acid and high pressure water, Power grinders with respirator

- Additional \$ 0.60 per hour for Structural steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.

- Additional \$ 1.00 per hour for Spray Painting

- Additional \$ 1.00 per hour for Steeple Jack (Over 100 feet)

- Additional \$ 1.50 per hour for Spray Epoxy (Solvent Based)

- Additional \$ 0.90 per hour for Sandblasting

NOTE - SEE BRIDGE PAINTER RATES FOR BRIDGES & TANKS

NOTE - The 'Employer Registration' (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyman	\$ 23.23

OVERTIME PAY See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY

Paid:See (1) on HOLIDAY PAGEOvertime:See (5, 6) on HOLIDAY PAGE

A Holiday that falls on a Sunday will be celebrated on Monday, a holiday that falls on a Saturday will be celebrated on Friday.

REGISTERED APPRENTICES

Painter: 750 h	our terms at t	he Painter App	prentice wage	rate:			
1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00

Taper: 750 hour terms at the following Journeyman Taper Apprentice wage rate:1st2nd3rd4th5th6th

7-158-832TL.

\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00			
ADDITIONAL	AMOUNTS F	OR SPECIFIC	TYPES OF J	OBSITE CON	DITIONS (amo	ount subject to	any overtime p	remiums):
- Additional \$	0.60 per hour	for Swing Sca	iffold, Boatswa	in chair, Spra	y helper, Stea	m cleaning aci	d and high pres	sure water, Power grinders
with respirator		•				-	U .	-
- Additional \$	0.60 per hour	for Structural	steel (building	s) defined as r	new or old con	struction wher	e ceilings, walls	or the steel itself is to be
painted from o	open trusses w	hich require o	limbing or cra	wling without t	he support of	solid scaffoldir	ng or scaffolding	starting at the floor or
ground level.	4.00							
- Additional \$	1.00 per hour	for Spray Pair	nting	.				
- Additional \$	1.00 per hour	for Steeple Ja	ICK (Over 100	reet)				
- Additional \$	1.50 per hour	for Spray Epo	xy (Solvent Ba	ased)				
- Additional \$	0.90 per hour	for Sandblast	ng					
SUPPLEMEN	TAL BENEFIT	S per hour:						
Painter/Decor	ator:							
1st	2nd	3rd	4th	5th	6th	7th	8th	
\$ 6.00	\$ 7.00	\$ 8.00	\$ 9.10	\$ 11.00	\$ 11.00	\$ 13.00	\$ 14.00	
Taper/Drywall	Finisher:							
1st	2nd	3rd	4th	5th	6th			
\$ 6.00	\$ 7.00	\$ 8.00	\$ 10.00	\$ 13.00	\$ 14.00			

Published by the New York State Department of Labor

DISTRICT 3

PRC Number 2023009659 Tompkins County

2-178 I

08/01/2023

Painter

JOB DESCRIPTION Painter

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2023
Bridge	\$ 42.06
Tunnel	42.06
Tank*	40.06

Prevailing Wage Rates for 07/01/2023 - 06/30/2024

Last Published on Aug 01 2023

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

Note an additional \$1.50 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 30.89

OVERTIME PAY

Exterior work only See (B, E4, F*, R) on OVERTIME PAGE. All other work See (B, F*, R) on OVERTIME PAGE.

*Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
\$ 24.00	\$ 26.00	\$ 28.00	\$ 30.00	\$ 34.00	\$ 38.00

Supplemental benefits per hour:

|--|

Painter - Metal Polisher

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

08/01/2023

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

07/01/2023
\$ 38.18
39.28
42.18

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Journeyworker:	
All classification	\$ 12.34

OVERTIME PAY

See (B, E, P, T) on OVERTIME PAGE

HOLIDAY Paid: Overtime:

Per Hour:

See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

07/01/2023

07/01/2023

REGISTERED APPRENTICES

Wages per hour:

One (1) year term at the following wage rates:

	0770 172023
1st year	\$ 16.00
2nd year	17.00
3rd year	18.00
1st year*	\$ 16.39
2nd year*	17.44
3rd year*	18.54
1st year**	\$ 18.50
2nd year**	19.50
3rd year**	20.50

*Note: Applies on New Construction & complete renovation ** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits: Per hour:

1st year	\$ 8.69
2nd year	8.69
3rd year	8.69

Plumber

JOB DESCRIPTION Plumber

ENTIRE COUNTIES Chemung, Cortland, Onondaga, Schuyler, Tompkins

PARTIAL COUNTIES

Madison: Only the Townships of Sullivan, Cazenovia and DeRuyter.

8-8A/28A-MP

08/01/2023

DISTRICT 6
Seneca: Only the Townships of Covert and Lodi.

Steuben: Only the Townships of Addison, Bath, Bradford, Campbell, Caton, Corning, Erwin, Hornby, Lindley, Pulteney, Rathbone, Thurston, Tuscarora, Urbana and Wayne.

Tioga: Only the Townships of Barton, Berkshire, Candor, Nichols, Richford, Spencer and Tioga.

WAGES

Per hour:	07/01/2023
Plumber/Steamfitter	\$ 42.01
Pipefitter/Welder/HVAC	42.01
Refrigeration	42.01

SINGLE IRREGULAR WORK SHIFT: Additional 15% premium added to the wages above for a single irregular work shift outside of normal working hours.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 26.90*

*NOTE: \$10.27 of the supplemental benefits are paid at the same premium as shown for overtime work performed at semi-conductor manufacturer and/or fabrication plants.

OVERTIME PAY

Time and one half for the 9th & 10th hours Monday thru Friday and first 10 hours on Saturday. All other overtime hours are double-time.

HOLIDAY

Paid:

See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE NOTE: If a holiday falls on Saturday, the holiday will be observed on the prior Friday. If a holiday falls on Sunday, it will be observed on the following Monday.

REGISTERED APPRENTICES

WAGES per hour: One year terms at the following percentage of the Journeyman's wage:

1st	2nd	3rd	4th	5th
50%	55%	60%	70%	85%

SUPPLEMENTAL BENEFITS per hour*:

1st	\$ 13.00
2nd	23.56
3rd	23.93
4th	24.66
5th	25.77

*NOTE: Below is the portion of supplemental benefits paid at overtime premiums for work performed at semi-conductor manufacturer and/or fabrication plants:

1st	n/a
2nd	\$ 8.58
3rd	\$ 8.77
4th	\$ 9.14
5th	\$ 9.71

6-81-SF

Roofer

08/01/2023

JOB DESCRIPTION Roofer

ENTIRE COUNTIES

Broome, Chemung, Chenango, Delaware, Otsego, Schoharie, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:

07/01/2023

06/01/2024 Additional 06/01/2025 Additional

DISTRICT 2

*This amount is paid for all hours worked, whether regular or premium hours.

**To be allocated at a later date

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):

- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional \$1.90 per hour premium. This premium is not for use in emergency repair situations.

- Premium of \$1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.

- Premium of \$1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman

\$ 19.84

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: S	See (1) on HOLIDAY PAGE
Overtime: S	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

wages:	
Hours per term	
0-667 Hrs.	\$ 20.66 + 0.69*
668-1335 Hrs.	22.14 + 0.74*
1336-2002 Hrs.	23.61 + 0.79*
2003-2669 Hrs.	25.08 + 0.84*
2670-3336 Hrs.	26.56 + 0.89*
3337-4000 Hrs.	28.04 + 0.94*
*This amount is naid for all hours worked	whether regular or p

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):

- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional \$1.90 per hour premium. This premium is not for use in emergency repair situations.

- Premium of \$1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.

- Premium of \$1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

Supplemental Benefits:

0-667 Hrs.	\$ 16.87
668-1335 Hrs.	17.36
1336-2002 Hrs.	17.87
2003-2669 Hrs.	18.35
2670-3336 Hrs.	18.85
3337-4000 Hrs.	19.34

Sheetmetal Worker

2-203elmi

08/01/2023

JOB DESCRIPTION Sheetmetal Worker

ENTIRE COUNTIES

Allegany, Broome, Chemung, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:

Sheetmetal Worker Polyresin Fiberglass CAD Operator	07/01/2023 \$ 36.84 36.94 37.84	05/01/2024 Additional \$ 1.75* 1.75* 1.75*
*To be allocated at a later date. SUPPLEMENTAL BENEFITS Per hour:		
Journeyman:	\$ 21.46	

DISTRICT 2

OVERTIME PAY

See (*B1, Q) on OVERTIME PAGE

*On Saturday, time and one half of the hourly rate for the first ten (10) hours, then two (2) times the hourly wage rate for all hours after ten (10) hours worked.

Sprinkler Fitter								08/01/2023
07/01/2023	1.68	1.68	17.85	17.93	18.01	18.09	18.17	18.25 2-112
	1st	2nd	3rd	4th	5th	6th	7th	8th
SUPPLEMENTAL BENEF	FITS per hour:							
07/01/2023	22.10	22.10	23.94	25.79	27.63	29.47	31.31	33.16
REGISTERED APPREI WAGES per hour: Half Year Terms	NTICES	and	ard	445	5th	Gth	746	9th
Note: Holidays are observed	ved on the Holida	ay, not on the	day that it is lo	cally observed	1.			
Overtime:	See (5, 6) on I	HOLIDAY PAC	θE					
Paid:	See (1) on HO	LIDAY PAGE						

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES

Per hour 07/01/2023

Sprinkler \$40.04

Fitter

SUPPLEMENTAL BENEFITS

Per hour

\$28.24

OVERTIME PAY See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Journeyperson

See (1) on HOLIDAY PAGE Paid: Overtime:

See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

Wages per hour

One Half Year terms at the following wage.

1st \$ 19.15	2nd \$ 21.28	3rd \$ 23.16	4th \$ 25.29	5th \$ 27.41	6th \$ 29.54	7th \$ 31.67	8th \$ 33.80	9th \$ 35.93	10th \$ 38.05
Supplementa	l Benefits per	hour							
1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 8.74	\$ 8.74	\$ 20.32	\$ 20.32	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57 1-669

Teamster - Building

JOB DESCRIPTION Teamster - Building

ENTIRE COUNTIES

Broome, Cayuga, Cortland, Delaware, Onondaga, Seneca, Tompkins, Yates

PARTIAL COUNTIES

Allegany: Only the Townships of Almond, Burns, and Alfred.

08/01/2023

DISTRICT 6

Chenango: Only the Townsh Madison: Only the Townsh	ships of Afton, Bainbridge, Coventry, lips of Cazenovia, DeRuyter, Fenner	, Greene, Guilford, Oxford , Georgetown, Lenox, Nels	and Smithville. son and Sullivan.	
Otsego: Only the Townships ex Otsego: Only the Township Steuben: Only the Townshi Troupsburg, and Jasper. Tioga: Only the Townships	s of Berkshire, Candor, Newark Valle	,reek. Millford, Morris, Oneonta, t, Cohoctan, Dansville, Hor y, Nichols, Owego, Richfor	Otego, Unadilla, and Worchest nell, Hartsville, Greenwood, Wo rd, and Tioga. All territory east o	er. est Union, of
Nichols/Smithboro to Broon	ne County, within State of New York			
WAGES GROUP A: Straight Trucks GROUP B: Tractor Trailer, GROUP C: Euclid. GROUP D: On site Mecha	s Farm Tractor, Fuel Truck. nic.			
Per hour:	07/01/2023	06/01/2024	06/01/2025	
Building: (under \$ 5 million' GROUP A,B,C,D	*) \$ 28.43	\$ 31.43	\$ 34.43	
Building: (over \$ 5 million*)				
GROUP A,B	\$ 29.48	\$ 32.48	\$ 35.48	
GROUP C	29.83	32.83	35.83	
GROUP D	29.63	32.63	35.63	
* Total project cost includin SUPPLEMENTAL BENE Per hour:	g General Construction, Plumbing, H E FITS	IVAC and Electrical		
(under \$5 million*)	\$ 29.37	\$ 30.02	\$ 30.87	
(over \$5 million*)	30.14	30.80	31.67	
* Total project cost includin	g General Construction, Plumbing, H	IVAC and Electrical		
OVERTIME PAY (D, O) on OVERTIME PAG	E			
HOLIDAY				
Paid: Overtime:	See (1) on HOLIDAY PAGE			
overtime.				6-317
Teamster - Heavy&Hig	hway			08/01/2023
JOB DESCRIPTION Tea	amster - Heavy&Highway		DISTRICT 6	
ENTIRE COUNTIES Cayuga, Cortland, Seneca,	Tompkins, Yates			
PARTIAL COUNTIES				

Allegany: Only the Townships of Almond, Alfred, Burns and West Almond. Steuben: Only the Townships of Canisteo, Cohocton, Dansville, Freemont, Greenwood, Hartsville, Hornell, Jasper, Prattsburg, Troupsburg, and West Union.

WAGES

GROUP 1: Warehousemen*, Yardmen*, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers & Receivers*, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers, Tandems & Batch Trucks, Mechanics, Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and Dumpcrete type vehicles, Truck Mechanic, Fuel Trucks.

*NOTE: Applies when a temporary warehouse structure is built/utilized specifically for a public work project.

GROUP 2: Specialized Earth Moving Equipment-Euclid type, or similar off-highway equipment, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck, Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour:	07/01/2023	07/01/2024
GROUP 1	\$ 32.24	\$ 34.21
GROUP 2	32.44	34.41

NOTE: For all work bid, there shall be a twelve month carryover of the rates in effect at the time of the bid.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS
Per hour:07/01/202307/01/2024Journeyman\$ 28.32\$ 28.85OVERTIME PAY
See (B, B2, E2, J) on OVERTIME PAGE\$ 28.85\$ 28.85HOLIDAY
Paid:See (5, 6) on HOLIDAY PAGE
See (5, 6) on HOLIDAY PAGE\$ 28.85

Welder

6-317(Syr)

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2023

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- (AA) Time and one half of the hourly rate after 7 and one half hours per day
- (A) Time and one half of the hourly rate after 7 hours per day
- (B) Time and one half of the hourly rate after 8 hours per day
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
- (B2) Time and one half of the hourly rate after 40 hours per week
- (C) Double the hourly rate after 7 hours per day
- (C1) Double the hourly rate after 7 and one half hours per day
- (D) Double the hourly rate after 8 hours per day
- (D1) Double the hourly rate after 9 hours per day
- (E) Time and one half of the hourly rate on Saturday
- (E1) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- (E4) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E5) Double time after 8 hours on Saturdays
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays
- (S) Two and one half times the hourly rate for Holidays

- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays
- (U) Four times the hourly rate for Holidays
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work **State Office Building Campus** Building 12 - Room 130 Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required	by Articles 8	and 9 of the NYS	Labor Law
1	2		

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations. **This Form Must Be Typed**

	Must De Typeu
Submitted By: (Check Only One) Contracting Agency Architect or Engineerin	g Firm Public Work District Office Date:
A. Public Work Contract to be let by: (Enter Data Pertaining to	Contracting/Public Agency)
1. Name and complete address (Check if new or change) Telephone Fax E-Mail: Fax	2. NY State Units (see Item 5). 07 City 01 DOT 08 Local School District 02 OGS 09 Special Local District, i.e., 03 Dormitory Authority 10 Village 04 State University 10 Village Construction Fund 11 Town 05 Mental Hygiene 12 County Facilities Corp. 13 Other Non-N.Y. State 06 OTHER N.Y. STATE UNIT (Describe)
 SEND REPLY TO (check if new or change) Name and complete address: 	4. SERVICE REQUIRED. Check appropriate box and provide project information. New Schedule of Wages and Supplements. APPROXIMATE BID DATE : Additional Occupation and/or Redetermination
Telephone Fax E-Mail:	PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :
B. PROJECT PARTICULARS	
Project Title Description of Work Contract Identification Number Note: For NYS units, the OSC Contract No.	6. Location of Project: Location on Site Route No/Street Address Village or City Town County
 7. Nature of Project - Check One: 1. New Building 2. Addition to Existing Structure 3. Heavy and Highway Construction (New and Repair) 4. New Sewer or Waterline 5. Other New Construction (Explain) 6. Other Reconstruction, Maintenance, Repair or Alteration 7. Demolition 8. Building Service Contract 	8. OCCUPATION FOR PROJECT : Fuel Delivery Construction (Building, Heavy Highway/Sewer/Water) Guards, Watchmen Tunnel Janitors, Porters, Cleaners, Elevator Operators Residential Moving furniture and equipment Elevator maintenance Trash and refuse removal Exterminators, Fumigators Window cleaners Fire Safety Director, NYC Only Other (Describe)
9. Does this project comply with the Wicks Law involving sepa	arate bidding? YES NO
10.Name and Title of Requester	Signature



LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, <u>or</u> under NYS Workers' Compensation Law Section 141-b, access the database at this link: <u>https://applications.labor.ny.gov/EDList/searchPage.do</u>

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	****5754	0369 CONTRACTORS, LLC		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL	*****4018	ADIRONDACK BUILDING RESTORATION INC.		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	AG	*****1812	ADVANCED BUILDERS & LAND DEVELOPMENT, INC.		400 OSER AVE #2300HAUPPAUGE NY 11788	09/11/2019	09/11/2024
DOL	DOL	*****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	NYC		AMJED PARVEZ		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		ANITA SALERNO		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	NYC		ARADCO CONSTRUCTION CORP		115-46 132RD ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	DOL		ARNOLD A. PAOLINI		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC		ARSHAD MEHMOOD		168-42 88TH AVENUE JAMAICA NY 11432	11/20/2019	11/20/2024
DOL	NYC	*****2591	AVI 212 INC.		260 CROPSEY AVENUE APT 11GBROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	NYC		AVM CONSTRUCTION CORP		117-72 123RD ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	NYC		AZIDABEGUM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	NYC		BALWINDER SINGH		421 HUDSON ST SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	NYC	*****8416	BEAM CONSTRUCTION, INC.		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	DOL		BERNARD BEGLEY		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	NYC	*****2113	BHW CONTRACTING, INC.		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL	*****3627	BJB CONSTRUCTION CORP.		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	DOL	*****4512	BOB BRUNO EXCAVATING, INC		5 MORNINGSIDE DR AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		BOGDAN MARKOVSKI		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL		BRADLEY J SCHUKA		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	DOL		BRUCE P. NASH JR.		5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL	****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****4083	C.P.D. ENTERPRISES, INC		P.O BOX 281 WALDEN NY 12586	03/03/2020	03/03/2025
DOL	DOL	****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		CALVIN WALTERS		465 EAST THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024

DOL	AG	****7247	CENTURY CONCRETE CORP		2375 RAYNOR ST RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****0026	CHANTICLEER CONSTRUCTION LLC		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	NYC		CHARLES ZAHRADKA		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL		CHRISTOPHER GRECO		26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		CHRISTOPHER PAPASTEFANOU A/K/A CHRIS PAPASTEFANOU		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	****1927	CONSTRUCTION PARTS WAREHOUSE, INC.	CPW	5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL	*****3228	CROSS-COUNTY LANDSCAPING AND TREE SERVICE, INC.	ROCKLAND TREE SERVICE	26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL	*****2524	CSI ELECTRICAL & MECHANICAL INC		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	NYC		DAVID WEINER		14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	DOL		DELPHI PAINTING & DECORATING CO INC		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	*****5175	EAGLE MECHANICAL AND GENERAL CONSTRUCTION LLC		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	AG		EDWIN HUTZLER		23 NORTH HOWELLS RD BELLPORT NY 11713	08/04/2021	08/04/2026
DOL	DA		EDWIN HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	NYC	****5917	EPOCH ELECTRICAL, INC		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2024
DOL	DOL		FAIGY LOWINGER		11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL		FRANK BENEDETTO		19 CATLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL	****4722	FRANK BENEDETTO AND CHRISTOPHER J MAINI	B & M CONCRETE	19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	NYC	****6616	G & G MECHANICAL ENTERPRISES, LLC.		1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		GABRIEL FRASSETTI			04/10/2019	04/10/2024
DOL	NYC		GAYATRI MANGRU		21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GIGI SCHNECKENBURGER		261 MILL RD EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL		HANS RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE	10/25/2022	10/25/2027

DOL	DOL		IRENE KASELIS		32 PENNINGTON AVE WALDWICK NJ 07463	05/30/2019	05/30/2024
DOL	DOL	*****9211	J. WASE CONSTRUCTION CORP.		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES J. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	****7993	JBS DIRT, INC.		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	NYC		JENNIFER GUERRERO		1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		JIM PLAUGHER		17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN GOCEK		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		JOHN MARKOVIC		47 MANDON TERRACE HAWTHORN NJ 07506	03/29/2021	03/29/2026
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		JON E DEYOUNG		261 MILL RD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		JOSE CHUCHUCA		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028

DOL	DOL		JOSEPH K. SALERNO II	1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOY MARTIN	2404 DELAWARE AVE NIGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING	3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING	3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING	3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING	3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING	3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC	531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC	531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC	531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC	531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JULIUS AND GITA BEHREND	5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KARIN MANGIN	796 PHELPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	DOL		KATE E. CONNOR	7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL	*****2959	KELC DEVELOPMENT, INC	7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KIMBERLY F. BAKER	7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****3490	L & M CONSTRUCTION/DRYWALL INC.	1079 YONKERS AVE YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION	150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR	531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR	531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	AG	*****3291	LINTECH ELECTRIC, INC.	3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DA	****4460	LONG ISLAND GLASS & STOREFRONTS, LLC	4 MANHASSET TRL RIDGE NY 11961	09/06/2018	09/06/2023
DOL	DOL		LOUIS A. CALICCHIA	1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		LUBOMIR PETER SVOBODA	27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	NYC		M & L STEEL & ORNAMENTAL IRON CORP.	27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	DOL	*****2196	MAINSTREAM SPECIALTIES, INC.	11 OLD TOWN RD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DA		MANUEL P TOBIO	150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO	150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	NYC		MAREK FABIJANOWSKI	50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	NYC		MARIA NUBILE	84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
DOL	DOL		MATTHEW P. KILGORE	4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	DOL		MICHAEL LENIHAN	1079 YONKERS AVE UNIT 4YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DOL	*****4829	MILESTONE ENVIRONMENTAL CORPORATION	 704 GINESI DRIVE SUITE 29MORGANVILLE NJ 07751	04/10/2019	04/10/2024
DOL	NYC	*****9926	MILLENNIUM FIRE PROTECTION, LLC	325 W. 38TH STREET SUITE 204NEW YORK NY 10018	11/14/2019	11/14/2024
DOL	NYC	*****0627	MILLENNIUM FIRE SERVICES, LLC	 14 NEW DROP LNE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024

DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	NYC		MUHAMMED A. HASHEM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	NYC		NAMOW, INC.		84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
DOL	DOL	****7790	NATIONAL BUILDING & RESTORATION CORP		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DA	*****9786	NATIONAL INSULATION & GC CORP		180 MILLER PLACE HICKSVILLE NY 11801	12/12/2018	12/12/2023
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	****7429	NICOLAE I. BARBIR	BESTUCCO CONSTRUCTI ON, INC.	444 SCHANTZ ROAD ALLENTOWN PA 18104	09/17/2020	09/17/2025
DOL	NYC	****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	DOL		PETER STEVENS		11 OLD TOWN ROAD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DOL		PETER STEVENS		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL	*****0466	PRECISION BUILT FENCES, INC.		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	NYC		RASHEL CONSTRUCTION CORP		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	*****1068	RATH MECHANICAL CONTRACTORS, INC.		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DA	*****7559	REGAL CONTRACTING INC.		24 WOODBINE AVE NORTHPORT NY 11768	10/01/2020	10/01/2025
DOL	DOL	****9148	RICH T CONSTRUCTION		107 WILLOW WOOD LANE CAMILLUS NY 13031	11/13/2018	11/13/2023
DOL	DOL		RICHARD MACONE		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL		RICHARD REGGIO		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	DOL	*****9148	RICHARD TIMIAN	RICH T CONSTRUCTI ON	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT A. VALERINO		3841 LANYARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		ROBERT BRUNO		5 MORNINGSIDE DRIVE AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		RONALD MESSEN		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DOL	*****1365	S & L PAINTING, INC.		11 MOUNTAIN ROAD P.O BOX 408MONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL	****7730	S C MARTIN GROUP INC.		2404 DELAWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023

DOL	DOL		SAL FRESINA MASONRY CONTRACTORS, INC.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		SAL MASONRY CONTRACTORS, INC.		(SEE COMMENTS) SYRACUSE NY 13202	07/16/2021	07/16/2026
DOL	DOL	*****9874	SALFREE ENTERPRISES INC		P.O BOX 14 2821 GARDNER RDPOMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	NYC	*****0349	SAM WATERPROOFING INC		168-42 88TH AVENUE APT.1 AJAMAICA NY 11432	11/20/2019	11/20/2024
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	NYC	****1130	SCANA CONSTRUCTION CORP.		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL	*****2045	SCOTT DUFFIE	DUFFIE'S ELECTRIC, INC.	P.O BOX 111 CORNWALL NY 12518	03/03/2020	03/03/2025
DOL	DOL		SCOTT DUFFIE		P.O BOX 111 CORNWALL NY 12518	03/03/2020	03/03/2025
DOL	NYC	****6597	SHAIRA CONSTRUCTION CORP.		421 HUDSON STREET SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	DOL		SHULEM LOWINGER		11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DA		SILVANO TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL	****0440	SOLAR GUYS INC.		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	NYC		SOMATIE RAMSUNAHAI		115-46 132ND ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	DOL	*****2221	SOUTH BUFFALO ELECTRIC, INC.		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC	****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	****6844	STEAM PLANT AND CHX SYSTEMS INC.		14B COMMERCIAL AVENUE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	****9933	STEED GENERAL CONTRACTORS, INC.		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEFANOS PAPASTEFANOU, JR. A/K/A STEVE PAPASTEFANOU, JR.		256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458	05/30/2019	05/30/2024
DOL	DOL		STEVE TATE		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		STEVEN MARTIN		2404 DELWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL	****3800	SUBURBAN RESTORATION CO. INC.		5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410	03/29/2021	03/29/2026
DOL	DOL	****1060	SUNN ENTERPRISES GROUP, LLC		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL	*****8209	SYRACUSE SCALES, INC.		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL		TERRY THOMPSON		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	DOL	****9733	TERSAL CONSTRUCTION SERVICES INC		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208	07/16/2021	07/16/2026
DOL	DOL		TERSAL CONTRACTORS, INC.		221 GARDNER RD P.O BOX 14POMPEI NY 13138	07/16/2021	07/16/2026

DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		TEST		P.O BOX 123 ALBANY NY 12204	05/20/2020	05/20/2025
DOL	DOL	****6789	TEST1000		P.O BOX 123 ALBANY NY 12044	03/01/2021	03/01/2026
DOL	DOL	****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DA	****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DA	****4106	TRIPLE H CONCRETE CORP		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	****6392	V.M.K CORP.		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL	****6418	VALHALLA CONSTRUCTION, LLC.		796 PHLEPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	NYC	*****2426	VICKRAM MANGRU	VICK CONSTRUCTI ON	21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	NYC		VICKRAM MANGRU		21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	DOL		VICTOR ALICANTI		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		VIKTAR PATONICH		2630 CROPSEY AVE BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	DOL		VIKTORIA RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC	****3673	WALTERS AND WALTERS, INC.		465 EAST AND THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL	****3296	WESTERN NEW YORK CONTRACTORS, INC.		3841 LAYNARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL	*****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM G. PROERFRIEDT		85 SPRUCEWOOD ROAD WEST BABYLON NY 11704	01/19/2021	01/19/2026
DOL	DOL	*****5924	WILLIAM G. PROPHY, LLC	WGP CONTRACTIN G, INC.	54 PENTAQUIT AVE BAYSHORE NY 11706	01/19/2021	01/19/2026
DOL	DOL	****4730	XGD SYSTEMS, LLC	TDI GOLF	415 GLAGE AVE #302STUART FL 34994	10/31/2018	10/31/2023

SECTION 009999

CERTIFICATION OF COMPLAINCE WITH STATE FINANCE LAW §139(L)

By submission of this bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the Bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of Section 201-g of the Labor Law.

The Contractor certifies that this statement provided herein with respect to State Finance Law §139(L) is complete, true and accurate.

Authorized Signatory (Print Name)

Signature

Title

Company Name

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

City of Ithaca - Department of Public Works ITHACA FIRE STATION

IRAN DIVESTMENT ACT - CERTIFICATION Required to be submitted with Bid

Pursuant to New York State Finance Law §165–a, Iran Divestment Act of 2012, the Office of General Services is required to post on its web site

http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf a list of persons who have been determined to engage in investment activities in Iran ("the List"), as defined in that Act. Under Public Authorities Law § 2879-c, Iranian Energy Sector Divestment, the Authority, may not enter into or award a Contract unless it obtains a certification from a Bidder, who shall check the box and make the certification in Subparagraph a, below, that they are not on the List. If that certification cannot be made, the Authority may consider entering into a Contract, on a case by case basis if the Bidder checks the box and makes the certification in Subparagraph b, below, that their Iran investment is ceasing.

For purposes of this provision, a person engages in investment activities in Iran if: (A) the person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or (B) the person is a financial institution that extends twenty million dollars or more in credit to another person, for forty-five days or more, if that person will use the credit to provide goods or services in the energy sector in Iran.

The Certification is as follows:

a. Certification that the Bidder is not on the List: Each person, where person means natural person, corporation, company, limited liability company, business association, partnership society, trust, or any other nongovernmental entity, organization, or group, and each person signing on behalf of any other party, certifies, and in the case of a joint bid or proposal or partnership each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each person is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the State Finance Law, or,

b. Certification that the Bidder's investment in Iran is ceasing: The person cannot make the certification in Subparagraph a, above, but asks the Authority to consider them for award of the Contract by certifying, under penalty of perjury, that the person's investment activities in Iran were made before April 12, 2012; the person's investment activities in Iran have not been expanded or renewed after April 12, 2012; and the person has adopted, publicized and is implementing a formal plan to cease its investment activities in Iran and to refrain from engaging in any new investments in Iran.

Signature/Date

Printed Name and Position

CITY OF ITHACA APPRENTICESHIP INCENTIVE PROGRAM

On February 5, 2020, the City of Ithaca Common Council established by resolution the City Apprenticeship Incentive Program for public works contracts. The program went into effect on May 5, 2020. The goal of the program is to increase the number of quality employment opportunities for city residents, in particular young people in the city, and to maintain a qualified and skilled labor force essential to a healthy and dynamic local economy. To this end, the program states:

- Any contractor that is awarded a contract by the City of Ithaca, and any subcontractors to that contractor, shall thereafter be eligible to participate in the City Apprenticeship Incentive Program for purposes of fulfillment of the awarded contract, thereby receiving:
 - a. An incentive of \$5 per hour for each hour worked by an eligible apprentice on the awarded contract, subject to a minimum of 100-hours of apprentice work on the project per Program-participating contractor or subcontractor,
 - b. up to an aggregate project-wide maximum of 2% of the total contract amount.
- 2. In order to qualify under the preceding paragraph, the contractor and/or subcontractors must:
 - a. reasonably demonstrate as part of its application to the Program that the eligible apprentices to be employed on the project are either (or both)
 - i. residents of the City of Ithaca, or
 - ii. residents of Tompkins County who also either satisfy the definition of

"minority group member" in New York State Executive Law Section 310(8) or are women (or both), and

CITY OF ITHACA-DEPARTMENT OF PUBLIC WORKS ITHACA FIRE STATION

b. maintain or participate in a bona fide New York State Apprentice Program approved by, and with a graduation rate of at least thirty percent as determined by, the Division of Apprentice Training of the Department of Labor for each apprenticeable trade or occupation represented in their workforce and must abide by the apprentice to journeyman ratio for each trade prescribed therein in the performance of the contract,

Once awarded a public works contract, the approved contractor or subcontractor may submit a Notice of Intention to use the program by submitting a letter to the City of Ithaca project manager stating the intent to seek payment under the City of Ithaca Apprenticeship Incentive Program. As supporting documentation with this letter, the contractor or subcontractor shall provide documentation about the apprenticeship program and its certification by the Division of Apprentice Training of the New York State Department of Labor to comply with the City program. The contractor or subcontractor shall agree to work with the project manager to answer any questions and resolve any issues related to the apprenticeship program. Contractors and subcontractors should submit their own Notice of Intention.

Once the contractor or sub-contractor has amassed enough certified payrolls to meet the 100hour minimum of apprenticeship work on the Project for qualifying apprentices, the contractor or subcontractor may apply for payment by submitting a City of Ithaca General Voucher, an invoice for payment, apprentice affidavits and the accompanying certified payrolls indicating the residence and eligibility of the apprentices working on the project. This application for payment shall be made outside of the contract between the City and the contractor and shall not impact the contract value or any other terms of the contract.

The City agrees to make payment on these Apprenticeship Incentive Program invoices up to an aggregate project wide maximum of 2% of the said contract amount on a first come, first serve basis (if there are multiple contractors or subcontractors intending to use the program). The City only agrees to make such payments based on funds available and reserves the right to discontinue this program at any time for any reason.

SECTION 011200 - MULTIPLE CONTRACT SUMMARY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 PROJECT DESCRIPTION

A. The Project consists of an approximately 13,400 sf new fire station facility located at 403 Elmwood Avenue, Ithaca, NY

1.03 DRAWINGS INCLUDED FOR BID CONTRACT DOCUMENTS

A. Refer to Drawing Index of the Bid Drawing cover page for a list of drawings issued for bid.

1.04 CONTRACTS

- A. The work shall be constructed under coordinated, concurrent multiple prime contracts using AIA Document A201-2017, General Conditions of the Contract for Construction. Separation of work into contracts will be accomplished by the Project Coordinator and as described in this section. Prime contracts for this Project include the following:
 - 1. Contract No.01 Bid Package No. 01 General Construction
 - a. Scope of work includes but is not limited to all foundations, framing, exterior and interior wall systems, steel, masonry, roofing, painting, gypsum wall board assemblies, finishing rough carpentry, finish carpentry, casework/millwork, countertops, insulation, interior and exterior doors, frames and windows, glazing, storefront and curtain wall systems, acoustical ceiling system, interior and exterior signage, specialties, roofing, roof and wall blocking, stairs, elevators railings, concrete and all ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.
 - 2. Contract No. 02 Bid Package No.02 -Heating, Ventilation and Air conditioning
 - a. Scope of work includes.but is not limited to a complete HVAC system(s) including all ductwork, equipment, piping and controls, conduits and wiringassociated with this system, and all ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.
 - 3. Contract No. 03 Bid Package No. 03 Electrical
 - a. Scope of work includes but is not limited to a complete system for power, lighting, data, communications, access control, generator and electrical service and equipment, and all ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.
 - 4. Contract No. 04 Bid Package No. 04 Plumbing
 - a. Scope of work includes but is not limited to a complete water plumbing system, sanitary sewer plumbing system, gas piping, system, backflow prevention, and utility service to 5 feet outside the building and all neccessary and incidenatl equipment associated with these systems, plumbing fixtures and specialties, and all

ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.

- 5. Contract No. 05 Bid Package No. 05 Fire Protection
 - a. Scope of work includes but is not limited to complete fire suppression systems(s) both wet and dry, all associated backflow prevention and fire water service to 5 feet outside the building, including all equipment and all ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.
- 6. Contract No. 06 Bid Package No. 06 Site/Utility
 - a. Scope of work includes but is not limited to demolition of exisiting structures on site (including any and all hazardous material abatement required), all excavation, earthwork, proof rolling, cutting/stock-piling, filling/compacting site improvement items, site demolition items, landscaping and site utilities(from the street to 5' outside the building, except for electrical service which is the work of Contract 3) storm system, site fencing, piling, erosion and sediment control and all ancillary or incidental items, whether shown in the drawings or not, in order to provide a complete, code compliant and fully functional system.
- B. All work to be in strict accordance with the bidding documents and specifically this scope of work and the to Bidders.
- C. Each Contractor is responsible to review all Drawings and Specifications for every contract to gain a complete understanding and knowledge of the entire Project, to determine how the work of each contract is to interface with every other contract.

1.05 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under the Contract or work by Owner. Coordinate the Work of the Contract with work performed by Owner as noted in the Contract Documents.

1.06 SUMMARY

- A. Section includes a summary of each prime contract, including responsibilities for coordination.
- B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.

1.07 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

1.08 PROJECT INFORMATION

- A. Project Identification: Ithaca Fire Station Wendel Project No. 618601.
 1. Location: 403 Elmwood Ave, Ithaca, NY 14850
- B. Owner: City of Ithaca1. Address: 108 East Green Street, Ithaca, NY 14850

- C. Architect and Engineer: Mitchell Associates Architects . PLLC
 1. Address: 29 Thacher Park Rd, Voorheesville, NY 12186
- D. Construction Manager: Wendel Construction, Inc.
 1. Address: 375 Essjay Rd. Suite 200, Williamsville, NY 14221

1.09 CONSTRUCTION MANAGER

A. Construction Manager shall be responsible for coordination between the General Construction Contract, Plumbing Construction Contract, Fire Protection Construction Contract, HVAC Construction Contract, and Electrical Construction Contract.

1.10 COORDINATION ACTIVITIES

- A. Coordination activities of Construction Manager include, but are not limited to, the following:
 - 1. Provide overall coordination of the Work.
 - 2. Coordinate shared access to workspaces.
 - 3. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
 - 4. Coordinate construction and operations of the Work with work performed by each Contract and Owner's construction forces.
 - 5. Facilitate coordination drawings in collaboration with each contractor to coordinate work by more than one contract.
 - 6. Coordinate sequencing and scheduling of the Work. Include the following:
 - a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
 - Daily Plan of the Day (POD) Meetings: Arrange and conduct daily POD Meetings with all Prime Contractor foreman/superintendents present. Discuss and coordinate each Contractor's work for the day.
 - b. Prepare a combined contractors' construction schedule for entire Project. Base schedule on preliminary construction schedule. Secure time commitments for performing critical construction activities from contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.
 - 1) Submit schedules for approval.
 - 2) Distribute copies of approved schedules to contractors.
 - 7. Coordinate sequence of activities to accommodate third party tests and inspections, and coordinate schedule of tests and inspections.
 - 8. Coordinate completion of interrelated punch list items.

1.11 GENERAL REQUIREMENTS OF EACH CONTRACT

- A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Prime Contract, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of Project.
 - 1. Unless otherwise indicated, the work described in this Section for each prime contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents. All Contractors are hereby notified that the scopes of work contained in specification section 011200 "Multiple Contract

Summary" are to be used in conjunction with the Construction Documents to determine the full scope of work required by each contract.

- 2. All Prime Contractors are responsible for all requirements listed in Division 0, Division1 and Division 11.
- 3. Trenches and other excavation for the work of each contract shall be the work of each contract for its own work.
- 4. Backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
- 5. Furnishing of access panels for the work of each contract shall be the work of each contract for its own work. Installation of access panels shall be the work of each contract for its own work.
- 6. Each Contractor will supply administration, supervision, labor, materials, tools, incidentals, equipment, appliances, layout, delivery, trucking, shop drawings, submittals, quality assurance, quality control, safety monitoring, engineering, scaffolding, hoisting, rigging, insurances, bond costs, overhead, profit, and expenses to produce the construction required by the bidding and contract documents, complete in all respects.
- 7. Each Contractor is responsible for information provided in all of the Contract Drawings and Specifications as it pertains to their work. Information may be indicated on one drawing or across several drawings. Consequently, each and every Contractor is responsible for information on each and every drawing and in each and every Specification section.
- 8. All applicable Federal, State, and Local Government laws, codes, standards, rules and regulations including, but not limited to, zoning, planning, fire, health, tax, insurance, safety, OSHA, criminal, building code, plumbing code, mechanical code, electrical code, energy code, utility company, traffic, labor, transportation, environmental, and education, shall apply.
- 9. Except where specifically indicated that certain components are not included in the Work, it shall be inferred that it is the intent of the Contract Documents that all systems, including all general, HVAC, electrical and plumbing systems, be complete and functionally operational. Provide all incidental items and components necessary to achieve this intent, including coordinated sized utilities to all equipment. Refer to submittal requirements for additional coordination requirements in this regard.
- 10. Each Contractor understands that time is of the essence and will adequately staff the job to successfully complete the contract work in accordance with any project phasing or staging plans and milestone completion dates. The option to work extended hours and weekends may be made available to meet this schedule at the Contractor's expense under prior agreement with the Construction Manager.
- 11. Each Contractor's proposal is to be predicated on any milestone completion dates contained in the bidding documents including all costs to meet said dates.
- 12. The intention of the work is to follow a logical sequence: however, the Contractor may be required by the Construction Manager to temporarily omit or leave out any section of their work, or perform their work out of sequence. All such out of sequence work and come back time to these areas shall be performed at no additional cost. This requirement will remain in effect for the duration of the Contractor's respective Contract.
- 13. Each Contractor will coordinate their work with all other Contractors, Construction Manager, Architect, Owner, third party testing and inspection agencies, and all utility companies. It is also the responsibility of each Contractor to coordinate any required shut downs and system change overs. The cost of any off-hours or shift work required for equipment installation or utility shut downs will be included in the Contract.
- 14. Each Contractor is hereby notified that the start of the Contractor's work over existing or substrates provided by other Contractors constitutes acceptance by that Contractor.

- 15. Unless otherwise included in other scopes of work, demolition, removal, and/or relocation of any existing item conflicting with the installation of new work is the specific responsibility of the Contractor installing the new work.
- 16. Each Contractor will provide any surveys, layouts, etc. required to accomplish their work. Each Contractor is responsible for layout by establishing, setting, and maintaining lines, locations and elevations for all their work, and is required to carry up all the lines and grades to correctly perform all their work. The Construction Manager will provide one coordinated benchmark with coordinates but it is a specific requirement that each Contractor provide their own layouts, surveys, etc. from that point. Regardless of what is shown on the Mechanical, Electrical and Plumbing drawings, the Architectural Drawings take precedence in regard to intent and layout.
- 17. Damage to any existing survey points is the responsibility of the Contractor (who caused the damage) and must be replaced in a timely matter at no cost to the Owner.
- 18. Coordination Drawings: All contractors shall prepare and submit Coordination Drawings as described in section 013100 "Project Management and Coordination".
- 19. All Contractors are responsible for their own cutting, coring, drilling, and patching as required to complete their scope of work, unless specified or noted otherwise on the drawings. Cut holes are to be no more than 1/2" larger than the object meant to pass through it. All concealed openings (piping, ductwork, conduit, etc.) must be repaired to comply with specified wall or deck conditions to meet all applicable codes. Cutting, coring, drilling and patching is to be done neatly with minimal damage to surrounding materials, and holes are to be patched and/or fire-safed as required to the satisfaction of the Architect.
- 20. All Contractors are responsible for fire-stopping of penetrations related to their work through floors, walls and ceilings in accordance with applicable specification sections, Federal, State and Local codes as required to maintain fire-rated assemblies. Openings provided by a Contractor for another Contractor shall be fire-stopped by the Contractor requiring the opening. Refer to Division 7 specifications.
- 21. All Contractors will provide all testing, calibrations, adjustments, certifications, commissioning and start-up as required to provide fully operational systems.
- 22. All Contractors will be responsible for the accuracy of building and site construction such as, but not limited to, locations such as underground utilities, pavements, foundations, anchor bolts, steel, walls, etc. Contractors shall employ a licensed land surveyor to instrument survey the accuracy of the building construction. The instrument survey shall be sealed and three (3) hard copies and one electronic CAD file forwarded to the Construction Manager for distribution to the Owner and Architect.
- 23. All Contractors shall make provisions as necessary to provide suitable access throughout the project areas to afford all Contractors and the Owner the opportunity to install their materials and equipment within the project area including but not limited to, Furniture, Fixtures and Equipment Installation, HVAC Equipment, Plumbing Equipment, Fire Protection Equipment and Electrical Equipment. Coordinate with each Contractor.
- 24. Substitutions: If a substitution is approved prior to contract award, each prime contractor shall cooperate with other contractors involved to coordinate the approved substitutions with remainder of the work.
- 25. Each Contractor shall provide all necessary permits, fees, inspections and approvals as it pertains to this scope of work. Owner is responsible for all special inspections as further defined in section 014100 "Special Inspections".
- 26. Each Contractor shall provide required submittals, shop drawings, coordination drawings, qualifications, certificates, test reports, calculations, samples, mockups, inspection reports as required for this scope of work. Contractors must include reproduction costs.
- 27. Each Contractor shall provide cleaning of substrates in accordance with manufacturer requirements prior to installation.

- 28. Each Contractor shall provide O&M manuals, testing, commissioning, training, demonstrations, instructional video, maintenance service, attic stock as it applies to this scope of work.
- 29. Each Contractor shall provide required warranties as they apply to this scope of work. Warranties for material and equipment shall commence upon review and acceptance by Architect at Substantial Completion of entire project, regardless of phasing.
- 30. Each Contractor shall provide and maintain protection of all new and existing work and finishes scheduled to remain. Remove protection at final acceptance.
- 31. Each Contractor shall be responsible to provide dewatering as required to perform this scope of work.
- 32. Each Contractor will be required to prepare, submit, and actively implement a proper safety program throughout the duration of the project. Each Contractor will provide all necessary signs, bracing, special lighting, etc. for his own work at all individual locations as may be applicable.
- 33. All Contractors will provide full time on-site supervision from commencement of their work activities until work is completed or such time as determined by the Construction Manager. If supervision is reduced or terminated without the consent of the Construction Manager , the Construction Manager will appoint an individual to manage work under this Contract with all costs borne by this Contractor. The Contractor shall continue to assume all responsibilities for the individual and the work of this Contract.
- 34. All Contractors will coordinate with the Construction Manager to arrange for code inspections (By Contractor) and special inspections (By Construction Manager). The Contractor must give the Construction Manager a minimum of forty-eight (48) hours' notice prior to the scheduled inspection dates.
- 35. All Contractors will employ the appropriate trade's people for their work as required. These people shall be experienced in their trades. A shortage of labor or labor strike in the industry shall not be accepted as an excuse for not properly staffing the project to maintain the project schedule.
- 36. All Contractors will take all necessary measures to reduce the amount of noise generated by construction activities. Mitigate sources of noise generating equipment by using new equipment or properly maintained used equipment meeting new product noise emission standards. Control locations of noise by placing noise-generating equipment as far away from sensitive areas as possible. Perform work generating noise at times when people would be least affected, i.e. normal daytime business hours. Provide public notification of construction operations and methods to handle complaints.
- 37. Each Contractor is expected to review all the plans and specifications for all Prime Contracts as it may affect their work and/or trade jurisdiction and to include in their proposal all costs necessary to make connections with or coordinate with those requirements whether expressly stated therein or implied. This is to include but not be limited to tie-ins to existing construction, field control wiring, etc. where normally claimed by trade jurisdiction of the Contractor.
- 38. All Contractors will provide any and all support steel that is not shown on the structural contract drawings, but that is required for the installation of pipe, duct, cable tray, conduit hangers, door frames, structural steel and for all equipment supports. Steel shall be primed painted per Division 5 specification sections. Contractors will not be permitted to hang supports off existing work or other contractors work without prior approval.
- 39. Each Prime Contractor is responsible for furnishing and installing equipment supports for equipment required in its contract.
- 40. Contractors shall restore all areas disrupted in the performance of their work to the conditions that existed prior to the start of work.
- 41. All Contractors shall be responsible for ventilation in all areas to exhaust toxic, noxious or otherwise hazardous fumes, gases, or dusts, etc., from welding, cad welding, painting,

grinding, sawing, sweeping, or hazardous activity. Operations shall be kept to the absolute minimum and shall be vented directly to the outside by the Contractor performing the work. If said Contractor cannot keep the aforementioned to the absolute minimum or vent directly outside, and the aforementioned activity prohibits other Contractor's from performing work, said Contractor creating fumes, dust, etc. as mentioned above must make provisions to complete work creating problem at a time including, but not limited to, nights and weekends, so as to allow other Contractors to proceed with work at no additional cost to the Owner.

- 42. No Contractors are permitted to use any of the Owners equipment.
- 43. No radios, MP3 players or earphones will be allowed on job site at any time.
- 44. Each Contractor shall identify and document, through the use of dated photographs and videos, existing conditions prior to taking over of any areas before demolition and/or construction. A copy shall be provided to Construction Manager prior to the commencement of demolition and/or construction. Reference specification section 013233 "Photographic Documentation".
- 45. All Contractors are to maintain and keep clear all life safety egress pathways.
- 46. Smoking is not permitted on the project site at anytime.
- 47. Blocking required for a Contractor's scope of work shall be furnished and installed by that Contractor, locations to be coordinated with work of other Contractors that may be impacted.
- 48. It is the responsibility of each Contractor to coordinate all utility/service points of entry into the building, through the foundations, slabs, sleeves, roof openings and penetrations, wall openings and penetrations, with the work of all other Contractors performing said utility/service work.
- 49. It is the responsibility of Each Contractor to carefully coordinate and be thoroughly familiar with ALL the Architectural details as they affect its work. Areas to coordinate include but are not limited to ceilings, soffits, mechanical rooms, closets, doorways, fire smoke partitions and dampers, kitchens, etc.
- 50. All Contractors shall be familiar with the Architectural A600 Series of drawings for appearance and fit of all casework, fixtures, equipment, etc. Where conflict or doubt exists, it should be brought to the immediate attention of the Architect for decision-making direction. Any items to be proven in conflict and not pre-coordinated with the Architect may require corrections, removals, and re-installations by the appropriate Contractor(s) at their cost.
- 51. For the purpose of underground piping, except as otherwise noted, the work separation line between building and site is defined as 5' OUTSIDE THE BUILDING FOUNDATION. Final connections of utilities will be by the Contractor whose work is being connected.
- 52. Each Contractor is responsible for providing the GCC with all layouts for any concrete housekeeping pads, roof curbs and penetrations as may be required. The locations and sizes of all project housekeeping pads need to be confirmed via all A600 Series drawings regardless of whether or not pads are shown on other trade plans or details. The Architectural Drawings will supersede all other drawings in this matter. The GCC will furnish and install the pads in keeping with the requirements of the Contract Documents.
- 53. Openings in walls, floors, ceilings and roofs required for the work of each Contractor shall be coordinated with the Contractor who installed the wall, floor, ceiling roof, etc. to verify locations and confirm quantities to be maintained.
- 54. The Electrical & Mechanical Room layouts are schematic. Each Contractor is responsible for coordinating the layout of all equipment with maintenance and operations in mind. Leave whatever space is necessary for access doors, servicing equipment, etc. and bring any conflicts that exist to the Construction Manager's attention. Layouts are to be based on approved submittals for all related equipment. **All such rooms layouts are to be**

provided to the Architect prior to the ordering of any equipment or running of any lines, feeds, conduits, etc. Any such work performed prior to the acceptance of the room layout by the Architect will be grounds for corrective measures as dictated by the Architect at no additional cost to any contractor that violated this such direction.

- B. Coordinated Work with the General Construction Contractor
 - 1. Coordinated work is the responsibility of each prime contractor and should be mutually agreed upon and scheduled prior to the start of the activity with the Construction Manager and the General Construction Contractor. Coordinated work shall include but is not limited to the following:
 - a. Each Prime Contractor to furnish roof curbs or rails necessary to perform their scope of work. Penetrations, repairs and installation of roof curbs required through the roof membrane and deck will be the responsibility of the General Construction Contractor. All roof warranties must be maintained.
 - 1) HVAC Contractor shall coordinate delivery of roof curbs with the GC Contractor to ensure installation of the roof curbs prior to roofing, installation.
 - 2) In the event roof curbs are not delivered to the GC Contractor in a timely manner to allow installation of the roof curbs prior to roofing installation; The HVAC Contractor shall, at their own expense, engage and pay the GC Contractor to cut, patch and flash the roof as required for the curb installation, while maintaining the roof warranty.
 - 3) HVAC Contractor shall coordinate with the GC Contractor on exact location of support steel, as indicated in the Contract documents.
 - b. Blocking (including roof blocking) for the work of each prime contract shall be provided by the contractor requesting the work and installed by the General Construction Contractor.
 - c. Openings in walls, floors, ceilings and roofs:
 - 1) In new surfaces: Providing openings, including installation of lintels and structural framing shall be the work of the General Construction Contractor. Each prime contractor is responsible for identifying opening sizes and locations for its own work and advising the General Construction Contractor of such, in writing, in a timely manner.
 - 2) In existing surfaces: Providing openings, including installation of lintels and structural framing shall be the work of the General Construction Contractor.
 - d. Size lintels and structural framing for openings in accordance with the information on the Drawings.
 - e. Provide openings by personnel experienced in work similar to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
 - f. Utility service connections to 5'-0" outside of the building footprint, except electrical and IT/data/security services which are the sole responsibility of the Electrical Construction Contractor.
 - 2. The General Construction Contractor will provide all concrete equipment pads as shown on the Architectural and/or Structural series drawings. If concrete equipment pads, inertia bases and/or housekeeping pads are required but not shown in the Contract Drawings, it is the responsibility of the Contractor providing the equipment that requires the pad and/or base to provide the concrete pad and/or base.
 - 3. All Contractors will furnish required foundation/concrete wall and slab sleeves, embeds and inserts, etc. to the General Contractor who shall install them in the respective walls and slabs. The Contractor furnishing the sleeves, embeds, inserts, etc. will be responsible for coordinating, layout and confirmation of final location.

4. All Contractors will furnish steel lintel(s) if required for their work which are not shown on the Contract Documents. The Contractors requiring the lintel(s) will furnish and deliver said lintel(s) to the General Contractor for installation.

1.12 CONTRACT NO. 01 - BID PACKAGE NO. 01 - GENERAL CONSTRUCTION

- A. Work in the Contract No. 01 General Construction includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections:
 - 1. Project Manual:
 - a. Notice to Bidders
 - b. AIA A701 Instructions to Bidders
 - c. Bid Form
 - d. AIA A310-2010 Bid Bond
 - e. Subcontractor Qualification Form
 - f. AIA A101-2017 Standard Form of Agreement Between Owner and Contractor
 - g. AIA A312-2010 Performance Bond
 - h. AIA A312-2010 Payment Bond
 - i. AIA A201-2017 General Conditions of the Contract for Construction
 - j. Partial Release and Waiver of Mechanic's Lien
 - k. Final Release and Waiver of Mechanic's Lien
 - 1. Prevailing Wage Rates
 - m. Division 1 General Requirements (All Sections)
 - n. Division 2 Existing Conditions (All Sections)
 - o. Division 3 Concrete (All Sections)
 - p. Division 4 Masonry (All Sections)
 - q. Division 5 Metals (All Sections)
 - r. Division 6 Wood, Plastics, and Composites (All Sections)
 - s. Division 7 Thermal and Moisture Protection (All Sections)
 - t. Division 8 Opening (All Sections)
 - u. Division 9 Finishes (All Sections)
 - v. Division 10 Specialties (All Sections)
 - w. Division 11 Equipment (All Sections)
 - x. Division 12 Furnishings (All Sections)
 - y. Division 14 Conveying Equipment (All Sections)
 - z. Division 31 Earthwork (All Sections)
 - aa. Division 32 Exterior Improvements (All Sections)
 - bb. Division 33 Utilities (All Sections)
 - cc. Drawings: General Construction Drawings listed below, plus cross-referenced information on Drawings listed under work of other Contracts.
 - dd. Drawings listed on the Drawing Index as Code Compliance (G), Civil (C), Structural (S), and Architectural (A) Drawings.
 - ee. All Addenda issued as part of this Bid Package.
- B. Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.
- C. The work of General Construction Contract to include, but is not limited to the following:1. Provide General Construction work required for a complete and operating facility.

- 2. Provide final cleaning for all work areas associated with this contract including all labor, equipment, and materials as required to achieve Final Cleaning. Owner to provide list of approved cleaning and maintenance products to be utilized by the Contractor. Contractor to verify compatibility of the Owner provided list of products with new construction. Upon completion of the work, the Contractor is to leave the completed project ready for use without the need of further cleaning of any kind.
- 3. Employ a licensed surveyor to perform a building layoutand to provide a certification of foundation layout, anchor bolt locations, comleted beams and colums, including vertical alignment and building location with respect to the Propert Line. Upon completion of all sub-slab plumbing line installations, perform an as built survey and provide a certified drawinglocating all the sub-slab lines including their relationship to all interior and exterior walls prior to the pouring of the concrete slab.
- 4. Painting for the work of each contract shall be the work of the General Construction Contract.
- 5. Provide all Entrance Floor Mats complete and in its entirety.
- 6. Provide all Wall and Door Protection complete and in its entirety.
- 7. All work obviously necessary for the completion of the Contract shall be included, whether or not specifically shown or specified.
- 8. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
- 9. The GC, and ONLY the GC, shall be responsible for All sealant applications on the exterior of the building. All other Prime Contractors must coordinate locations and schedules of same with the GC.
- 10. Provide installation of all Owner-provided equipment as set forth in Section 110600 Schedules for Equipment to be installed by GCC.
- 11. All interior concrete slabs are to be sloped as per the drawings. Fully sloped room slabs to in-room floor drains are as indicated on the Architectural Plans. Any conflicts shall be immediately brought to the attention of the Architect.
- D. Temporary facilities and controls in the General Construction Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls

1.13 CONTRACT NO. 02 - BID PACKAGE NO.02 - HVAC

- A. Work in the Contract No. 02 HVAC Contract includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections
 - 1. Project Manual:
 - a. Notice to Bidders
 - b. AIA A701 Instructions to Bidders
 - c. Bid Form
 - d. AIA A310-2010 Bid Bond
 - e. Subcontractor Qualification Form
 - f. AIA A101-2017 Standard Form of Agreement Between Owner and Contractor
 - g. AIA A312-2010 Performance Bond
 - h. AIA A312-2010 Payment Bond
 - i. AIA A201-2017 General Conditions of the Contract for Construction
- j. Partial Release and Waiver of Mechanic's Liens
- k. Final Release and Waiver of Mechanic's Liens
- I. Prevailing Wage Rates
- m. Division 1 General Requirements (All Sections)
- n. Division 2 Existing Conditions (All Sections)
- o. Division 11 Equipment (Section 011600 Schedules for Equipment)
- p. Division 23 Heating, Ventilating and Air Conditioning (All Sections)
- q. Drawings: HVAC Construction Drawings listed below, plus cross-referenced information on Drawings listed under work of other Contracts.
- r. Drawings listed on the Drawing Index as HVAC (M).
- s. All Addenda issued as part of this Bid Package.
- B. Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.
- C. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
- D. Temporary facilities and controls in the HVAC Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls
- E. Contractor is responsible for leading the coordination of the coordination drawings, as further defined in specification section 013100 "Project Management and Coordination".
- F. ALL pipes, conduits and vent lines shall be installed INSIDE walls unless specifically noted otherwise on the Project Drawings. Failure to follow this directive will result in corrective action, up to and including the demolition of new wall construction at the cost of the negligent contractor for all other trades reconstructive work scope.
- G. All Exterior Building sealant/caulking scope is the responsibility of the GCC. The MC shall coordinate all locations and scheduling of same with the GCC for proper timing of sealing of the building envelope throughout the course of the project.
- H. Furnish and coordinate with the GCC all roof curbs, collars and other roof penetration devices called for in MC's Work. Provide a physical mark on the roof deck with paint for each location. Such material is to be placed on the roof by the MC at the direction of the GCC and in accordance with the GCC's schedule. GCC will cut metal decking.
- I. Unless otherwise indicated, the MC must furnish all auxiliary control devices and line voltage (120 volt) control devices for this Contractor's Work to the EC just prior to when the EC is scheduled to install them.

1.14 CONTRACT NO. 03 - BID PACKAGE NO. 03 - ELECTRICAL

- A. Work in the Contract No. 03 Electrical Contract includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections:
 - 1. Project Manual:
 - a. Notice to Bidders
 - b. AIA A701 Instructions to Bidders

- c. Bid Form
- d. AIA A310-2010 Bid Bond
- e. Subcontractor Qualification Form
- f. AIA A101-2007 Standard Form of Agreement Between Owner and Contractor
- g. AIA A312-2010 Performance Bond
- h. AIA A312-2010 Payment Bond
- i. AIA A201-2017 General Conditions of the Contract for Construction
- j. Partial Release and Waiver of Mechanic's Lien
- k. Final Release and Waiver of Mechanic's Lien
- 1. Prevailing Wage Rates
- m. Division 1 General Requirements (All Sections)
- n. Division 2 Existing Conditions (All Sections)
- o. Division 11 Equipment (Section 011600 Schedules for Equipment)
- p. Division 26 Electrical (All Sections)
- q. Division 27 Communications (All Sections)
- r. Division 28 Electronic Safety and Security (All Sections)
- s. Drawings: Electrical Construction Drawings listed below, plus cross-referenced information on Drawings listed under work of other Contracts.
- t. Drawings listed on the Drawing Index as Electrical (E).
- u. All Addenda issued as part of this Bid Package.
- B. Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.
- C. Electrical connections to equipment furnished by the General Construction Contract, Plumbing Contract, Fire Protection Contract, HVAC Contract, and Electrical Contract.
- D. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
- E. Temporary facilities and controls in the Electrical Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls
- F. Furnish, physically locate and mark any foundation sleeves for its work to the GCC for installation.
- G. ALL conduits shall be installed INSIDE walls unless specifically noted otherwise on the Project Drawings. Failure to follow this directive will result in corrective action, up to and including the demolition of new wall construction at the cost of the negligent contractor for all other trades reconstructive work scope.
- H. All Exterior Building sealant/caulking scope is the responsibility of the GC. The EC shall coordinate all locations and scheduling of same with the GC for proper timing of sealing of the building envelope throughout the course of the project.
- I. Provide all spare conduits shown on site drawings or indicated on electrical drawings.
- J. Site wiring and conduits shown entering the building are to be brought into the building by the EC.
- K. Furnish & install light pole bases.

- L. Furnish and coordinate with the GCC all roof curbs, collars and other roof penetration devices called for in EC's Work. Provide a physical mark on the roof deck with paint for each location. Such material is to be placed on the roof by the EC at the direction of the GCC and in accordance with the GCC's schedule. GCC will cut metal decking.
- M. All installation and wiring of motor starters and disconnects supplied by the MC will be by the EC.

1.15 CONTRACT NO. 04 - BID PACKAGE NO. 04 - PLUMBING

- A. Work in the Contract No. 04 Plumbing Contract includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections:
 - 1. Project Manual:
 - a. Notice to Bidders
 - b. AIA A701 Instructions to Bidders
 - c. Bid Form
 - d. AIA A310-2010 Bid Bond
 - e. Subcontractor Qualification Form
 - f. AIA A101-2017 Standard Form of Agreement Between Owner and Contractor
 - g. AIA A312-2010 Performance Bond
 - h. AIA A312-2010 Payment Bond
 - i. AIA A201-2017 General Conditions of the Contract for Construction
 - j. Partial Release and Waiver of Mechanic's Lien
 - k. Final Release and Waiver of Mechanic's Lien
 - 1. Prevailing Wage Rates
 - m. Division 1 General Requirements (All Sections)
 - n. Division 2 Existing Conditions (All Sections)
 - o. Division 11 Equipment (Section 011600 Schedules for Equipment)
 - p. Division 22 Plumbing (All Sections)
 - q. Drawings: Plumbing Construction Drawings listed below, plus cross-referenced information on Drawings listed under work of other Contracts.
 - r. Drawings listed on the Drawing Index as Plumbing (P).
 - s. All Addenda issued as part of this Bid Package.
- B. Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.
- C. Plumbing connections to equipment furnished by the General Construction Contract, Plumbing Contract, Fire Protection Contract, HVAC Contract, and Electrical Contract.
- D. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
- E. Temporary facilities and controls in the Plumbing Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls.
- F. Determine that all floor drains and cleanouts are in the proper location and at the proper elevation prior to pouring the slabs.

- G. Furnish and coordinate with the GC all roof curbs, collars and other roof penetration devices called for in PC's Work. Provide a physical mark on the roof deck with paint for each location. Such material is to be placed on the roof by the PC at the direction of the GC and in accordance with the GC's schedule. GC will cut metal decking.
- H. All Exterior Building sealant/caulking scope is the responsibility of the GC. The PC shall coordinate all locations and scheduling of same with the GC for proper timing of sealing of the building envelope throughout the course of the project.
- I. Piping between the building and the oil separators and grease traps. GC to do trenching and backfill.
- J. ALL pipes and vent lines shall be installed INSIDE walls unless specifically noted otherwise on the Project Drawings. Failure to follow this directive will result in corrective action, up to and including the demolition of new wall construction at the cost of the negligent contractor for all other trades reconstructive work scope.
- K. Have a representative at the jobsite during slab pouring to ensure that floor drains and cleanouts are at the correct location and height.

1.16 CONTRACT NO. 05 - BID PACKAGE NO. 04 - FIRE PROTECTION

- A. Work in the Contract No. 05 Fire Protection Contract includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections:
 - 1. Project Manual:
 - a. Notice to Bidders
 - b. AIA A701 Instructions to Bidders
 - c. Bid Form
 - d. AIA A310-2010 Bid Bond
 - e. Subcontractor Qualification Form
 - f. AIA A101-2017 Standard Form of Agreement Between Owner and Contractor
 - g. AIA A312-2010 Performance Bond
 - h. AIA A312-2010 Payment Bond
 - i. AIA A201-2017 General Conditions of the Contract for Construction
 - j. Partial Release and Waiver of Mechanic's Lien
 - k. Final Release and Waiver of Mechanic's Lien
 - l. Prevailing Wage Rates
 - m. Division 1 General Requirements (All Sections)
 - n. Division 2 Existing Conditions (All Sections)
 - o. Division 11 Equipment (Section 011600 Schedules for Equipment)
 - p. Drawings: Fire Protection Construction Drawings listed below, plus crossreferenced information on Drawings listed under work of other Contracts.
 - q. Drawings listed on the Drawing Index as Fire Protection (FP).
 - r. All Addenda issued as part of this Bid Package.
- B. Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.

- C. Plumbing connections to equipment furnished by the General Construction Contract, Plumbing Contract, Fire Protection Contract, HVAC Contract, and Electrical Contract.
- D. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
- E. Temporary facilities and controls in the Fire Protection Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls.
- F. Provide connection to water service inside the building.
- G. Coordinate with the EC for connections between the fire sprinkler system and the fire alarm system.
- H. Provide shop drawings for the complete fire protection system prepared under the guidance of a qualified professional as outlined in the specifications.
- I. All Exterior Building sealant/caulking scope is the responsibility of the GC The FSC shall coordinate all locations and scheduling of same with the GC for proper timing of sealing of the building envelope throughout the course of the project.
- J. Obtain Architect approval prior to the installation for all required sprinkler piping drain lines which will penetrate the exterior wall.
- 1.17 Work in the Contract No. 06 Site/Utility includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as detailed in this section, as indicated on any drawings included in the contract documents, and strict accordance with but not limited to the following specification sections:
 - A. Project Manual:
 - 1. Notice to Bidders
 - 2. AIA A701 Instructions to Bidders
 - 3. Bid Form
 - 4. AIA A310-2010 Bid Bond
 - 5. Subcontractor Qualification Form
 - 6. AIA A101-2017 Standard Form of Agreement Between Owner and Contractor
 - 7. AIA A312-2010 Performance Bond
 - 8. AIA A312-2010 Payment Bond
 - 9. AIA A201-2017 General Conditions of the Contract for Construction
 - 10. Partial Release and Waiver of Mechanic's Lien
 - 11. Final Release and Waiver of Mechanic's Lien
 - 12. Prevailing Wage Rates
 - 13. Division 1 General Requirements (All Sections)
 - 14. Division 2 Existing Conditions (All Sections)
 - 15. Division 11 Equipment (Section 011600 Schedules for Equipment)
 - 16. Division 31 Earthwork (All Sections)
 - 17. Division 32 Exterior Improvements (All Sections)
 - 18. Division 33 Utilities (All Sections)
 - 19. Drawings: General Construction Drawings listed below, plus cross-referenced information on Drawings listed under work of other Contracts.

- 20. Drawings listed on the Drawing Index as Code Compliance (G), Civil (C), Structural (S), and Architectural (A) Drawings.
- 21. All Addenda issued as part of this Bid Package.
- 1.18 Construction drawings dated April 3, 2023 as they pertain to the scope of work for this bid package.
- 1.19 The work of Site/Utility Contract to include, but is not limited to the following:
 - A. Provide Site/Utility Construction work required for a complete and operating facility.
 - B. Provide foundation preparation, proof rolling, under cutting, excavation, backfill, and compaction required for this scope of work.
 - C. Employ a licensed surveyor to perform a building layoutand to provide a certification of foundation layout, anchor bolt locations, comleted beams and colums, including vertical alignment and building location with respect to the Propert Line. Upon completion of all sub-slab plumbing line installations, perform an as built survey and provide a certified drawinglocating all the sub-slab lines including their relationship to all interior and exterior walls prior to the pouring of the concrete slab.
 - D. Provide and maintain the site staging area complete and including but not limited to the fencing, gates, traffic control, fabric and asphalt protection.
 - E. All work obviously necessary for the completion of the Contract shall be included, whether or not specifically shown or specified.
 - F. Contractor is responsible for any and all hot and cold weather and winter conditions, additional materials, labor, equipment (permanent or temporary) and protection required to complete the project in accordance with the project schedule.
 - G. Specific civil/site work scope, outside of building foundations include concrete sidewalks, detectable warning strips, concrete curbs, concrete apron, flag pole & base, handicap signage; as further detailed within the Contract
 - H. Provide installation of all Owner-provided equipment as set forth in Section 110600 Schedules for Equipment to be installed by GCC.
- 1.20 Temporary facilities and controls in the General Construction Contract as they pertain to the scope of work for this bid package, as described in Section 015000 Temporary Facilities and Controls

1.21 CONSTRUCTION SCHEDULE

- A. All Work: Perform in accordance with a pre-determined Work Schedule agreed upon by Owner and Contractors. Each Prime Contractor shall submit a detailed Work Schedule in accordance with Specification Section 013200 "Construction Progress Documentation". The Work shall be conducted in accordance with the following schedule milestones:
 - 1. All Contracts:
 - a. Complete submission of all Submittals, Shop Drawings and Coordination Drawings within (45) calendar days of Notice to Proceed.
 - b. Approval of Contracts: May 31, 2023
 - c. Anticipated Notice of Award: June 1, 2023

- d. Anticipated Notice to Proceed: June 9, 2023
- e. Commencement of Construction Date: June 23, 2023
- f. Substantial Completion Date: July 4, 2024
- g. Final Completion Date: August 1, 2024
- B. All prime contractors understand that time is of the essence and will adequately staff the job to successfully complete the Contract Work in accordance with the project schedule and milestone dates. Each Prime Contractor's proposal is to be predicated on the project schedule milestone completion dates contained in the bidding documents. All costs associated with schedule recovery shall be at the Contractor's expense for failure to meet schedule dates.
- C. The date indicated for Substantial Completion is an essential condition of each prime contract. Each Contractor agrees that work shall be prosecuted diligently and uninterrupted at such a rate to insure Substantial Completion of all work and certificates of occupancy on or before the date stated in the Contract.
- D. It is expressly understood and agreed by each Prime Contractor and the Owner that the time for Substantial Completion and certificates of occupancy are reasonable, taking into consideration average climatic variations, restrictions concerning use of the site, and other conditions prevailing.
- E. Each Prime Contractor shall coordinate work with the Owner, Construction Manager, other Contractors at the site, and all of its subcontractors, where sequencing and delineation of responsibility is involved, if applicable.
- F. It is the responsibility of each Prime Contractor to carefully interface all construction operations until they reach their final completion, so the Owner's programs and services can be carried on without interruptions. The Construction Manager may dictate "out of sequence work" or "Leap Frogging" work plans to ensure smooth flow of all operations, for any trade, in order to maintain this requirement.
- G. Phasing All contractors are required to coordinate their work with that of the other trades and to take all measures necessary to maintain a continuous operation of all systems associated with the phasing plans.

1.22 DEFINITION OF CONTRACT MILESTONES

- A. <u>Complete Submission of all Submittals and Shop Drawings</u>: As determined by the Project Coordinator; all submittals with the exception of closeout submittals are submitted for approval.
- B. <u>Substantial Completion:</u> As determined by the Project Coordinator; all work and systems are complete, operational, tested and ready for facility operations and certificate of occupancy. All closeout documentation, warranties, certifications, record documents, and operation and maintenance manuals are submitted.
- C. <u>Project Final Completion</u>: As determined by the Project Coordinator, all punch list work is complete; and closeout documentation, warranties, certifications, record documents, and operation and maintenance manuals are approved.
- 1.23 CONTRACTOR USE OF PREMISES (For Each Prime Contractor)
 - A. Use of the Site: Limit use of the premises to work in areas indicated during work hours indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

- 1. All deliveries to the Contractor at the site must be accepted at the site by the Contractor, regardless of time of delivery. The Construction Manager and Owner will not accept deliveries for the Contractor at any time.
- 2. Driveways and Entrances: Keep driveways and entrances serving premises clear and accessible to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials and equipment on site.
- 3. Partial Owner Occupancy: Owner reserves the right to occupy and to place and install in completed areas of building before Final Completion, provided such occupancy does not interfere with completion of Work. Such placing of equipment and partial occupancy shall not constitute acceptance of total Work.
- B. Locations of trailers, storage areas, parking areas, building access points, and staging areas shall be coordinated with the Owner, Construction Manager and Architect.
- C. Maintain the existing condition of public roads and sidewalks adjacent to the project. This will include the daily removal of construction debris from the surrounding properties, public sidewalks, and roads.
- D. Each Contractor to provide their own storage as required for their scope of work. Location of storage will be at the direction of the Construction Manager. The Owner's existing facilities are not to be used for storage. All deliveries to be scheduled and approved with the Construction Manager with a minimum 48 hour notice. There will be limited room onsite for excessive storage. All Contractors shall provide off-site storage until such time that site and/or building is available for limited storage. Storage of equipment and materials in the building or on the site will be subject to the Construction Manager 's approval five days prior to delivery.
- E. The Owner reserves the right to perform selected construction operations with its own forces or to employ separate contractors on portions of the project.
- F. Do not unreasonably encumber site with materials and/or equipment as determined by the Construction Manager.
- G. Do not load structures with weight that will endanger structure.
- H. Each Contractor is responsible for protection and safekeeping of his materials, products and equipment stored on the premises or incorporated into the construction, until his contract is complete and accepted by the Owner.
- I. Move at the Contractor's cost any stored materials, products, or equipment which interfere with operations of the Owner or others, or as directed by the Construction Manager.
- 1.24 WORK RESTRICTIONS (For Each Prime Contractor)
 - A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
 - B. On-Site Work Hours: Limit work onsite to normal business working hours of 7 a.m. to 5 p.m., Monday through Friday, unless otherwise indicated.
 - 1. Weekend Hours: To be coordinated with Construction Manager, subject to Owner's approval.
 - 2. Early Morning Hours: To be coordinated with Construction Manager, subject to Owner's approval.

- 3. Hours for Utility Shutdowns: To be coordinated with Construction Manager, subject to Owner's approval. Contractor to provide minimum 48 hours' notice of required utility shutdown.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities and premises occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Construction Manager not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Construction Manager not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Owner's written permission before proceeding with disruptive operations.
 - 3. Comply with City of Ithaca ordinances and codes.
- E. Smoking is not permitted on the project site at any time. There will be no exceptions.
- F. Controlled Substances: Use of tobacco products and other controlled substances on the project site is not permitted.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.25 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents are abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 3. Specification requirements are to be performed by Contractor unless specifically stated otherwise. If a conflict between Drawings and Specifications shall occur, the most stringent and/or more costly requirement shall govern.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

- 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
- 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
- 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.26 MISCELLANEOUS PROVISIONS

- A. Copies of Drawings and Project Manuals: It is the Contractor's responsibility to obtain the number of copies of the Drawings and Project Manual it requires for the project. Bidding documents can be obtained through the Avalon Plan Room. Refer to the "Notice to Bidders" for additional information. The Owner will not reimburse the Contractor for these copies.
- B. Licensed Contractors/Subcontractors: Prime Contractor and all Subcontractors must be licensed to work in the State of New York in each of their perspective fields of work on the Project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

SECTION 012100 - ALLOWANCES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor by the Architect and Construction Manager. Additional requirements will be issued by Change Order, if any, by the Architect and Construction Manager.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost allowances.
 - 3. Quantity allowances.
 - 4. Contingency allowances.
 - 5. Testing and inspecting allowances.

1.03 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, inform Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At the Architect and Construction Manager's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.04 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.05 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.06 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.07 LUMP-SUM, UNIT-COST, and QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by the Architect under allowance and shall include taxes and freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not as part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Construction Manager, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.08 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect and Construction Manager for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.09 TESTING AND INSPECTING ALLOWANCES

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.
- C. Costs of services not required by the Contract Documents are not included in the allowance.

D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.10 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, submit a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measurement or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lowerpriced materials or systems of the same scope and nature as originally indicated.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.02 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.03 SCHEDULE OF ALLOWANCES

A. GC Allowance No. 1 - Winter Conditions: LUMP-SUM Allowance: The General Contractor shall include the sum of \$200,000.00 for winter conditions. This allowance includes Temporary heat, blanketing, ground thaw and heated water (for concrete mix) for concrete foundation activities only. All other winter condition scope shall be included in the base bid of each contractor, refer to section 015000 Temporary Facilities and Controls.

- 1. This allowance includes equipment, material cost, receiving, handling, and installation, and Contractor overhead and profit .
- 2. Coordinate quantity allowance adjustment with corresponding unit-price requirements in Section 012200 "Unit Prices."
- 3. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

SECTION 012200 - UNIT PRICES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

1.03 DEFINITIONS

- A. Unit price is an amount proposed by bidders, stated on the Bid or Proposal Form, incorporated in the Agreement and applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.
- B. Bidders are advised that quantity allowances of work, if specified in the Contract Documents, are approximate only and are subject to increase or decrease, and that the work shall be performed at the Unit Prices stated on the Bid or Proposal Form whether the quantities are increased or decreased.

1.04 PROCEDURES

- A. Unit prices include all necessary and incidental material, plus cost for delivery, installation, rental, insurance, applicable taxes, overhead, and profit and similar costs.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to question or to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by the Owner's designated representative.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SCHEDULE OF UNIT PRICES

A. Unit Price No.1 - : Excavation & Removal of Existing Uncontrolled Fill Material

- 1. Description: Shall include excavation, removal, hauling and disposal to achieve required grade or elevation.
- 2. Unit of Measurement: CY in place measurement
- B. Unit Price No.2 : Placement of Controlled Fill Material
 - 1. Description: Shall include supplying, delivering, placing, compacting and testing to achieve uniform grade or depth, testing will be performed by Owners Testing Agency. . according to Section "____"
 - 2. Unit of Measurement: CY in place measurement
- C. Unit Price No.3 : Open Excavation Rock Removal
 - 1. Description: Shall include excavation, removal, hauling and disposal to achieve required grade or depth. according to Section "____"
 - 2. Unit of Measurement: CY in place measurement
- D. Unit Price No.4 : Placement of Lean Concrete Fill Material
 - 1. Description: Shall include supplying, delivering, placing, spreading and testing to achieve uniform grade or depth, testing will be by Owners Testing Agency.
 - 2. Unit of Measurement: CY in place measurement
- E. Unit Price No.5 : Machine Trench and Pit Earth Excavation
 - 1. Description: Shall include labor and equipment neccessary for earthen trench or pit excavation and disposals of soils for changes to underground utility distances.
 - 2. Unit of Measurement: CY in place measurement
- F. Unit Price No.6 : Pier and Trench Rock Removal
 - 1. Description: Shall include excavation, removal hauling, and disposal to achieve uniform grade and depth. Rock removal pricing shall assume method of removal (ie blasting, hammering, etc.)acceptable by LAHJ along with required permit filings and fees.
 - 2. Unit of Measurement: CY in place measurement
- G. Unit Price No.7 : Fluid Applied Flooring Moisture Mitigation
 - 1. Description: Provide unit pricing for the removal from base project scope of all material and labor neccessary for fluid applied flooring moisture mitigation based on the use of Dur-A-Flex Dur-A-Glaze MVP Primer.
 - 2. Unit of Measurement: SF
- H. Unit Price No.8 : Heated water for Winter Mix Concrete
 - 1. Description: Provide unit pricing per truck for heated water requirements for concrete mix during winter conditions. Refer to GC Allowance 1 for further description.
 - 2. Unit of Measurement: per truck

SECTION 012300 - ALTERNATES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.03 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if accepted in writing by the Owner and enumerated in the Agreement, or added to the Agreement by Change Order.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.04 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

Ithaca Fire Station Alternates

3.01 SCHEDULE OF ALTERNATES

- A. Alternate No.1 : .
 - 1. Add Alternate: Provide added cost for all labor, materials and equipment neccessary and incidental to install wood veneer cabinetry in room 108 Day Room/Kitchen/Dining, and room 109 Living Room. Refer to drawing A601 for locations and specification section 064100 Architectural Wood Casework.

3.02 ORDER OF PRIORITY OF ALTERNATES

A. Basis of Contract Award: The basis of contract award will be the lowest responsible bid as determined by taking the bidder's base bid amount, which includes all Contingency Allowances as outlined in Section 012100 "Allowances", and adding or deleting alternate bid amounts consecutively in order of priority, as defined in Section 012300 "Alternates", until the sum of base bid and alternates are within the Owner's budget for the project.

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.03 MINOR CHANGES IN THE WORK

A. Architect will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.04 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 14 calendar days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect and Construction Manager .
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Construction Manager .
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

- 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
- 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
- 4. Include costs of labor and supervision directly attributable to the change.
- 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- 6. Proposal Request Form: Use form acceptable to Architect.

1.05 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.06 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.07 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

SECTION 012900 - PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.03 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - Submit the schedule of values to Construction Manager and Architect, within fourteen (14) days of Contract Award, allocating the entire Contract Sum to the carious portions of the Work.
 - 3. Sub-schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values coordinated with each phase of payment.
 - 4. Sub-schedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide sub-schedules showing values coordinated with each element.
 - 5. Sub-schedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide sub-schedules showing values coordinated with the scope of each design services contract as described in Section 011200 Multiple Contract Summary.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Names of Architect.

- c. Architect's project number(s).
- d. Contractor's name and address.
- e. Date of submittal.
- 2. Arrange schedule of values consistent with format of AIA Document G703.
- 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest onehundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
- 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.
- 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Regardless of on- or off-site storage, provide evidence of insurance for such.
- 7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
- 8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- 9. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
- 10. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
- 11. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
- 12. Provide a separate line item in the Schedule of Values totaling 3% (three percent) of the total contract value for project closeout procedures and punchlist of deficiiency costs.

1.05 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by

Ithaca Fire Station Payment Procedures Owner.

- 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Construction Manager by the 15th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month .
 - 1. Submit draft copy of Application for Payment seven (7) calendar days prior to due date for review by Construction Manager.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- E. Application for Payment Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included in Project Manual.
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- G. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, photographic documentation, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- H. Transmittal: Submit four (4) signed and notarized original copies of each Application for Payment to Construction Manager by a method ensuring receipt within 24 hours. Each copy shall include waivers of liens, a current or updated Project Schedule, Certified Payroll, and similar attachments if required.

- 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- J. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.
- K. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of values.
 - 3. Contractor's construction schedule (preliminary if not final).
 - 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 - 5. Products list (preliminary if not final).
 - 6. Schedule of unit prices.
 - 7. Submittal schedule (preliminary if not final).
 - 8. List of Contractor's staff assignments.
 - 9. List of Contractor's principal consultants.
 - 10. Copies of building permits.
 - 11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 - 12. Initial progress report.
 - 13. Report of preconstruction conference.
 - 14. Certificates of insurance and insurance policies.
 - 15. Performance and payment bonds.
 - 16. Data needed to acquire Owner's insurance.
- L. Application for Payment at Substantial Completion: After Construction Manager issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

- 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
- 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- M. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 3. Updated final statement, accounting for final changes to the Contract Sum.
 - 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 - 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 - 6. AIA Document G707, "Consent of Surety to Final Payment."
 - 7. AIA Document G707A, "Consent of Surety to Final Reduction in or Partial Release of Retainage."
 - 8. Evidence that claims have been settled.
 - 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 - 10. Final liquidated damages settlement statement.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project Web site.
 - 5. Project meetings.
- B. Each contractor shall cooperate and participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.03 DEFINITIONS

A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.04 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 7 calendar days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
 - 1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.05 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.06 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop

Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

- 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 - 1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 - 2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 - 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 - 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 - 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 - 6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - Fire-rated enclosures around ductwork.
 - 7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.

c.

- b. Light fixture, exit light, emergency battery pack, smoke detector, and other firealarm locations.
- c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
- d. Location of pull boxes and junction boxes, dimensioned from column center lines.
- 8. Fire-Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
- 9. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.
- 10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
 - 1. File Preparation Format: DWG, Version AutoCAD 2013, operating in Microsoft Windows operating system.
 - 2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
 - 3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Digital Data Software Program: Drawings are available in AutoCAD 2013 operating in Microsoft Windows.
 - c. Contractor shall execute a data licensing agreement in the form of Agreement included in this Project Manual.
 - d. The signed Agreement and handling and administration fee for the full set of CAD files must be received by the Architect before digital data drawings are furnished to the Contractor.

1.07 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
 - 3. Architect will not review RFI's submitted via fax or verbal requests.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. Name of Architect.
 - 6. RFI number, numbered sequentially.

- 7. RFI subject.
- 8. Specification Section number and title and related paragraphs, as appropriate.
- 9. Drawing number and detail references, as appropriate.
- 10. Field dimensions and conditions, as appropriate.
- 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
- 12. Contractor's signature.
- 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Form immediately following this section.
 - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five business days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following business day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 - 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 - 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 business days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
 - 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Architect.
 - 4. RFI number including RFIs that were returned without action or withdrawn.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify within Architect five business days if Contractor disagrees with response.
 - 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

Ithaca Fire Station Project Management and Coordination

1.08 PROJECT MEETINGS

- A. General: Where indicated, the Construction Manager shall schedule and conduct meetings and conferences at Project site unless otherwise indicated.
 - 1. Attendees: Construction Manager shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Construction Manager shall prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Construction Manager shall be responsible for conducting meeting and will record significant discussions and agreements achieved. Construction Manager shall distribute the meeting minutes to everyone concerned, including Owner, Contractor, and Architect within three business days of the meeting.
- B. Preconstruction Conference: Construction Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 business days after execution of the Agreement.
 - 1. Conduct the conference to review responsibilities and personnel assignments.
 - 2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, if applicable; Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - 1. Preparation of record documents.
 - m. Use of the premises and existing building.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.
 - v. Office, work, and storage areas.
 - w. Equipment deliveries and priorities.
 - x. First aid.
 - y. Security.

- z. Progress cleaning.
- 4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Contractor shall conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction. Preinstallation conferences shall include conferences identified in individual Specification Sections.
 - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Construction Manager and Owner's Commissioning Authority, if applicable, of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Construction Manager shall schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 calendar days prior to the scheduled date of Substantial Completion.

- 1. Construction Manager shall conduct the conference to review requirements and responsibilities related to Project closeout.
- 2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, if applicable,; Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
- 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for completing LEED and or sustainable design documentation.
 - e. Requirements for preparing operations and maintenance data.
 - f. Requirements for delivery of material samples, attic stock, and spare parts.
 - g. Requirements for demonstration and training.
 - h. Preparation of Contractor's punch list.
 - i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - j. Submittal procedures.
 - k. Coordination of separate contracts.
 - 1. Owner's partial occupancy requirements.
 - m. Installation of Owner's furniture, fixtures, and equipment.
 - n. Responsibility for removing temporary facilities and controls.
- 4. Minutes: Construction Manager shall record and distribute meeting minutes.
- E. Progress Meetings: Construction Manager shall conduct progress meetings at biweekly intervals minimally.
 - 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority; and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.

- 6) Access.
- 7) Site utilization.
- 8) Temporary facilities and controls.
- 9) Progress cleaning.
- 10) Quality and work standards.
- 11) Status of correction of deficient items.
- 12) Field observations.
- 13) Status of RFIs.
- 14) Status of proposal requests.
- 15) Pending changes.
- 16) Status of Change Orders.
- 17) Pending claims and disputes.
- 18) Documentation of information for payment requests.
- 4. Minutes: Construction Manager shall record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Coordination Meetings: Construction Manager shall conduct Project coordination meetings at bi-weekly intervals, minimally. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
 - 1. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority, if applicable,; Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.

- 10) Hazards and risks.
- 11) Progress cleaning.
- 12) Quality and work standards.
- 13) Change Orders.
- 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)
		REOUEST FOR INFORMATION
Contractor Name		
Address: City, State, Zip:	Phone: Fax:	Project No. 618601
Contractor RFI No.:		DATE:
TITLE:		JOB:
PROJECT:	Ithaca Fire Station	REQUIRED:
TO:	Wendel 375 Essjay Road, Suite 200 Williamsville, New York, 14221	
ATTN:	Kaitlyn Handrich (khandrich@wendelcompanies.com)	
QUESTION:		

ANSWER:

Note: the response to this RFI is for clarification of the contract documents. The response is **NOT** authorization to proceed with additional work.

Date:_____

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including but not limited to, the following:
 - 1. Preliminary construction schedule.
 - 2. Contractor's construction schedule.
 - 3. Submittal schedule.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Site condition reports.
 - 7. Special reports.

1.03 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.04 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. PDF electronic file.
 - 3. Two (2) paper copies.
- B. Qualification Data for Scheduling Consultant: For consultant or in-house persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Preliminary construction schedule.
 - 1. Approval of startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- D. Submittals Schedule: Submit submittals schedule, conforming to dates on the Contractor's Construction Schedule. Include any required submittals not included on the schedule. Arrange the following information in a tabular format:
 - 1. Scheduled dates for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational)
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's and Owner's final release or approval.
- E. Contractor's Construction Schedule: Submit on 11"x17" paper for review as required to display entire schedule for entire construction period.
 - 1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- F. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - Total Float Report: List of all activities sorted in ascending order of total float.
 a. Daily Construction Reports: Submit at weekly intervals.
- G. Material Location Reports: Submit at monthly intervals.
- H. Site Condition Reports: Submit at time of discovery of differing conditions.
- I. Special Reports: Submit at time of unusual event.
- J. Two Week Look-Ahead Schedules: Submit at weekly intervals.

1.05 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of

Ithaca Fire Station Construction Progress Documentation Architect's request. This shall be a consultant to the contractor or an in-house scheduling specialist, if approved by Owner.

- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination" and Section 011200 "Multiple Contract Summary". Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy .
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's separate contracts.
 - 6. Review submittal requirements and procedures.
 - 7. Review time required for review of submittals and resubmittals.
 - 8. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 9. Review time required for Project closeout and Owner startup procedures, including commissioning activities.
 - 10. Review and finalize list of construction activities to be included in schedule.
 - 11. Review procedures for updating schedule.

1.06 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.01 SUBMITTAL SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required per construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Initial Submittal: Submit within 10 business days of Notice to Proceed. Include submittals required during the first 60 calendar days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule. Update monthly as required.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for Notice to Proceed to date of Final Completion .
 - 1. Contract completion date(s) shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Include the following:
 - 1. Activity Duration
 - 2. Procurement Activities
 - 3. Submittal Review Time
 - 4. Startup and Testing Time
 - 5. Commissioning
 - 6. Substantial Completion
 - 7. Punch List and Final Completion
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work under More Than One Contract: Include a separate activity for each contract.
 - 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 - 4. Products Ordered in Ad vance: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 012000 "Multiple Contract Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 012000 "Multiple Contract Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 - 7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Building flush-out.

- m. Startup and placement into final use and operation.
- n. Commissioning
- 8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
 - g. Final Completion.
- 9. Other Constraints: .
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion and the following interim milestones:
 - 1. Temporary enclosure and space conditioning.
- E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.03 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within calendar days of date established for Notice to Proceed .

2.04 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 calendar days of date established for Notice to Proceed . Base schedule on the startup construction schedule and additional information received since the start of Project .
- B. Preparation: Indicate each significant construction activity separately.

2.05 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 calendar days after date established for Notice of Award .

- a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates.
- 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
- 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
- 4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.
- C. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Startup Testing and commissioning .
 - j. Punch list and final completion.
 - k. Activities occurring following final completion.
 - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 - 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 - 4. Format: Mark the critical path.
 - a. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
 - b. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
 - 5. Contractor or subcontractor and the Work or activity.
 - 6. Description of activity.
 - 7. Main events of activity.
 - 8. Immediate preceding and succeeding activities.
 - 9. Early and late start dates.
 - 10. Early and late finish dates.
 - 11. Activity duration in workdays.
 - 12. Total float or slack time.

- D. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
 - 1. Identification of activities that have changed.
 - 2. Changes in early and late start dates.
 - 3. Changes in early and late finish dates.
 - 4. Changes in activity durations in workdays.
 - 5. Changes in the critical path.
 - 6. Changes in total float or slack time.
 - 7. Changes in the Contract Time.

2.06 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events (see special reports).
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Meter readings and similar recordings.
 - 12. Emergency procedures.
 - 13. Orders and requests of authorities having jurisdiction.
 - 14. Change Orders received and implemented.
 - 15. Construction Change Directives received and implemented.
 - 16. Services connected and disconnected.
 - 17. Equipment or system tests, commissioning, and startups.
 - 18. Partial completions and occupancies.
 - 19. Substantial Completions authorized.
 - 20. Locations of Work.
- B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
 - 1. Material stored prior to previous report and remaining in storage.
 - 2. Material stored prior to previous report and since removed from storage and installed.
 - 3. Material stored following previous report and remaining in storage.
- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.07 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
- C. Two Week Look-Ahead Schedules: Contractor will submit a 2 week look-ahead schedule each week on a specific day of the week to be determined at the Preconstruction meeting. Each schedule will show specific work activities over that 2 week period and also areas of coordination required with other contractors and involved entities. These schedules will also show delivery dates of critical material or equipment items.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

PART 3 EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: If necessary, Contractor shall engage and pay for a consultant to provide planning, evaluation, and reporting using CPM scheduling.
 - 1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor demonstrates they employ skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 - 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Owner with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final completion construction photographs.

1.03 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three business days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 8 megapixels.
 - 2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - 3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect and Construction Manager .
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

PART 2 PRODUCTS

2.01 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect .
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Construction Manager.
 - 1. Flag excavation areas and construction limits before taking construction photographs.
 - 2. Take minimum 20 photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take minimum 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- D. Periodic Construction Photographs: Take minimum 20 photographs weekly, as required to document construction progress, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Final Completion Construction Photographs: Take 20 color photographs after date of Substantial Completion for submission as project record documents. Construction Manager will inform photographer of desired vantage points.
- F. Additional Photographs: Architect or Construction Manager may request photographs in addition to periodic photographs specified..
 - 1. Three days' notice will be given, where feasible.
 - 2. In emergency situations, take additional photographs within 24 hours of request.
 - 3. Circumstances that could require additional photographs include, but are not limited to, the following:
 - a. Immediate follow-up when on-site events result in construction damage or losses.
 - b. Photographs to clarify Contractor's "Request for Information."
 - c. Photographs to be taken at fabrication locations away from Project site.
 - d. Substantial Completion of a major phase or component of the Work.

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples and other submittals.

1.03 DEFINITIONS

- A. Action Submittals: Written and graphic information, and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information, and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard for electronic documents, licensed by Adobe Systems, used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- E. Cloud-Based Construction Management Software Application (CMSA): Any of a number of proprietary file management collaborative systems intended for internet-connected device use. The intent of these applications is to enable dispersed users access to shared documents for storage, organization, retrieval, editing, tracking, reporting or other functions, with such access usually controlled by invitation and security protocols. More than one such application type or specific programs may be used, depending on Owner preferences.
 - 1. Owner's preferred CMSA:.
 - 2. Project preferred CMSA: Procore

1.04 SUBMITTAL PROCEDURES

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project Record Drawings.

- a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
- b. Digital Drawing Software Program: The Contract Drawings are available in .
- c. Contractor shall execute a data licensing agreement in the form included in Project Manual.
 - 1) To request electronic files, complete "Request Form for Electronic Files".
 - 2) Include "Processing Fee" in amount as indicated on the request form.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserve(s) the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Buy American Requirements: Contractors should note that this project is funded in part through the US Department of, Transportation Investment Generating Economic Recovery also known as the "TIGER" Discretionary Grant program. This project is administered under the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) according to Federal Rail Administration's (FRA) High-Speed Intercity Passenger Rail (HSIPR) program. Spending authorized under PRIIA is subject to the Buy America provision of 49 U.S.C. § 24405(a). Contractors will be required to comply with the requirements of Buy America provision of 49 U.S.C. § 24405(a) and execute a certification of compliance for all selected products.
- D. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence upon Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 10 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 10 business days for review of each resubmittal.
 - 4. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 business days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
 - 5. Transmittal for Sample Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review or discard submittals received from sources other than Contractor. Transmit each submittal using the transmittal form at the end of this section.

- 6. Contractors are, without penalty, entitled to resubmit a revise and resubmit or rejected submittal once, additional resubmittals and reviews are subject to COntractor paying the Architect/Engineer for additional time to review. Amount will be based on the Architect or Engineers current hourly rate times the number of staff hour required to complete the task.
- E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect .
 - 4. Transmittal Form for Electronic Submittals: Use Software-generated from electronic project management software or electronic form acceptable to Owner and Architect, containing the following information:
 - a. Project name.
 - b. Date.

ล

- c. Name and address of Architect.
- d. Name of Construction Manager.
- e. Name of Contractor.
- f. Name of firm or entity that prepared submittal.
- g. Names of subcontractor, manufacturer, and supplier.
- h. Category and type of submittal.
- i. Submittal purpose and description.
- j. Specification Section number and title.
- k. Specification paragraph number or drawing designation and generic name for each of multiple items.
- 1. Drawing number and detail references, as appropriate.
- m. Location(s) where product is to be installed, as appropriate.
- n. Related physical samples submitted directly.
- o. Indication of full or partial submittal.
- p. Transmittal number, numbered consecutively.
- q. Submittal and transmittal distribution record.
- r. Other necessary identification.
- s. Remarks.
- 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested

Ithaca Fire Station Submittal Procedures by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp[s].
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp[s].

PART 2 PRODUCTS

2.01 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Color charts showing full range of available colors.
 - d. Manufacturer catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Mill reports.
 - i. Standard product operating and maintenance manuals.
 - j. Compliance with recognized trade association standards.
 - k. Compliance with recognized testing agency standards.
 - 1. Application of testing agency labels and seals.
 - m. Notation of coordination requirements.
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

- 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - 1. Notation of dimensions established by field measurement.
- 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
- 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than sheet size used for Contract Document Drawings.
- 4. Number of Copies: Submit two black-line prints and one electronic file copy of each submittal. Architect will return the one print marked with action taken to the Contractor for distribution. Contractor shall make necessary copies from the returned print.
- D. Samples: Prepare physical units of materials or products, including the following:
 - 1. Samples for Initial Selection: Submit manufacturer's actual material samples consisting of units or sections of units showing the full range of standard colors, textures, and patterns available.
 - 2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - 3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 - 4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.

- 5. Number of Samples for Initial Selection: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will update and issue a project Color Sample log that lists all required material color samples for the project separated by Exterior and Interior samples. The log will include the manufacturer, product line and color selected.
- 6. Number of Samples for Verification: Submit two full sets of Samples.
 - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
- E. Submittals requiring compliance with other sections in the Project Manual.
 - 1. Contractor's Construction Schedule.
 - 2. Submittals Schedule.
 - 3. Application for Payment.
 - 4. Schedule of Values.
 - 5. Subcontract List.

2.02 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by individual Specification Sections and elsewhere in the Contract Documents.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies, unless they are rejected for noncompliance with the Contract Documents.
 - 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Contractor Submittal Schedule: Prior tp issuing submittals, each Contractor shall provide a complete submittal schedule to the Construction Manager. The submittal schedule shall document all anticipated submittals, including submittal number, specification section, and anticipated submission date.; note any items with long lead times. Any and all critical path items which will impact the construction schedule shall also be noted on the COntractor's submittal schedule.
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- J. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
- K. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- L. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- N. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment.
- P. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

- 1. Preparation of substrates.
- 2. Required substrate tolerances.
- 3. Sequence of installation or erection.
- 4. Required installation tolerances.
- 5. Required adjustments.
- 6. Recommendations for cleaning and protection.
- R. Manufacturers Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Material Safety Data Sheets: Keep on site and submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

2.03 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file or three (3) paper copies of certificate, signed and sealed by the responsible design professional licensed in the jurisdiction of the Project for each product, assembly or system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect .

Ithaca Fire Station Submittal Procedures

- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. Architect's Action:
 - a. Final Unrestricted Release: When the Architect marks a submittal "No Exceptions Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - b. Final-But-Restricted Release: When the Architect marks a submittal "Provide as Corrected," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 - c. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.
 - 1) Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
 - d. Returned for Resubmittal: When the Architect marks a submittal "Rejected", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.
 - e. Other Action: If the submittal is primarily for information purposes, record purposes, special processing, or other contractor activity, the submittal will be returned marked "Reviewed for General Conformance Only". These submittals have been received and processed for information only and not approved or disapproved by the architect.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with Contract Document requirements.
- D. Submittals not required by the Contract Documents will not be reviewed and will be discarded or returned without action.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other qualityassurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Commissioning Authority, if applicable, and Construction Manager or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.03 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 - 1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
 - 2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.

- 3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: Unless otherwise indicated in individual Specification sections, when used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.04 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.05 ACTION SUBMITTALS

- A. Shop Drawings: For integrated exterior and or laboratory mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
 - 1. Indicate manufacturer and model number of individual components.
 - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.06 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.07 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 14 calendar days of Notice to Proceed, and not less than seven calendar days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections." Refer to Section 014100 "Special Inspections and Structural Testing".
 - 3. Owner-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by the Commissioning Authority, if applicable.

- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.08 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement that equipment complies with requirements.

- 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
- 4. Statement whether conditions, products, and installation will affect warranty.
- 5. Other required items indicated in individual Specification Sections.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.09 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of

manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect and Commissioning Authority, if applicable[, through Construction Manager], with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect .
 - 2. Notify Construction Manager seven (7) calendar days in advance of dates and times when mockups will be constructed.
 - 3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
 - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven calendar days for initial review and each re-review of each mockup.
 - 6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 7. Demolish and remove mockups when directed unless otherwise indicated.
- L. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.
- M. Room Mockups: Construct room mockups incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Provide room mockups of the following rooms:
 - 1.
- N. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections.

1.10 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

- 2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
- 3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections.
- D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect, Construction Manager, and Commissioning Authority, if applicable and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect, Construction Manager, and Commissioning Authority, if applicable and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

- 6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar qualitycontrol services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
 - 1. Distribution: Distribute schedule to Owner, Architect, Construction Manager, and Commissioning Authority, if applicable testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.
- 1.11 SPECIAL TESTS AND INSPECTIONS
 - A. Special Tests and Inspections: Refer to Specification Section 014100 "Special Inspections and Structural testing".

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect, Construction Manager, and Commissioning Authority, if applicable reference during normal working hours.

3.02 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Basis of Design (BOD)": Products Specified by Basis of Design (BOD) with additional naming of other accepted Manufacturers (as specified but indicatig based on specific design criteria). Design changes required by Professional(s) of Record and/or material quantity or material size requirements that stem from submittal and use of a Manufacturer other than the BOD will require the Contractor to bear the cost of payments by the Owner to the responsible Professional(s) of Record for any related design changes as well as contractor-required additional material/labor fees stemming from this deviation from BOD. A cost or time change to the Contract may NOT result.
- C. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- D. "Directed": A command or instruction by Architect, Construction Manager, or Owner. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- E. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- F. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- G. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- H. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- I. "Provide": Furnish and install, complete and ready for the intended use.
- J. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

- K. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- L. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- M. "Permanently Enclosed": all exterior walls and roofing are installed and flashed, all openings to the exterior are either closed in with the permanent installation or with an adequate insulated temporary enclosure which can easily be maintained by the GC. This requirement may be assessed by the Architect for Phased projects.

1.03 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.04 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.
- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.
- D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations.
- E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 014200
SECTION 014533 - CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Code-required special inspections.
- B. Testing services incidental to special inspections.
- C. Submittals.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

1.03 ABBREVIATIONS AND ACRONYMS

- A. AHJ: Authority having jurisdiction.
- B. NIST: National Institute of Standards and Technology.

1.04 DEFINITIONS

- A. Code or Building Code: ICC (IBC)-2018, Edition of the International Building Code and specifically, Chapter 17 Special Inspections and Tests.
- B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.
- C. Special Inspection:
 - 1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
 - 2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.05 REFERENCE STANDARDS

- A. ACI 318 Building Code Requirements for Structural Concrete.
- B. AISC 360 Specification for Structural Steel Buildings.
- C. ASTM C31/C31M Standard Practice for Making and Curing Concrete Test Specimens in the Field.
- D. ASTM C172/C172M Standard Practice for Sampling Freshly Mixed Concrete.

Ithaca Fire Station Code-Required Special Inspections and Procedures

- E. ASTM D3740 Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- F. ASTM E329 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
- G. ASTM E543 Standard Specification for Agencies Performing Nondestructive Testing.
- H. AWS D1.1/D1.1M Structural Welding Code Steel.
- I. AWS D1.3/D1.3M Structural Welding Code Sheet Steel.
- J. AWS D1.4/D1.4M Structural Welding Code Reinforcing Steel.
- K. ICC (IBC) International Building Code.
- L. ICC (IBC)-2015 International Building Code.
- M. ICC (IBC)-2018 International Building Code.
- N. SDI (QA/QC) Standard for Quality Control and Quality Assurance for Installation of Steel Deck.
- O. TMS 402/602 Building Code Requirements and Specification for Masonry Structures.

1.06 SUBMITTALS

- A. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
 - 1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
 - 3. Submit certification that Special Inspection Agency is acceptable to AHJ.
- B. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
 - 1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
 - 3. Submit certification that Testing Agency is acceptable to AHJ.
- C. Manufacturer's Qualification Statement: Manufacturer is required to submit documentation of manufacturing capability and quality control procedures. Include documentation of AHJ approval.
- D. Fabricator's Qualification Statement: Fabricator is required to submit documentation of fabrication facilities and methods as well as quality control procedures. Include documentation of AHJ approval.
- E. Special Inspection Reports: After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Engineer of Record and one to the AHJ.
 1. Include:

- a. Date issued.
- b. Project title and number.
- c. Name of Special Inspector.
- d. Date and time of special inspection.
- e. Identification of product and specifications section.
- f. Location in the Project.
- g. Type of special inspection.
- h. Date of special inspection.
- i. Results of special inspection.
- j. Compliance with Contract Documents.
- 2. Final Special Inspection Report: Document special inspections and correction of discrepancies prior to the start of the work.

1.07 SPECIAL INSPECTION AGENCY

- A. Owner will employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.
- B. The Special Inspection Agency may employ and pay for services of an independent testing agency to perform testing and sampling associated with special inspections and required by the building code.
- C. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.08 TESTING AND INSPECTION AGENCIES

- A. Owner may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.
- B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.09 QUALITY ASSURANCE

- A. Special Inspection Agency Qualifications:
 - 1. Independent firm specializing in performing testing and inspections of the type specified in this section.
- B. Testing Agency Qualifications:
 - 1. Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.

Ithaca Fire Station Code-Required Special Inspections and Procedures

- 1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
- 2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.02 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

- A. Structural Steel: Comply with quality assurance inspection requirements of ICC (IBC).
- B. Cold-Formed Steel Deck: Comply with quality assurance inspection requirements of SDI (QA/QC).
- C. Open-Web Joists and Joist Girders: Comply with requirements of ICC (IBC), Table 1705.2.3.
 - 1. End Connections Welding or Bolted: Comply with requirements of SJI 100; periodic.
 - 2. Bridging Horizontal or Diagonal:
 - a. Standard Bridging: Comply with requirements of SJI 100; periodic.
 - b. Bridging That Differs From the SJI Specifications: Periodic inspection.
- D. Cold-Formed Steel Trusses Spanning 20 feet or Greater: Special Inspector is required to verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.
- E. High-Strength Bolt, Nut and Washer Material:
 - 1. Verify identification markings comply with ASTM standards specified in the approved contract and to AISC 360, Section A3.3; periodic.
 - 2. Submit manufacturer's certificates of compliance; periodic.
- F. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
 - 1. Snug tight joints; periodic.
 - 2. Pretensioned and slip-critical joints with matchmarking, twist-off bolt or direct tension indicator method of installation; periodic.
 - 3. Pretensioned and slip-critical joints without matchmarking or calibrated wrench method of installation; continuous.
- G. Structural Steel and Cold Formed Steel Deck Material:
 - 1. Structural Steel: Verify identification markings comply with AISC 360, Section M3.5; periodic.
 - 2. Other Steel: Verify identification markings comply with ASTM standards specified in the approved Contract Documents; periodic.
 - 3. Submit manufacturer's certificates of compliance and test reports; periodic.
- H. Weld Filler Material:
 - 1. Verify identification markings comply with AWS standards specified in the approved Contract Documents and to AISC 360, Section A3.5; periodic.
 - 2. Submit manufacturer's certificates of compliance; periodic.
- I. Welding:
 - 1. Structural Steel and Cold Formed Steel Deck:
 - a. Complete and Partial Joint Penetration Groove Welds: Verify compliance with AWS D1.1/D1.1M; continuous.

Ithaca Fire Station Code-Required Special Inspections and Procedures

- b. Multipass Fillet Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
- c. Single Pass Fillet Welds Less than 5/16 inch Wide: Verify compliance with AWS D1.1/D1.1M; periodic.
- d. Plug and Slot Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
- e. Single Pass Fillet Welds 5/16 inch or Greater: Verify compliance with AWS D1.1/D1.1M; continuous.
- f. Floor and Roof Deck Welds: Verify compliance with AWS D1.3/D1.3M; continuous.
- 2. Reinforcing Steel: Verify items listed below comply with AWS D1.4/D1.4M and ACI 318, Section 3.5.2.
 - a. Verification of weldability; periodic.
 - b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as boundary elements of special structural walls of concrete and shear reinforcement; continuous.
 - c. Shear reinforcement; continuous.
 - d. Other reinforcing steel; periodic.
- J. Steel Frame Joint Details: Verify compliance with approved Contract Documents.
 - 1. Details, bracing and stiffening; periodic.
 - 2. Member locations; periodic.
 - 3. Application of joint details at each connection; periodic.

3.03 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

- A. Reinforcement, Including Prestressing Tendons, and Verification of Placement: Verify compliance with ACI 318, Chapters 20, 25.2, 25.3, 26.6.1-26.6.3; periodic.
- B. Reinforcing Bar Welding: Verify compliance with AWS D1.4/D1.4M and ACI 318, 26.6.4; periodic.
 - 1. Verify weldability of reinforcing bars other than those complying with ASTM A706/A706M; periodic.
- C. Anchors Cast in Concrete: Verify compliance with ACI 318, 17.8.2; periodic.
- D. Bolts Installed in Concrete: Where allowable loads have been increased or where strength design is used, verify compliance with approved Contract Documents and ACI 318, Sections 8.1.3 and 21.2.8 prior to and during placement of concrete; continuous.
- E. Anchors Post-Installed in Hardened Concrete: Verify compliance with ACI 318.
 - 1. Adhesive Anchors: Verify horizontally or upwardly-inclined orientation installations resisting sustained tension loads Section 17.8.2.4; continuous.
 - 2. Other Mechanical and Adhesive Anchors: Verify as per Chapter 17.8.2; periodic.
- F. Design Mix: Verify plastic concrete complies with the design mix in approved Contract Documents and with ACI 318, Chapter 19, 26.4.3, 26.4.4; periodic.
- G. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172/C172M, ASTM C31/C31M and ACI 318, Chapter 26.5, 26.12, and record the following, continuous:
 - 1. Slump.
 - 2. Air content.
 - 3. Temperature of concrete.

- H. Specified Curing Temperature and Techniques: Verify compliance with ACI 318, Chapter 26.5.3-26.5.5; periodic.
- I. Precast Concrete Members: Verify erection techniques and placement comply with approved Contract Documents and ACI 318, Chapter 26.9; periodic.
- J. Materials: If the Contractor cannot provide sufficient data or documentary evidence that concrete materials comply with the quality standards of ACI 318, the AHJ will require testing of materials in accordance with the appropriate standards and criteria in ACI 318, Chapters 19 and 20.

3.04 SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION

- A. Masonry Structures Subject to Special Inspection:
 - 1. Masonry construction when required by the quality assurance program of TMS 402/602.
 - 2. Empirically designed masonry, glass unit masonry and masonry veneer in structures in Risk Category IV.
 - a. Perform inspections in accordance with Level C Quality Assurance.
 - 3. Engineered masonry in structures classified as "low hazard..." and "substantial hazard to human life in the event of failure".
- B. Verify each item below complies with approved Contract Documents and the applicable articles of TMS 402/602.
 - 1. Inspections and Approvals:
 - a. Verify compliance with the required inspection provisions of the approved Contract Documents; periodic.
 - b. Verify approval of submittals required by Contract Documents; periodic.
 - 2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction unless specifically exempted by code; periodic.
 - 3. Slump Flow and Visual Stability Index (VSI): Verify compliance as self consolidating grout arrives on site; continuous.
 - 4. Joints and Accessories: When masonry construction begins, verify:
 - a. Proportions of site prepared mortar; periodic.
 - b. Construction of mortar joints; periodic.
 - c. Location of reinforcement, connectors, prestressing tendons, anchorages, etc; periodic.
 - 5. Structural Elements, Joints, Anchors, Protection: During masonry construction, verify:
 - a. Size and location of structural elements; periodic.
 - b. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; periodic.
 - c. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
 - d. Welding of reinforcing bars; continuous.
 - e. Preparation, construction and protection of masonry against hot weather above 90 degrees F and cold weather below 40 degrees F; periodic.
 - 6. Grouting Preparation: Prior to grouting, verify:
 - a. Grout space is clean; periodic.
 - b. Correct placement of reinforcing, connectors, prestressing tendons and anchorages; periodic.
 - c. Correctly proportioned site prepared grouts and prestressing grout for bonded tendons; periodic.

- d. Correctly constructed mortar joints; periodic.
- 7. Preparation of Grout Specimens, Mortar Specimens and Prisms: Observe preparation of specimens; periodic.
- C. Engineered Masonry in Buildings Designated as "Essential Facilities": Verify compliance of each item below with approved Contract Documents and the applicable articles of TMS 402/602.
 - 1. Inspections and Approvals:
 - a. Verify compliance with the required inspection provisions of the approved Contract Documents; periodic.
 - b. Verify approval of submittals required by Contract Documents; periodic.
 - 2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction and upon completion of each 5,000 square feet increment of masonry erected during construction; periodic.
 - 3. Preblended Mortar and Grout: Verify proportions of materials upon delivery to site; periodic.
 - 4. Slump Flow and Visual Stability Index (VSI): Verify compliance as self consolidating grout arrives on site; continuous.
 - 5. Engineered Elements, Joints, Anchors, Grouting, Protection: Verify compliance of each item below with approved Contract Documents and referenced standards.
 - a. Proportions of site prepared mortar; periodic.
 - b. Placement of masonry units and construction of mortar joints; periodic.
 - c. Placement of reinforcement, connectors, prestressing tendons, anchorages, etc.; periodic.
 - d. Grout space prior to grouting; continuous.
 - e. Placement of grout; continuous.
 - f. Size and location of structural elements; periodic.
 - g. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; continuous.
 - h. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
 - i. Welding of reinforcing bars; continuous.
 - j. Preparation, construction and protection of masonry against hot weather above 90 degrees F and cold weather below 40 degrees F; periodic.
 - 6. Preparation of Grout Specimens, Mortar Specimens and Prisms: Observe preparation of specimens; continuous.

3.05 SPECIAL INSPECTIONS FOR Prefabricated and Site-Built WOOD CONSTRUCTION

- A. High Load Diaphragms and Shear Walls: Verify compliance of each item below with approved Contract Documents.
 - 1. Grade and thickness of sheathing.
 - 2. Nominal size of framing members at adjacent panel edges.
 - 3. Nail or staple diameter and length.
 - 4. Number of fastener lines.
 - 5. Fastener spacing at lines and at edges.
 - 6. Wood member size, spacing, connection
 - 7. Hold down anchors, straps
 - 8. Sill bolts

3.06 SPECIAL INSPECTIONS FOR SOILS

Ithaca Fire Station Code-Required Special Inspections and Procedures

- A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
 - 1. Design bearing capacity of material below shallow foundations; periodic.
 - 2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
 - 3. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.
 - 4. Subgrade, prior to placement of compacted fill verify proper preparation; periodic.
- B. Testing: Classify and test excavated material; periodic.

3.07 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

- A. Special Inspection Agency shall:
 - 1. Provide qualified personnel at site. Cooperate with Engineer of Record and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified reference standards.
 - 3. Ascertain compliance of materials and products with requirements of Contract Documents.
 - 4. Promptly notify Engineer of Record and Contractor of observed irregularities or noncompliance of work or products.
 - 5. Perform additional tests and inspections required by Engineer of Record.
 - 6. Attend preconstruction meetings and progress meetings.
 - 7. Submit reports of all tests or inspections specified.
- B. Limits on Special Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the work.
- C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer of Record.
- D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.08 TESTING AGENCY DUTIES AND RESPONSIBILITIES

- A. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Engineer of Record and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Engineer of Record and Contractor of observed irregularities or noncompliance of work or products.
 - 5. Perform additional tests and inspections required by Engineer of Record.
 - 6. Submit reports of all tests or inspections specified.

- B. Limits on Testing or Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the work.
- C. On instructions by Engineer of Record, perform re-testing required because of non-compliance with specified requirements, using the same agency.
- D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.09 CONTRACTOR DUTIES AND RESPONSIBILITIES

- A. Contractor Responsibilities, General:
 - 1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
 - 2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to work to be tested or inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
 - c. To facilitate tests or inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Engineer of Record and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
 - 5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 - 6. Retain special inspection records.

END OF SECTION 014533

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.03 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum for each Prime Contract, unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, Owner, Construction Manager, testing agencies, and authorities having jurisdiction.
- B. Any Prime Contractor's cost of, or for establishing their own temporary services or facilities will not be accepted as basis of claim for an adjustment in Contract Sum or Contract Time. Charges for establishing temporary utility service must be borne by the Contractor receiving the service.
- C. Each Prime Contractor is responsible for power associated with temporary field office and storage units including installation, hook-ups, and consumption and use charges.

1.04 INFORMATIONAL SUBMITTALS

- A. Fire-Safety Program: Each Contractor shall show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- B. Moisture-Protection Plan: Each Contractor shall describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 - 3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
- C. Dust- and HVAC-Control Plan: As requested by the Construction Manager, each Contract shall submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the

following:

- 1. Locations of dust-control partitions at each phase of work.
- 2. HVAC system isolation schematic drawing.
- 3. Location of proposed air-filtration system discharge.
- 4. Waste handling procedures.
- 5. Other dust-control measures.

1.05 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines, ICC/ANSI A117.1, and local jurisdictional requirements, whichever is more stringent.

1.06 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails and all associated ancillary items to supply a complete and fully function system including but not limited to fence post bases and sandbags.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flamespread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- C. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.
- D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

PART 3 EXECUTION

- 3.01 INSTALLATION, GENERAL
 - A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

Ithaca Fire Station TEMPORARY FACILITIES AND CONTROLS B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 ASSIGNMENT OF GENERAL AND SPECIFIC TEMPORARY FACILITIES

- A. Providing temporary facilities includes, but is not limited to, providing, furnishing, installing, supplying, maintaining, altering, repairing, relocating, dismantling, and removing such facilities.
- B. Each Prime Contractor is responsible for providing all necessary and incidental labor, equipment and materials to complete the following work:
 - 1. Installation, operation, maintenance, and removal of its own temporary facilities.
 - 2. Its own field office. Location to be coordinated with Construction Manager.
 - 3. Storage and Fabrication Containers: Provide mobile storage and fabrication trailers, sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Location to be coordinated with Construction Manager.
 - 4. Secure lockup of its own tools, materials, and equipment.
 - 5. Electric for power distribution from temporary electrical service to office and storage trailers. Each Prime Contractor shall be responsible for their own cost to connect trailers and storage units to temporary electrical and other utilities.
 - 6. Make provisions for temporary electric service for its own work until **Contract No.3** (Electrical) has established project temporary electrical services.
 - 7. **Contract No.4 (Plumbing)** shall be responsible for coordinating with the local utilities and providing a temporary water service for use during construction by other Contractors.
 - 8. Each Prime Contractor requiring temporary water shall, at their own expense, provide hoses, containers and other devices required to deliver water to the point of that Contractor's work.
 - 9. Any water damage to work of others shall be the sole responsibility of the Prime Contractor utilizing the water and not the Owner. Repair of water damaged work will be the responsibility of the Prime Contractor causing the damage.
 - 10. Provide its own drinking water including potable water containers, dispensers, cups, and waste receptacle as required for their employee's use.
 - 11. First Aid Supplies include supplies and PPE required as per the current regulations set forth pertaining to the COVID-19 Pandemic.
 - 12. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
 - 13. Survey and Stake Out for its own construction activities.
 - 14. Dewatering of excavations performed under their contract.
 - a. Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1) Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 - 2) Remove snow and ice as required to minimize accumulations.
 - 15. Temporary heat, ventilation and humidity control, and enclosure of the building where these facilities are necessary to its own construction activity prior to building being fully enclosed/weather tight and temporary heating system operational.
 - 16. Provide task lighting, and special lighting necessary exclusively for its own activities.
 - 17. Any Prime Contractor requiring higher intensity power or lighting than the minimum provided by **Contract No.3 (Electrical)** in order to complete their work shall be provided

by the Prime Contractor requiring the additional power and lighting at no cost to the Owner. It is each Prime Contractor's responsibility to provide all necessary lights and power sources to complete work unless otherwise noted.

- 18. Each Prime Contractor shall provide its own hoisting of materials and equipment. Each Prime Contractor shall provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- 19. Material and equipment hoists shall meet any and all requirements of law, rule, or regulation.
- 20. Electrically operated hoists shall not be used.
- 21. Each Prime Contractor shall provide its own temporary stairs, ladders, and scaffolding required for the performance of their work.
- 22. Each Prime Contractor shall provide its own clean-up of their debris to dumpsters on a daily basis or as directed by the Owner or Construction Manager. Upon failure to so maintain a clean work area, the Owner or Construction Manager shall cause clean-up to be performed by others at the expense of the Prime Contractor(s) failing to so clean. Upon completion of work in an area, the Prime Contractor shall leave the area in a broom-clean condition. Upon failure to broom clean within 24 hours of Owner's or Construction Manager's written directive, the Owner or Construction Manager shall cause said clean-up to be performed by others at the expense of the Prime Contractor(s) failing to clean.
- 23. All labor, material, and equipment necessary to provide and maintain suitable access roads and pads for use of cranes and tractor trailers.
- 24. Each Prime Contractor shall provide for the collection and disposal of its own hazardous, regulated, dangerous, unsanitary, or other harmful waste material.
- 25. Each Prime Contractor shall provide its own temporary weather and watertight, security and safety protection at any opening that they create which penetrates the exterior walls and/or roof of the building.
- 26. Each Prime Contractor is responsible for providing power for their welding equipment. At no time during the construction is welding equipment to be powered by the temporary electric provided by **Contract No.3 (Electrical)**.
- 27. Temporary electrical services shall not be provided for the operation of, but not limited to, electric welders, heaters, masonry mixing equipment, hoisting equipment or similar equipment with high power demands. Any contractor requiring special power requirements shall coordinate with **Contract No.3 (Electrical)** and pay for this metered service directly or provide stand-alone generator. This provision shall occur at no cost to the Owner.
- 28. The use of gasoline or kerosene-burning space heaters or open flame/salamander type heating units is prohibited.
- 29. All Prime Contractors shall load containers to maximize the volume of material that the containers will hold. No hazardous materials shall be deposited in the dumpsters. Contract No.01 (General Construction) shall properly remove filled containers, provide empty containers, relocate containers which interfere with the progress of the work, and pay all associated costs
- 30. All rubbish shall be lowered by way of chutes, taken down by hoists, or lowered in receptacles. Under no circumstances shall any rubbish be dropped or thrown from one (1) level to another inside or outside any building
- 31. Each Prime Contractor will comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work.
- 32. All Prime Contractors are responsible for securing their individual portable offices, storage units, materials, tools, and equipment. All Prime Contractors are required to

make every effort to close and otherwise secure work areas at the end of each work shift. Each Prime Contractors is responsible for thefts, damage to their work and replacement of damaged work that cannot be restored to its original condition. The Owner retains the exclusive right to accept or reject repair work.

- 33. Except as otherwise expressly provided in the Contract, within 20 days of Notice to Proceed each Prime Contractor shall submit to The Construction Manager for approval a proposed schedule of all utility shutdowns and cutovers of all types which may be required in connection with the work. Such schedule shall provide a minimum of three (3) weeks advance notice to the Construction Manager prior to the item of the proposed shutdown or cutover.
- 34. Each Prime Contractor shall provide and maintain all safety-related work necessary to result in a safe workplace for its employees, in strict accordance with OSHA Regulations.
- 35. Each prime Contractor will provide their Site Specific Company Safety Plan ten days (10) in advance of mobilization to the site for review by the Construction Manager. Contractors will abide by their Company Safety Plan and all Project safety requirements until final Project closeout.
- 36. Each Prime Contractor shall provide its employees with all personal safety devices required to protect said employees in accordance with OSHA Regulations.
- 37. Each Prime Contractor shall restore any said safety-related work, which is removed or modified by its employees prior to leaving the protected area. Failure to so restore will render that Contractor liable for any costs incurred by others in the restoration of said safety-related work.
- 38. Each Prime Contractor is responsible for providing and maintaining proper ventilation during construction activities.
- 39. Each Prime Contractor is responsible to protect existing vegetation, trees, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- 40. Each Prime Contractor is responsible to provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- 41. Each Prime Contractor is responsible for existing Tree and Plant Protection. Repair any damage or replace damaged tress to the satisfaction of the Owner and Construction Manager.
- 42. Service of existing utilities serving the site and/or adjacent building shall not be interrupted without issuing notice to the Construction Manager within 48 hours of anticipated interruption. The Prime Contractor causing the interruption shall be responsible to provide temporary service until new or existing service can be restored to proper working condition.
- C. Each Prime Contractor intending to use Support Facilities shall comply with the following:
 - 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 - 2. Maintain support facilities until Construction Manager schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- D. Each Prime Contractor who provides temporary facilities as discussed hereafter, shall make them available for the use of all Trade Contractors.
 - 1. **Contract No. 01(General Construction)** is specifically responsible for the following:

- a. Site Enclosure Fence: Before construction operations begin, furnish, and install site enclosure fence and entrance gates in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - 1) Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
 - 2) Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner and Construction Manager.
- b. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- c. Building and Site security, including lock-up at the end of each working day.
- d. All labor, material, and equipment necessary to provide and maintain the road(s) and site areas and allow all persons engaged in work free access to and use of all such roadways, walkways, building entrances, staging areas and parking areas.
- e. All labor, material, and equipment necessary to provide and maintain temporary signs and temporary movable barricades. Signs shall be provided to construction personnel seeking entrance to the construction site.
- f. Provide temporary erosion control measures as required to prevent sedimentation from entering storm drainage system.
- g. Provide Stormwater Control and comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- h. All labor, material, and equipment necessary to keep public roads and parking areas within and adjacent to the Project Site clean and dirt-free. Remove stones and mud off existing roads for the duration of project by means of mechanical sweeper on a daily basis and as directed by the Construction Manager.
- i. Provide traffic controls complying with the requirements of authorities having jurisdiction. Protect existing site improvements to remain including curbs, pavement, and utilities and maintain access for fire-fighting equipment and access to fire hydrants.
- j. Temporary traffic signals, if required, shall be provided and maintained.
- k. All labor, material, and equipment required for Dust Control utilizing a water truck.
- 1. Provide cutting of all new and existing grass within the work area, to maintain the maximum length of grass at four inches (4"), inclusive of but not limited to mowing or string trimming of grass along building and both sides of fence lines, around trees and all temporary and permanent structures on site.
- m. Snow and ice removal as follows:
 - 1) All labor, material, and equipment necessary for snow removal whenever there is an accumulation of two (2) or more inches, in areas of the field trailers, parking areas, staging areas, building ingress and egress and internal site access roads.
 - 2) If snow accumulation is such that snow must be hauled off site due to insufficient storage space, this shall be done at no additional cost to the Owner.
 - 3) Provide all necessary labor, equipment and materials required for the removal of ice and other slippery conditions of the building entrances and building work areas at no cost to the Owner. Use of rock salt on existing and new concrete surfaces is prohibited

- 4) All labor, material, and equipment necessary to maintain a clear path at all access and egress points to the building including, but not limited to the removal of snow and ice for the entire duration of the Project.
- n. Ground Thaw
 - 1) Provide all labor, material, and equipment necessary for ground thawing for all trades for the installation of underground activities.
- o. Temporary Roads and Paved Areas: Construction and maintenance of temporary roads and paved areas.
- p. Provide site dust-control treatment throughout the Site Area that is nonpolluting and non-tracking. Reapply treatment as required to minimize dust.
- q. Provide temporary stone roadway and parking areas for construction personnel.
- r. Provide dewatering of all excavation work specific to the Site contract scope of work.
- 2. **Contract No. 01 (General Construction)** is specifically responsible for the following:
 - a. If the slab on grade is placed prior to the erection and completion of the metal building system, provide all labor, material and equipment as necessary to properly protect the slab on grade in its entirety during all sequences of construction to prevent any damage to the completed slab on grade and any underfloor mechanical and/or electrical systems as applicable.
 - All labor, material, and equipment necessary to provide and maintain a Project Identification Sign. Engage an experienced sign vendor to apply graphics for a Project Identification Sign. Provide a 4 foot by 8 foot sign comprised of ³/₄ inch exterior grade plywood mounted on 4 x 4 preservative treated wood posts set 4 feet into the ground. Sign content and layout as directed by Architect. Submit shop drawings for approval prior to fabrication and installation.
 - c. Temporary Toilet Facilities and Hand Washing Station for the use of all Contractors provide specified, equipment in a quantity as required by OSHA and that complies with the requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - d. Provide, maintain, and remove all temporary barricades, partitions, dust barriers, and enclosures as required to complete the work. Include temporary egress requirements including fire ratings and signage for all temporary partitions as required by code.
 - e. Temporary Fire Extinguishers throughout the facility, equipment shall comply with OSHA. Extinguishers shall be portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
 - f. Provide and maintain access and egress points to the building including temporary doors, with the provision for locking. Locations of egress are to be approved by the Construction Manager and/or shown on the contract documents.
 - g. Provide, maintain, and remove temporary building enclosure(s) at all exterior walls and/or openings as required/necessary.
 - h. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration as required/necessary.
 - 1) Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
 - 2) Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
 - 3) Insulate partitions to control noise transmission to occupied areas.
 - 4) Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.

- 5) Protect air-handling equipment.
- 6) Provide walk-off mats at each entrance through temporary partition
- i. Installation, maintenance, and removal of temporary weather protection shall be constructed of a minimum of 2x4 lumber and reinforced polyethylene plastic.
- j. Provide, maintain, and remove temporary railings, guard rails, and protection of all floor and roof openings throughout the project in compliance with OSHA regulations.
- k. Any Contractor using other than the designated cleaning station will be responsible to pay for cleaning and restoration of lines to a usable condition; including remote camera inspection costs to verify clear lines out to utility mains in the public right-of way.
- 1. Provide dust-control treatment within building that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- m. Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1) Identification Signs: Provide Project identification signs as indicated in this specification section.
 - 2) Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - 3) Provide temporary, directional signs for construction personnel and visitors.
 - 4) Maintain and touchup signs so they are legible at all times.
- n. Provide all dumpsters throughout the term of the Contract for the use of all Contractors. Dumpsters for abatement removal work shall be provided and maintained by the Owner. At no time should dumpsters be so full as to prevent the loading of debris. Sufficient dumpsters are to be provided for cardboard, recyclables, metals and general debris. Dumpsters are to be protected so that the public cannot remove or put debris into them.
- o. Provide and continuously maintain safety-related work for the entire project, for the benefit of all Prime Contractors and in strict accordance with OSHA Regulations, through completion of the Project. Such safety-related work shall include, but not limited to, perimeter and slab edge protection, barricades, railings, temporary protection, shaft, temporary stairs, stair pan fills, barriers, fire extinguishers, flashers, safety signage, and fencing. Such safety-related work shall not include responsibility for scaffolding provided by another Contractor, lifts provided by another Contractor, or work performed at elevation by another Prime Contractor.
- p. Continuously and regularly inspect the safety-related work provided under this section. As the work progresses and/or when said safety-related work is found to be no longer functional, removed, missing or modified, relocate, repair, replace and otherwise immediately make safe all unsafe conditions, regardless of the source of said damage, removal or modification.
- 3. Contract No. 2 (HVAC) is specifically responsible for the following:
 - a. Temporary Heat After the building or portions thereof are temporarily or permanently enclosed so as to permit the uninterrupted progress of all scheduled construction activities throughout cold and inclement weather and after demolition of existing heating systems in the building, provide:
 - 1) All labor, materials, equipment, fuel and electrical power necessary to provide, install and maintain temporary heat, humidity control and thermostatic temperature control of the building.
 - 2) Submit a temporary heating plan to the Construction Manager for review and final approval.
 - 3) Plan must identify the source, type, and locations of temporary heating equipment.

- 4) Temporary heating system must be in place and operational from October 1 through May 29.
- 5) The temporary heating system shall have the capacity to maintain a relative humidity of 55% or less and an ambient air temperature of at least 55 degrees minimum in the building at all times. Minimum temperature may be increased at the desire of the Construction Manager based upon requirements of installation of certain materials (example: flooring materials).
- 6) Humidity must be monitored and recorded daily for the duration of the project and reports generated and submitted to the Construction Manager monthly.
- 7) Maintain service and monitor the temporary heating system seven days a week, 24 hours a day to maintain ambient air temperature and relative humidity.
- 8) The temporary heating system shall not be electric and is not to be connected to the Owner's energy source.
- 9) Coordinate as necessary, with Contract No.13 (Electrical) and Contract No.09(Plumbing), to arrange for connection of power and gas that may be needed for the operation of the temporary heating system.
- 10) Any and all electric, gas, controls, ductwork or piping work, metering or permitting associated with the temporary heating.
- 11) Costs associated with the installation, maintenance, relocation, and removal of the temporary heating system and repair and maintenance of the same.
- 12) Provide temporary heat required for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy. Failure or refusal to provide temporary heat for specific installation activities in advance of or outside of temporary or permanent heat milestone dates is not permitted.
- 13) Provide all necessary temporary heat to prevent damage to work or to material through dampness or cold. For two (2) days previous to placement or application of any interior work and maintain the necessary temperature as required by the specific product and manufacturer in those portions of building in which this work occurs.
- 14) Install and operate all temporary heating apparatus in such a manner that finished work will not be damaged thereby.
- b. Provide HVAC equipment that is vented to the exterior, self-contained, liquidpropane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1) Use of gasoline-burning space heaters, open-flame heaters, or salamandertype heating units is prohibited.
 - 2) Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
 - 3) Permanent HVAC System: Use of permanent HVAC system is not permitted during construction.
- c. Ventilation and Humidity Control: Contractor shall provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient

condition required and minimize energy consumption.

- 1) Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of drywall and interior finishes. See Temporary Heat section for additional requirements.
- 4. **Contract No.3 (Electrical)** is specifically responsible for the following:
 - a. Contractor shall connect temporary electric service to existing electric power service. Maintain equipment in a condition acceptable to Owner and coordinate all requirements with utility service Owner.
 - b. Maintain all site lighting and illuminate the Project site to deter loss or liability due to theft or vandalism when the work is not in progress at night, weekends, or holidays.
 - c. Provide lighting for Project identification signage
 - d. Provide temporary electric power and lights with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions. Also provide the following:
 - 1) All labor, material, and equipment necessary to provide temporary power and lights throughout the project during the entire construction periods.
 - 2) Electrical outlets, provide one (1) 100 amp panel box with eight outlets every 200 feet from all points within the building.
 - 3) Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switchgear.
 - 4) Power Distribution System: Where wiring runs overhead or rise vertically install where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, ac 20 Ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
 - 5) Temporary electric, power distribution, outlets, and lighting shall be installed, maintained, and operated in accordance with OSHA standards, the National Electric Code and all applicable regulations and codes.
 - 6) Contact, schedule, coordinate, and make necessary arrangements through the Construction Manager and/or local utility provider for the installation of temporary electrical service for the project.
 - 7) Temporary electrical power service is to be established from the Owner's primary electric service.
 - 8) Provide temporary connections to all equipment requiring electrical power in order to provide temporary heat. Remove such temporary connections and equipment when the need for it is concluded.
 - 9) Provide all temporary panels, transformers, overload protected disconnects, automatic ground-fault interrupters, main distribution switchgear, wiring, outlets, boxes breakers, lights, switches, fixtures, lamps and other necessary items as required to provide temporary power and lights during the course of the entire project.
 - 10) Contractor is responsible for all construction costs associated with the connection and disconnection of temporary power. Fees charged by the electrical utility company (including service and usage fees) shall initially be paid for by the Electrical Contractor. The Contractor will be reimbursed for usage fees by the Owner upon completion and acceptance of the work.
 - a) Upon completion and acceptance, the Contractor shall submit to the Owner copies of the paid usage fee invoices. Once received and

accepted, the Owner will reimburse the Contractor the amount charged by the utility company, with 0% mark-up and no overhead.

- 11) Contractor is responsible for coordination with utility company.
- 12) Provide portable generators during power shutdowns / switchovers exceeding four hours during any scheduled shift. Any contractor requiring power during any scheduled shutdown less than 4 hours must provide their means for temporary electric.
- 13) Any shutdowns or cutovers shall be at the sole expense of Contract No.3 (Electrical).
- 14) Provide and pay for all costs associated with the daily maintenance of all temporary electric systems including, but not limited to, the replacement of lamps, outlets, wiring, circuit breakers and all other components as required to maintain a safe and orderly work place.
- 15) Costs associated with the relocation of any temporary services that obstruct project progress of any Contractor as directed by the Construction Manager shall be completed at no cost to the Owner.
- 16) Temporary lighting is to be provided by the Electrical Contractor when and as determined by the Construction Manager. The Electrical Contractor shall provide all necessary labor, equipment, and materials to complete and maintain an electric lighting system to provide general area illumination as required by all applicable codes.
- 17) Provide all temporary light and power in advance of scheduled work so as not to impact Project schedule.
- 18) Provide temporary or permanent service for all permanently installed building equipment including but not limited to sump pumps, HVAC roof top units, chillers, boilers, boiler controls, fans and pumps, lighting, security systems, fire alarm systems and the elevator so that such equipment may be operated when ordered by the Construction Manager.
- 19) The use of new lighting fixtures will not be permitted as a source for temporary lighting of the building during construction.
- 20) The use of stand lights shall not constitute as temporary lighting.
- 21) Provide all labor, materials, and equipment necessary to provide continuous operating lighting at all designated access and egress locations for emergency purposes. Relocation and maintenance of this lighting system shall be included in base bid.
- e. Provide dewatering of all excavation work specific to the electrical contract scope of work.
- 5. **Contract No. 4 (Plumbing)** is specifically responsible for the following:
 - a. Protect all roof, sink, toilet and floor drains for the project duration.
 - b. At Project completion, inspect, cleanout and flush all roof, sink, toilet and floor drains and verify all drains are clear and free of construction debris. Demonstrate completion of the work with the Construction Manager.
 - c. Any Prime Contractor using other than the designated cleaning station will be responsible to pay for cleaning and restoration of lines to a usable condition; including remote camera inspection costs to verify clear lines out to utility mains in the public right-of way.
 - d. Temporary Water Service:
 - 1) Provide all labor, material, and equipment necessary to provide temporary water service throughout the project during the entire construction period.
 - 2) Maintain equipment in condition acceptable to the Owner for construction of temporary connection to existing water service, as well as removal of temporary connection when temporary service no longer required.

- 3) Provide and pay for all costs associated with daily maintenance of all temporary water service systems.
- 4) Service use fees charged to the Contractor shall be paid for by the Contractor. Upon completion and acceptance, the Contractor shall submit to the Owner copies of the paid usage fee invoices. Once received and accepted, the Owner will reimburse the Contractor the amount charged by the utility company, with 0% mark-up and no overhead.
- e. Provide temporary plumbing at installed roof drains, until permanent lines can be installed and connected to permanent storm utilities, to direct drainage of storm water to building exterior and maintain "dried in" conditions within building interior.
- f. Provide dewatering of all excavation work specific to the Plumbing contract scope of work.

3.03 MOISTURE AND MOLD CONTROL (For each Prime Contractor)

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 - 1. Protect porous materials from water damage.
 - 2. Protect stored and installed material from flowing or standing water.
 - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 - 4. Remove standing water from decks.
 - 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 - 2. Keep interior spaces reasonably clean and protected from water damage.
 - 3. Periodically collect and remove waste containing cellulose or other organic matter.
 - 4. Discard or replace water-damaged material.
 - 5. Do not install material that is wet.
 - 6. Discard, replace, or clean stored or installed material that begins to grow mold.
 - 7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
- D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
 - 1. Control moisture and humidity inside building by maintaining effective dry-in conditions as outlined previously in this specification.
 - 2. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture

levels higher than allowed. Report findings in writing to Architect.

c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.04 OPERATION, TERMINATION, AND REMOVAL (For each Prime Contractor)

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 - 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 015700 - STORMWATER POLLUTION PREVENTION PLAN

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Storm Water Pollution Prevention Plan (SWPPP) attached to this specification section.

- 1.2 SUMMARY
 - A. The Owner has provided the attached Storm Water Pollution Prevention Plan (SWPPP) for construction activities at the project site. The SWPPP includes a certification that the plan complies with applicable local, state and federal regulations for storm water pollution prevention.

1.3 RELATED SECTIONS

- A. Division 31 Section "Site Earthwork".
- B. Division 31 Section "Site Clearing and Demolition".

1.4 SUBMITTALS

- A. Contractor shall abide by the terms and conditions of the Storm Water Pollution Prevention Plan before initiating any site work.
 - 1. Contractor will be required to sign the following certification forms included in the SWPPP:
 - a. Contractor Certification Log (Form 1)- Fill out information on form and provide copies of training certifications.
 - b. Contractor/Subcontractor Certification (Form 2)- Fill out and sign form for both General Contractor and appropriate subcontractors.

1.5 REQUIREMENTS

- A. SWPPP and Erosion Control measures shall be maintained and modified as necessary throughout the course of site construction activities until satisfactory vegetative growth is established to return the site to preconstruction conditions and to prevent impairment of receiving waters, at which time the Contractor shall remove all remaining structures, and properly dispose of accumulated sediment.
- B. Drainage structures shall be constructed as soon as the necessary grades have been achieved. Construction of the rain garden and installation of the hydrodynamic separators shall be in accordance with the Contract Drawings, specifications, and accepted SWPPP.
- C. Contractor shall maintain the following records included in the SWPPP as the work progresses:
 - a. Modification Report (Form 4)- Contractor must fill out and submit this form any time there is a significant change to the SWPPP proposed.
 - b. Project Rainfall Log (Form 5)- Contractor shall note each day in which a recordable amount of precipitation has fallen on the form provided.
 - c. Record of Stabilization and Construction Activities (Form 6)- Contractor shall note activities described in the directions at the top of the provided form along with all other data required.

1.6 PERFORMANCE STANDARDS

A. At no time shall construction operations or any related disturbance of the site result in the impairment of local waterways. For the purpose of this Section, impairment shall mean either:

- 1. The release or entry into any receiving water of water more turbid than the receiving water; or
- 2. The deposition of visible sediment into such waters.
- B. Any impairment shall be corrected immediately by the Contractor to prevent further impairment. Contractor shall be at all times liable for any enforcement or legal action resulting from such impairment.
- C. In addition, and without notice to the Contractor, the Owner shall also have the right, based on the Owner's independent assessment, to stop work or engage other contractor(s) to construct or correct such work as may be necessary to prevent such impairment, and to charge all costs related to such corrective or additional actions against the Contract.
- D. Reliance on the SWPPP does not in any way imply that the SWPPP will be adequate in preventing impairment of waters, or that maintenance and modification will not be necessary. Rather, acceptance of the Plan authorizes the Contractor to begin installation of the control measures under the assumption the appropriate maintenance and modification will be required throughout the life of the project to meet the project requirements.
- E. The Contractor's responsibilities under this Section shall end upon final completion and payment of the Work of the entire Contract.

1.7 STORMWATER MANAGEMENT MEASURES

- A. As outlined in the SWPPP.
- 1.8 EROSION CONTROL MEASURES
 - A. As outlined in the SWPPP.
- 1.9 SEDIMENT CONTROL MEASURES
 - A. As outlined in the SWPPP.
- 1.10 INSPECTIONS
 - A. As outlined in the SWPPP.
- PART 2 PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 015700

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project, product delivery, storage, handling, manufacturers' standard warranties on products, special warranties and comparable products.

1.03 DEFINITIONS

A. See Specification Section 014210 - REFERENCES.

1.04 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - Architect's Action: If necessary Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor, through the Construction Manager of approval or rejection of proposed comparable product request within business ten (10) days of receipt of request, or five (5) business days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 Submittal Procedures.
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis of Design Product Specification Submittal: Comply with requirements in Section 013300 Submittal Procedures. Show compliance with requirements.

1.05 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

- 1. Store products to allow for inspection and measurement of quantity or counting of units.
- 2. Store materials in a manner that will not endanger Project structure.
- 3. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, and with ventilation adequate to prevent condensation.
- 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment by covering construction.
- 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 6. Protect stored products from damage, and liquids from freezing.
- 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location and security procedures with Owner.

1.07 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 Closeout Procedures.

PART 2 PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
 - 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products for Contractor's convenience will not be considered.
 - 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products for Contractor's convenience will not be considered.
 - 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 - 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
 - 5. Basis of Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or

indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents, and that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of Architects, Construction Managers, and Owners, if requested.
 - 5. Samples, if requested.

PART 3 EXECUTION (NOT USED)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Correction of the work.
 - 6. Coordination of Owner-installed products.
 - 7. Progress cleaning.
 - 8. Dust control.
 - 9. Starting and adjusting.
 - 10. Protection of installed construction.

1.03 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.04 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For licensed land surveyor.
- B. Certificates: Submit certificate signed by licensed land surveyor or certifying that location and elevation of improvements comply with requirements.
- C. Cutting and Patching Plan: Submit plan describing procedures at least 14 calendar days prior to the time cutting and patching will be performed. Include the following information:
 - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - 2. Changes to In-Place (Existing) Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 - 3. Products: List products to be used for patching and firms or entities that will perform patching work.
 - 4. Dates: Indicate when cutting and patching will be performed.

- 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations prepared by Contractor's licensed Professional Engineer showing integration of reinforcement with original structure.
- 7. Describe cutting and patching procedures of lead based paint.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- E. Certified Surveys: Submit two copies signed by licensed land surveyor.

1.05 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection and load-deflection ratio. Structural elements include the following:
 - a. Primary structural systems.
 - b. Secondary and miscellaneous structural systems.
 - c. Lintels.
 - d. Bearing walls and retaining walls.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Communication systems.
 - h. Fire-detection and -alarm systems.
 - i. Conveying systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not

limited to the following:

- a. Water, moisture, or vapor barriers.
- b. Membranes and flashings.
- c. Exterior curtain-wall construction.
- d. Sprayed fire-resistive material.
- e. Equipment supports.
- f. Piping, ductwork, vessels, and equipment.
- g. Noise- and vibration-control elements and systems.
- 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place (Existing) Materials: Use materials for patching identical to in-place (existing) materials. For exposed surfaces, use materials that visually match in-place (existing) adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place (existing) materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

- 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
- 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
- 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions and the cost of any and all remedial work required due to installation on unacceptable surfaces and substrates or under improper conditions shall be borne by the Contractor.
- E. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and/or Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
 - 1. Refer to Section 011000 "Summary of Work" for utility interruptions.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.03 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Construction Manager promptly.

- B. General: Engage a licensed land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Construction Manager.

3.04 FIELD ENGINEERING

- A. Identification: Refer to drawings for existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.05 INSTALLATION

Ithaca Fire Station Execution

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.06 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not

Ithaca Fire Station Execution
to void existing warranties.

- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.07 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in this Specification Section.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces in kind.

3.08 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.09 PROGRESS CLEANING

- A. General: Maintain and clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven calendar days during normal weather or three calendar days if the temperature is expected to rise above 80 deg F.
 - Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 a. Use containers intended for holding waste materials of type to be stored.
 - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
 - 5. Do not transport construction debris through occupied areas of existing facilities.

- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Maintain and clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Public Roads: Roads shall be cleared of all mud, dust, debris, etc. on a daily basis or as directed by Architect, Construction Manager, or Owner.
- E. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- F. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- G. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- H. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls".
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- L. Responsibilities of the Contractor(s) :
 - 1. The Contractor shall provide and service dumpsters for the use of all Contractors.
 - 2. Dumpsters shall be located at each site, accessible to building and roads. Each Contractor may legally load acceptable construction debris into the Dumpsters from this project only. Cost of all disposal fees shall be by the Contractor and dumpsters shall remain on the project until project completion, or as directed by Owner. The Contractor shall secure dumpsters during off-hours. This excludes asbestos items.
 - 3. The Contractor is responsible for clean-up and disposal of waste materials, debris and rubbish on a daily basis.
 - 4. The Owner may issue written notification of insufficient cleaning relative to the requirements of this Section. Upon issuance of the cleaning notice:
 - a. All waste and accumulation of trash containing the Contractor's debris shall be removed from the Owner's premises within 24 hours of notification.
 - b. All designated project areas containing the Contractor's debris or requiring general housekeeping shall be left fine broom clean (interior) or raked clean (exterior or rough surface). Sweeping compound shall be used for all interior broom cleaning to control dust.

- c. Failure by the Contractor to comply with the 24 hour requirement of the notice to the satisfaction of the Owner will result in a cleaning program directed by the Owner at the expense of the Contractor. Cost of clean-up performed by the Owner will be deducted from the Contractor's Request for Payment.
- 5. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- 6. Daily clean interior areas to provide suitable conditions for work.
- 7. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.
- 8. Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.
- 9. Remove waste materials, debris, and rubbish from site or to a dumpster provided by the Contractor daily.
- 10. The Contractor shall provide end-of-day clean-up of work areas of all prime contractors on a daily basis, conforming to requirements above.

3.10 DUST CONTROL

- A. The Contractor shall at all times control the spread of dust and dirt during the execution of the work. Use water mist, temporary closures, and other suitable methods. Use wet saws for cutting. Provide walk-off mats at entrances and exits to construction areas.
 - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions.
 - 2. Wet mop floors to eliminate trackable dust and dirt and wipe down walls and doors of dust and dirt.

3.11 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.12 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Supervise construction operations to ensure that in progress work is not stored on and/or effects completed construction such as floors and walls, which are subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

D. Roof Areas:

- 1. Construction traffic and storage of materials of materials on completed roof surfaces is not allowed. Where work is required, the contractor shall submit a protection plan, 14 calendar days prior to scheduled commencement of the work. Protection plan to include the following: Type of work to be performed.
- 2. Location of work areas.
- 3. Route of materials and workers to work area.
- 4. Materials and methods to be used.
- 5. Proceed with work after Owners authorization. Damage to roof surfaces shall be repaired and the cost of any and all remedial work shall be borne by the Contractor.

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.

1.03 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.04 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.05 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.06 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

- 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
- 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
- 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Construction Manager. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
- 5. Submit test/adjust/balance records.
- 6. Submit sustainable design submittals required in applicable individual "Sustainable" Section.
- 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 - 6. Advise Owner of changeover in heat and other utilities.
 - 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 - 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 9. Complete final cleaning requirements, including touchup painting.
 - 10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

- 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- 2. Results of completed inspection will form the basis of requirements for final completion.

1.07 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 - 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.08 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Contractor shall prepare Punch List to include the following: name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.Use Wendel's standard Punch List format or Procore format
 - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect and Construction Manager
 - d. Name of Contractor.
 - e. Page number.
 - 4. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect, , will return annotated file.
 - b. PDF electronic file. Architect, will return annotated file.

1.09 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect or Construction Manager for designated portions of the Work where commencement of warranties other than

Ithaca Fire Station Closeout Procedures date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

- B. Partial Occupancy: Submit properly executed warranties within 15 business days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.01 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

- c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Remove snow and ice to provide safe access to building.
- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- h. Sweep concrete floors broom clean in unoccupied spaces.
- i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- k. Remove labels that are not permanent.
- 1. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
- p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- q. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls"
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.02 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

- 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
- 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
- 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
- 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Product maintenance manuals.
 - 5. Systems and equipment maintenance manuals.

1.03 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.04 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect and Commissioning Authority will comment on whether content of operations and maintenance submittals are acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
 - 2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect, through Construction Manager, will return two copies.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 business days before commencing demonstration and training. Architect will comment on whether general scope and

content of manual are acceptable.

- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 business days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect comments. Submit copies of each corrected manual within 15 business days of receipt of Architect comments and prior to commencing demonstration and training.

PART 2 PRODUCTS

2.01 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.02 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Construction Manager. (if applicable)

- 7. Name and contact information for Architect.
- 8. Name and contact information for Commissioning Authority. (if applicable)
- 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
- 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
 - 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
 - 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.03 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. System, subsystem, or equipment failure.
 - 8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

2.04 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:

- 1. Product name and model number. Use designations for products indicated on Contract Documents.
- 2. Manufacturer's name.
- 3. Equipment identification with serial number of each component.
- 4. Equipment function.
- 5. Operating characteristics.
- 6. Limiting conditions.
- 7. Performance curves.
- 8. Engineering data and tests.
- 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
 - 1. Startup procedures.
 - 2. Equipment or system break-in procedures.
 - 3. Routine and normal operating instructions.
 - 4. Regulation and control procedures.
 - 5. Instructions on stopping.
 - 6. Normal shutdown instructions.
 - 7. Seasonal and weekend operating instructions.
 - 8. Required sequences for electric or electronic systems.
 - 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.05 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.

- 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

2.06 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 3 EXECUTION

3.01 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."
- F. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.

1.03 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one (1) set(s) of marked-up record prints.
 - 2. Number of Copies: Submit copies of Project Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one (1) paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one (1) of file prints.
 - b. Re-submittal:
 - 1) Submit three (3) paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and three (3) set(s) of prints.
 - c. Final Submittal:
 - 1) Submit one (1) paper-copy set(s) of marked-up record prints.
 - 2) Submit record digital data files and three (3) set(s) of record digital data file plots.
 - 3) Plot each drawing file, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy, 1, and annotated electronic PDF(s) and directories of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy, 1, and annotated electronic PDF(s) and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous recordkeeping requirements and submittals in connection with various construction activities. Submit one paper copy, 1, and annotated electronic PDF(s) and directories of each submittal.

E. Reports: Submit weekly written report indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 PRODUCTS

2.01 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, when such installation varies from that shown originally. Require individual person or entity who obtained record data, whether that individual or entity is an installer, subcontractor or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Clearly record and identify information about concealed elements that would be difficult to identify, measure or record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data immediately after revealing or obtaining it.
 - d. Record and check the markup before enclosing or concealing installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Maintain on Project site at all times, in an approved location, and in a clean, dry and legible condition, one set of Project Drawings and one set of Submittals. These documents shall be used to record as-built conditions on a day-to-day basis, and shall be kept current and available for inspection by the Construction Manager during working hours.
 - 3. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Concealed insulation types, thicknesses and R-Values.
 - c. Locations of discontinuous insulation, if any.
 - d. Revisions to details shown on Drawings.
 - e. Depths of foundations below first floor.
 - f. Locations and depths of underground utilities.
 - g. Revisions to routing of piping and conduits.
 - h. Revisions to electrical circuitry.
 - i. Actual equipment locations.
 - j. Duct size and routing.
 - k. Locations of concealed internal utilities.
 - 1. Changes made by Change Order or Construction Change Directive.
 - m. Changes made following Architect's written orders.
 - n. Details not on the original Contract Drawings.
 - o. Field records for variable and concealed conditions.
 - p. Actual installed information about Work that is otherwise shown only schematically.
 - 4. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 5. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 6. Mark important additional information that was either shown schematically or omitted from original Drawings.

- 7. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect . When authorized, prepare a full set of corrected digital data files of the Contract Drawings:
 - 1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
 - 2. Format: DWG: Autodesk AutoCAD, current version.
 - 3. Format: RVT Autodesk Revit, current version.
 - 4. Format: Annotated electronic PDF with comment function enabled.
 - 5. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 - 6. Refer instances of uncertainty to Architect for resolution.
 - 7. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013300 Submittal Procedures for requirements related to use of Architect 's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
 - 1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
 - 2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Format: Annotated electronic PDF, with comment function enabled.
 - 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 - 4. Identification:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS".
 - d. Name of Architect and Construction Manager .
 - e. Name of Contractor.

2.02 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

- 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
- 3. Record the name of manufacturer, supplier, installer and other information necessary to provide a record of selections made.
- 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
- 5. Note related Change Orders, record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as paper copy, annotated electronic PDF(s) and directories, or scanned electronic PDF(s) of marked-up paper copy of Specifications

2.03 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders , record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as paper copy, annotated electronic PDF(s) and directories, or scanned electronic PDF(s) of marked-up paper copy of Specifications
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.04 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy, annotated electronic PDF(s) and directories, or scanned electronic PDF(s) of marked-up miscellaneous record submittals.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 EXECUTION

3.01 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition protected from deterioration and loss. Provide access to project record

documents for Architect reference during normal working hours.

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training video recordings.

1.03 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.04 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within ten business days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of videographer.
 - c. Name of Architect.
 - d. Name of Construction Manager
 - e. Name of Contractor.
 - f. Date of video recording.
 - 2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of

Project and date of video recording on each page.

3. At completion of training, submit complete training manual(s) for Owner's use prepared and bound in format matching operation and maintenance manuals

1.05 QUALITY ASSURANCE

- A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- B. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.
- C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 2. Review required content of instruction.
 - 3. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.06 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 PRODUCTS

2.01 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - Basis of System Design, Operational Requirements, and Criteria: Include the following:
 a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.

- f. Operating characteristics.
- g. Limiting conditions.
- h. Performance curves.
- 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project record documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
- 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 - g. Include name and contact information for each equipment manufacturers installed products.
- 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - 1. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
- 5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.

- 8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 EXECUTION

3.01 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

3.02 INSTRUCTION

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 1. Schedule training with Owner with at least fourteen calendar days' advance notice.
- C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.03 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video: Provide minimum 640 x 480 video resolution converted to format file type acceptable to Owner, on electronic media.
 - 1. Electronic Media: Read-only format compact disc acceptable to Owner, with commercial-grade graphic label.
 - 2. File Hierarchy: Organize folder structure and file locations according to project manual table of contents. Provide complete screen-based menu.
 - 3. File Names: Utilize file names based upon name of equipment generally described in video segment, as identified in Project specifications.

- 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training DVD that describes the following for each Contractor involved on the Project, arranged according to Project table of contents:
 - Name of Contractor/Installer. a.
 - b. Business address.
 - Business phone number. c.
 - d. Point of contact.
 - e. E-mail address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time. 1.
 - Film training session(s) in segments not to exceed 15 minutes.
 - Produce segments to present a single significant piece of equipment per segment. a.
 - Organize segments with multiple pieces of equipment to follow order of Project b. Manual table of contents.
 - Where a training session on a particular piece of equipment exceeds 15 minutes, c. stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment D. markings are clearly visible prior to recording.
 - Furnish additional portable lighting as required. 1.
- E. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.
- F. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
- Preproduced Video Recordings: Provide video recordings used as a component of training G. modules in same format as recordings of live training.

SECTION 023200 - GEOTECHNICAL INVESTIGATION

PART 1 GENERAL

1.01 Subsurface investigations have been made and the results are bound herein immediately following this page. They are all included in the specifications for information only, and bidders are responsible for any conclusions drawn from the data provided. The Owner and Architect assume no responsibility for the completeness and accuracy of the information included. The contractor is responsible to gather additional subsurface information, if needed, to complete the scope of work defined in the project documents.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)



Subsurface Investigation Report

for

Proposed New Ithaca Fire Station 403 Elmwood Avenue and 408 Dryden Road Ithaca, NY

Prepared for: Chief Tom Parsons Ithaca Fire Department <u>TParsons@cityofithaca.org</u>



Provided By: Elwyn & Palmer Consulting Engineers PLLC 213 E. Seneca Street Ithaca, New York 14850 Phone 607.272.5060 www.ElwynPalmer.com

May 2022


Subsurface Investigation Report for Proposed New Ithaca Fire Station 403 Elmwood Avenue and 408 Dryden Road Ithaca, NY

> Prepared for: Tom Parsons Fire Chief Ithaca Fire Department TParsons@cityofithaca.org

A. INTRODUCTION

As requested, we have completed a subsurface investigation for the proposed new fire station to be located at 403 Elmwood Avenue and 408 Dryden Road in Ithaca. The work was done in accordance with our proposal of April 7, 2022 and subsequent contract with the City of Ithaca dated April 27, 2022. This report will summarize the findings of the subsurface investigation that was performed during the period of May 3-4, 2022. This report includes a description of the work performed, a discussion of the findings, and our recommendations for design.

B. SCOPE OF WORK

The scope of work included advancing five soil borings. Boring locations were selected by Elwyn & Palmer and were based on the proposed footprint of the new building that we received from you. A boring location plan showing the location of the existing buildings and the boring locations is included in the Appendix.

C. PROJECT and SITE DESCRIPTION

We understand the project consists of construction of a new two story fire station with a footprint of approximately 7,800 SF. We understand the proposed finished floor elevation for the truck bay is Elevation 794.5 ft. The project will also include parking east of the new station that will range from Elevation 800.5 ft at the building to Elevation 802 ft at the eastern edge. A new retaining wall will border the east side of the site that will have a top of wall at Elevation 812 ft and bottom of wall at Elevation 802 ft. Additional retaining walls will be constructed along the north and east side of the site. A schematic plan of the new fire station and associated site improvements that we received from you is included in the Appendix

The site is located at the northeast corner of Elmwood Avenue and Dryden Road. The site is currently occupied by two wood framed houses that will be razed as part of the project. The site slopes upward to the east from Elmwood Avenue. A review of a topographic survey



completed by TG Miller revealed that the surface elevations range from Elevation 791 ft at Elmwood Avenue to Elevation 813 ft at the eastern limit of the project site.

We understand the site will be lowered by several feet to provide a near street grade apparatus entrance from Elmwood Avenue and station parking east of the proposed new building. The project will include retaining walls along the south (Dryden Road) side and along the eastern side of the site.

D. SUBSURFACE INVESTIGATION

Soil borings were advanced using 3 ¼ inch inside diameter hollow stem augers. Standard Penetration Tests were performed and split-spoon soil samples were taken using a 2 inch outside diameter split spoon sampler in accordance with ASTM D1586. In all borings, samples were taken continuously (2 ft intervals) to 12 ft or the bottom of boring. Below 12 ft samples were taken at 5 foot or "standard" intervals. All boring holes were backfilled with cuttings from the borings and on-site soils.

Samples were classified in the field by the driller with select samples being classified by the engineer in the field. A site plan showing the boring locations is attached. Logs for each of the borings are attached. The attached boring logs contain soil classifications and standard penetration test results.

E. SUBSURFACE FINDINGS

This section provides a description of the subsurface conditions encountered at the site. It is important to note that each boring is just a snapshot of the subsurface conditions at that location and that subsurface conditions will vary across each site.

A soil profile showing the conditions encountered in the borings advanced for this project is included in the Appendix. The profile shows the approximate depths of the layers encountered, the ground surface elevations, the measured groundwater elevations and the approximate location of the new fire station based on information we were provided.

In general, three layers were encountered in the borings. The upper layer is a loose sand layer that contains varying amounts of silt. This layer extends from just below the ground surface to approximately Elevation 785 ft which equates to 14-24 ft below grade. The sand layer extends to the deeper depths on the east side of the site.

Below the sand the borings encountered a soft-stiff clay and silt layer. The layer was predominantly clay with varying amounts of silt and occasional sand partings. The layer was soft in the western and northern areas of the site (B1, B2, B3) but was found to be stiff in the southern and eastern borings (B4, B5). This layer extended down to where auger refusal was encountered on possible bedrock. Auger refusal was encountered at Elevation 759-763 ft in the borings.

Standing groundwater was encountered in all five borings. Water level readings were taken multiple times in each boring. Based on a review of the water level readings and the moisture



of the soil samples we estimate that standing groundwater is most likely in the range of Elevation 787-791 ft which is 8-19 ft below current west and east site elevations, respectively.

F. GEOTECHNICAL ENGINEERING ANALYSIS

We have completed an analysis of the soils at the site for the proposed new building. Based on our review we believe the proposed structure can be supported on conventional shallow foundations and the proposed concrete floor slab may be constructed as a concrete slab-ongrade provided they are constructed in accordance with the recommendations detailed below.

Foundations for the new building shall bear on sound natural subgrade that is approved by the Engineer or a qualified representative prior to placement of forms or concrete. The soils at the proposed bearing elevation are predominantly sandy but do include varying amounts of silt. Silty soils are moisture sensitive and can become soft and lose strength when wet. This can result in a muddy excavation and mud carried on to the roads during removal of excavation spoil. When possible, we recommend excavation during periods of dry weather and placement of concrete soon after excavating to prevent softening of the subgrade. Foundations for the proposed new building that bear on the existing sound natural material can be sized using an allowable bearing pressure of 1500 psf.

The proposed site plan for the project site shows new retaining walls on the north, east, and south sides of the site. The wall on the east side of the site will have a 10 ft high exposed face and is located less than 10 ft from the property line. Due to the loose sand at the site, constructing this wall will require temporary or permanent shoring. There is not enough distance between the new retaining wall and the adjacent property line to allow the excavation to be laid back without the excavation extending well into the adjacent property.

The proximity of the wall to the property line will be a consideration in the type of retaining wall that is used. A conventional concrete cantilever wall or a gravity wall could not be constructed in the proposed east side location without temporary shoring of the excavation. Temporary shoring can consist of sheet piling or soldier piles and lagging. Sheet pile walls and soldier pile walls can be used as permanent walls but behind wall drainage will be required. Some type of permanent wall facing consisting of cast in place or precast concrete may be desired for aesthetic reasons. The ultimate decision on wall choice can be made by the architect, site engineer, and City based on cost, constructability, and appearance.

Based on the soil at the site we are providing the following design parameters for design of the proposed retaining walls. The parameters assume that the walls are backfilled with clean granular fill. A drain must be installed behind the wall to prevent water from ponding behind the wall.

Angle of Internal Friction for Soil	30 degrees
Coefficient of Active Earth Pressure	0.33
Coefficient of Passive Earth Pressure	3.00
Unit Weight of Soil	125 pcf
Coefficient of Sliding Friction between	0.35
concrete and on site soils	



Based on the measured level of standing groundwater encountered during the drilling, groundwater will likely be a significant consideration during construction. Along with standing groundwater, water infiltration into the excavations during periods of wet weather may be problematic and will need to be directed away from and out of the excavation. Dewatering of the excavation will likely be required to maintain a dry working area during construction of the foundations. Contractors should be advised to include groundwater control and excavation dewatering in their prices.

G. SEISMIC DESIGN

Based on the soils encountered in the borings, the sites can be classified as Seismic Site Class E according to the current edition of the Building Code of New York State. The subsurface exploration did not reveal soils vulnerable to liquefaction or collapse under seismic loading. Based on the locations of the sites and the site class, we determined a value for the maximum considered earthquake spectral response acceleration for short periods, (S_{MS}) of 0.285g, and at 1-second period (S_{M1}) of 0.191g. A seismic design report showing site specific seismic data is included in the Appendix

H. RECOMMENDATIONS

Based on the results of the subsurface investigation and engineering analyses, we have the following recommendations:

Site Preparation, Excavation, and Support of Excavation

- 1. Clear, grub, and strip topsoil and remove significant root structures within new construction areas. Remove any remnants of any existing structures encountered from within the new footprint.
- 2. In areas where fill is required, compact subgrade before placing fill by making at least 4 overlapping passes in perpendicular directions with a self-propelled roller weighing at least 30,000 lbs. Soft or uncompactable areas should be excavated and replaced with granular structural fill approved by the Engineer. The structural fill should be placed to at least 95% of the maximum dry density as determined in accordance with ASTM D1557.
- 3. All excavation should be performed in accordance with all OSHA and other applicable safety standards.
- 4. Dewatering operations should be configured to route surface runoff and groundwater away from site and out of the excavation. Operations shall conform to applicable environmental regulations.



5. When structural fill is required beneath foundations it shall consist of an engineered mix of crushed ledge rock conforming to the following gradation:

Sieve Size	Percent Passing
2"	100
1"	80-95
1/2"	45-75
#4	30-60
#40	10-40
#200	0-7

- Excavation slopes and excavation support systems where required will need to be designed by a professional engineer experienced in design of support of excavation (SOE) systems.
- 7. Excavations should be monitored for deflection and other movement at a frequency determined by the excavation support design engineer.
- 8. SOE systems must consider the proximity of the adjacent structures and the elevation of the floors and foundations of the adjacent structures. The SOE design engineer should provide monitoring requirements for the SOE system and determine allowable movements for the system based on the factors mentioned previously.

Foundation Design and Construction

- 1. The foundations for the proposed new building should be supported on a conventional shallow foundation system. Foundations supported on the sound natural material that is approved by the Engineer or the Engineer's representative may be sized using an allowable bearing pressure of 1500 psf.
- 2. Perimeter drainage should be installed around the building. Drainage pipes should also be installed beneath the concrete slab at a maximum spacing of 10 ft on-center. Drainage pipes can consist of perforated pipe wrapped in filter fabric and placed in trenches filled with drainage stone. Pipes should extend to an appropriate discharge point outside the building footprint.
- 3. If the floor slab is designed as a slab on grade it shall be placed on 8 inches of compacted select material. The subgrade below the select material shall be proofrolled in accordance with the above recommendations on Site Preparation. The slab should be reinforced against cracking in accordance with ACI design standards. Concrete slab-on-grade shall be designed using a modulus of subgrade reaction of 125 pci.
- 4. Select granular fill for beneath the slab shall be clean bank run gravel conforming to the following gradation:

Sieve Size	Percent Passing
2"	100
1/4""	35-65
#200	0-10

Vibration and Construction Monitoring

- 1. We recommend pre-construction surveys of all nearby buildings be completed by an experienced firm prior to starting any construction activity including demolition.
- 2. Existing adjacent buildings within close proximity to the excavation should be monitored for movement during the construction phase by qualified experienced personnel.
- 3. A vibration monitoring plan should be developed by an experienced vibration monitoring company that has been provided with this report and the project construction drawings.
- 4. Vibration monitoring units should be deployed in accordance with the plan prior to any construction work commencing, including demolition and excavation near property lines.

I. CLOSING

Elwyn & Palmer has prepared this report based on our interpretation of the subsurface conditions at the project sites and our understanding of the proposed project. Changes in scope, location, structure type, or loads should be brought to our attention for review to allow us to make changes as necessary to the recommendations provided.

Elwyn & Palmer has performed these services in a manner consistent with the standard methods and level of care exercised by members of the geotechnical engineering profession. No warranty, expressed or implied, is made in connection with the providing of geotechnical engineering services.

We appreciate the opportunity to be of service on this project. Please call if you have any questions or require additional information.

Sincerely,

ELWYN & PALMER CONSULTING ENGINEERS PLLC

Michael C. Palmer, PhD, PE Partner

Attachments



APPENDIX



BORING LOCATION PLAN, SITE PLAN, AND SOIL PROFILE









BORING LOGS

General Information and Key to Subsurface Logs

The subsurface logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the boring as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed form the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between sampled intervals. The data presented on the subsurface logs together with the recovered samples will provide basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of standard boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by Professionals. The information presented in the following list defines some of the procedures and terms used on the subsurface logs to describe the conditions encountered.

- 1. The figures in the depth column define the scale of the subsurface log.
- 2. The sample column shows the depth range from which the sample was recovered. The sample type column will show an "S" for split spoon sample, a "T" for a tube sample and a "C" for a rock core sample.
- 3. The sample number is used for identification on sample containers and in laboratory reports.
- 4. The Blows on Sampler column shows results of the Standard Penetration Tests and indicates the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches of penetration is recorded. The first six inches of penetration is considered the seating drive. The number of blows required for the second and third six inches of penetration is termed the penetration resistance, N. The sampler diameter, hammer weight, and length of drop are noted on the log.
- 5. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist, or geotechnical engineer unless noted otherwise. The visual descriptions are made on the basis of a combination of the driller's field descriptions and observations and the sample as viewed in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification System (ASTM D2487) with regard to particle size and plasticity. The relative portion by weight by weight of tow or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister (ASTM Special Technical Publication No. 479, June 1970). The description of relative soil density or consistency is based on Penetration Test results. The description of soil moisture is based upon relative wetness of the soil as recovered and is described as dry, damp, moist, wet, and saturated. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of sampler blows or the behavior of the drill rig.
- 6. The description of rock is based on the recovered rock core and the driller's observations.
- 7. The stratification lines present the approximate boundary between soil types. Actual boundaries may vary between sampling intervals and the transition may be gradual. Solid stratification lines are based on the driller's field observations.
- 8. Miscellaneous observations and procedures noted by the driller are shown on the logs, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils) and that drill water used to advance the boring may influence the observations. The groundwater level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusion cannot be made, it may be necessary to examine the conditions more thoroughly through test pit excavations or observation wells.
- 9. The length of rock core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total pieces of NX core exceeding 4 inches in length divided by the core run. Fresh, irregular or drilling induced breaks are ignored and the pieces counted as intact lengths. RQD values are valid only for NX size cores (2.125" diameter). The barrel size is noted in the logs.



Definition of Descriptors used in Boring Logs

Soil Type and Particle Size

<u>Type</u> Boulder		<u>Size</u> >12"
Cobble Gravel		12"-3"
	Coarse	3"- ¾"
	Fine	³∕₄" - #4
Sand		
	Coarse	#4-#10
	Medium	#10-#40
	Fine	#40-#200
Silt		<#200
Clay		<#200
-		

Soil Type Proportions

>30

<u>Term</u>	Percent of Sample
"and"	35-50
"some"	20-35
"little"	10-20
"trace"	1-10

Relative Compactness or Consistency

Granular Soils

Fine Grained Soils **Descriptor** Blows/ft (N) **Descriptor** Blows/ft (N) Very Soft Loose <11 0-2 Med-Dense 11-30 Soft 2-4 Dense 31-50 Medium 4-8 Very Dense >51 Stiff 8-15 Very Stiff 15-30

Hard

Stratification Description

Varved – Horizontal uniform layers or seams Layer - Soil deposit more than 6" thick Seam – Soil deposit less than 6" thick Parting – Soil deposit less than 1/8" thick

Rock Classification Terms

<u>Quality</u> Hardness	<u>Terms</u> Soft Medium hard Hard Very hard	Definition Scratched by fingernail Scratched easily by penknife Scratched with difficulty by penknife Cannot be scratched with penknife
Weathering	Very weathered Weathered Sound	Judged by the relative amounts of disintegration, iron staining, core recovery, clay seams, etc.
Bedding	Laminated/Fissile Thinly bedded Medium bedded Thickly bedded Massive	Less than 0.08" ½" to 2" 2" to 2ft 2 ft to 4 ft More than 6 ft

Cli CC	ent DNSL	<u>ELW</u> JLTING	/YN P/ ENGI	ALM NEE	IER ERS							Boring No. Project No.	B1	
Pro	oject	NEV	V FIRE	E ST	ATION						NG CO.	Sheet Date Started	1 05/03/22	of1
Lo ITI	cation HACA	403 A, NY	ELMV	/00	D AVE	,			<u> </u>	BORING LO	G	Date Completed Driller <u>HARRY I</u>	05/03/22 _YON	
Drill	Ria	CME	E 45B							Boring Location <u>A</u>	AS STAKED, BY	CLIENT		
Casi	ng ng Ha	3 1/4	4" I.D.	HOL	LOW	STEM	AUGER	S	in	Surface Elevation 7	'96.5 +/- Gi	round Water Observa	tions	
Soil	Samp	ler <u>2"</u>		Γ SF	200N			20		Date	Time	Casing at	Hole	at Water at
Roci	k Sam	anniner. ipler:	vvt.		140	וט. רמו		50		05/03/22	11:40 AM	13.5	16.0	$\frac{0}{0}$ $\frac{0.9}{8.1}$
Othe	er:					60.9				05/03/22	12:25 PM 12:45 PM	OUT	9.3	<u>9.0</u> 8 8.8
vvea	inier (is.	<u> </u>		S	OIL							
	lumbe	Sar De	nple pth	ype	0'/0.5'	Blows of 0.5'/1.0'	n Sample	er 1.5'/2.0'	N	Secove	MATERIAL DESC	CRIPTION		REMARKS
oth	nple N	From	То	nple T		R Rec	ock overv			n n n n n n n n n n n n n n n n n n n			Depth of	
Dep	► Sar	(Ft)	(Ft)	o Sar	1	Ft.	% 1	1	RQD				Change	
	1	0.0	2.0	3		<u> </u>			5	MOIST BROWN LO	OSE FINE SAN	D. TRACE SILT	3.2	
	2	2.0	4.0	S	1	1	2	2	3	1.5 SIMILAR WET. TRA SATURATED BROV	VN LOOSE FINE	ACE CLAY E SAND	4.0	
5	3	4.0	6.0	S	2	3	3	4	6	1.7 TRACE SILT SATURATED BROW	VN LOOSE FINE	E SAND	5.0	
	4	6.0	8.0	S	4	3	4	4	7	1.7 LITTLE SILT. TRAC	E CLAY VN LOOSF FINF	E SAND	8.2	
10	5	8.0	10.0	S	1	1	2	3	3	1.4 TRACE SILT			10.0	
10	6	10.0	12.0	S	3	2	3	3	5	1.8 SOME SILT			11.0	
	7	12.0	14.0	S	3	2	3	4	5	1.8 TRACE SILT	VN LOOSE FINE	SAND	13.0	
15	8	14.0	16.0	S	1	2	3	3	5	SATURATED BROV 1.9 SOME SILT. TRACE	VN LOOSE FINE CLAY LENSES	E SAND	14.7	
										SATURATED BROV SATURATED GREY	VN SOFT SILT A	AND CLAY ITTLE SILT	15.3	
	9	18.0	20.0	S	2	3	4	5	7	1.6		AT 20.0		
20												11 20.0		
25														
30														
50														
35														
40														
45														
50														
74	26 \$	SHAC	СКН	AM	RO	AD T	ULLY	΄, Ν.Υ	′	·			PHC	DNE (607)842-6580

Cli CC	ent DNSL	ELWYN PALMER JLTING ENGINEERS								Boring No. Project No. Sheet				B2	B2		
Lo	cation	403		<u>voo</u>	D AVE	,				BORING LOG				1 05/03/22 05/03/22	ot1 2		
⊨≝	ACA	л, IN I								Borir	ng Location AS STAKE	ED, BY	CLIENT	LION			
Drill Casi	Rig	CME 3.1/	E 45B 4" I D	HOI	LOW	STEM	AUGER	s		Surfa	ace Elevation $797.0 + / -$						
Casi	ng Ha	mmer:	Wt.			Ib. Fal			in.	Oune		Gr	ound Water Observa	itions			
Soil Sam	Samp ple H	ler <u>2'</u> ammer	' SPLI Wt	T SF	200N 140	lb Fal	1	30	in		Date Time 05/03/22 1:50 P	e PM	Casing at 7 5	Hol 10	eat Waterat		
Roc	< Sam	pler:			110	10. T U		00			05/03/22 3:40 P	PM	37.5	38	3.0 DRY		
Othe	er:										05/03/224:10 P	PM	OUT	7	.0 DRY		
Wea	ther (Conditio	ns:	_	1	60 C	CLOUDY	/									
	her	Sar	nple	a	E	S Blows o	OIL n Sample	ər		overy							
	Nun	De	pth	Typ	0'/0.5'	0.5'/1.0'	1.0'/1.5'	1.5'/2.0'	N	Rec	MATERIA	L DESC	RIPTION		REMARKS		
pth	mple	From	То	mple		Rec	оск overy			mple				Depth of			
Ď	8 1	(Ft)	(Ft)	S Sa	1	Ft.	%	2	RQD	ິ ທີ 1 4	TOPSOIL			Change 0.7			
		0.0	2.0				2	2	Ŭ	1	MOIST BROWN LOOSE FINE	E SAND	D. TRACE	0.1			
	2	2.0	4.0	S	1	3	3	2	6	1.5	SILT. TRACE ROOTS						
5	3	4.0	6.0	S	1	2	2	3	4	1.5				6.5			
	4	6.0	8.0	S	2	2	2	2	4	1.6	TRACE ROOT FIBERS. TRAC	E SANL	AT	7.8			
	5	8.0	10.0	0	2	3	4	5	7	16	SIMILAR. BECOMES SATUR	ATED		10.0			
10	5	0.0	10.0	0	2	5	4	5	/	1.0	SATURATED BROWN LOOS	E FINE	SAND AND	10.0			
	6	10.0	12.0	S	4	3	4	3	7	1.7	SILT			13 7			
	_							_	_	1.	SATURATED GREY MEDIUM	/ CLAY	. LITTLE SILT				
15	/	14.0	16.0	S	2	3	4	5	/	1.6							
										1							
20	8	19.0	21.0	S	3	3	5	5	8	1.2	GRADES TO SATURATED G	REYM		21.0			
										1	TRACE SILT						
										-							
0.5	9	24.0	26.0	S	8	6	6	7	12	1.5							
25																	
										-							
	10	29.0	31.0	S	4	4	4	6	8	1.7							
30										-							
										1							
										1					COBBLE AT 34.0'		
35	11	35.0	37.0	S	5	6	23	30	28	1.7	WET BLACK POSSIBLE WE			36.3			
											WET BEAGINT GOODEE WE						
	12	38.0	38.0	S	50/0					0.0							
40											BORING TERMIN	ATED A	AT 38.0		AUGER REFUSAL AT 38.0		
	_						L			-							
										-							
45										1							
										-							
										1							
50																	
74	26 \$	SHAC	CKH	AM	RO	AD T	ULLY	΄, Ν.Υ	′					PH	ONE (607)842-6580		

Cli C(Client ELWYN PALMER CONSULTING ENGINEERS												Boring No. Project No.	B3	
Pr Lo	oject cation	<u>NEV</u>	V FIRE	E ST en F	ATION Road						LYON DRILI BORING L	LING CO. OG	1 of 1 05/03/22 05/04/22		
<u> </u>	HACA	A, NY								Porin			Driller <u>HARRY</u>	LYON	
Drill	Rig	CM	E 45B							БОПП	Ig Location	AS STARED, D	I CLIENT		
Cas	ng ng Ha	<u>3 1/4</u>	4" I.D.	HOL	LOW	STEM	AUGER	S	in	Surfa	ace Elevation	810.0 +/-	Cround Water Observa	tions	
Soil	Soil Sampler 2" SPLIT SPOON										Date	Time	Casing at	Ho	le at Water at
Sam	ple H	ammer:	Wt.		140	lb. Fal		30	in.		05/03/22	6:00 PM	17.5	2	0.0 19.1
Othe	er:										05/04/22	11:30 AM	OUT	2	1.0 18.8
Wea	ther (Conditio	ns:			60 OV	/ERCAS	ST							
	er					S	OIL			'ery					
	lumb	Sar De	nple pth	ype	0'/0.5'	Blows o	n Sample 1.0'/1.5'	er 1.5'/2.0'	N	fecov		MATERIAL DES	CRIPTION		REMARKS
£	ple ∧			ple T		R	ock			ple F					
Dept	Sam	From (Ft)	To (Ft)	Sam		Rec Ft.	overy %		RQD	Sam				Depth of Change	
	1	0.0	2.0	S	2	3	3	3	6	1.2	MOIST GREY FI	NE TO MEDIUM G	RAVEL AND	1.0	
	2	2.0	4.0	S	1	2	2	2	4	1.0	MOIST BROWN	IE SAND (FILL) LOOSE FINE SAN	ID. TRACE SILT	1.0	
	2	4.0	<u> </u>	_	0	0	2	2			TRACE ROOT F	IBERS			
5	3	4.0	6.0	5	2	2	3	3	5	1.0					
	4	6.0	8.0	S	2	2	2	3	4	1.3			·	8.0	
	5	8.0	10.0	S	2	3	4	3	7	0.0	SIMILAR. TRACE	E MEDIUM GRAVE	:L		S#5 & 6 DROVE GRAVEL
10	6	10.0	12.0	S	3	5	8	6	13	0.1				12.0	NO ROOT FIBERS
	0	10.0	12.0	0	5	5	0	0	10	0.1	MOIST BROWN	LOOSE FINE SAN	ID. LITTLE SILT	12.0	OBSERVED BELOW 10.0
	7	12.0	14.0	S	3	4	4	6	8	1.3	MOIST BROWN	LOOSE FINE SAN	ID_TRACE SILT	13.0	
15	8	14.0	16.0	S	5	5	5	5	10	1.4					
										-				18.0	
	9	18.0	20.0	S	1	2	3	3	5	1.5	SATURATED BR	OWN LOOSE FIN	E SAND	10.0	
20										-	LITTLE SILT				
										1					
	10	23.0	25.0	S	1	1	3	3	4	1.5				24.0	
0.5											SATURATED BR	OWN MEDIUM SI	LT AND FINE		
25										1	SAND			27.0	
	11	28.0	20.0	6	WOH	2	2	2	F	1.0	SATURATED GF	REY SOFT VARVE	D CLAY AND		
	11	20.0	30.0	3	WUH	2	3	2	5	1.0	SILT				
30										-					
										-					
35										1					
										-					
										1					
40										-					41 5 COBBLE
										1					42.5 COBBLE
										-					43.5-44 COBBLE 44.5 POSSIBLE
										1					BEDROCK
45				-							BORI		AT 46.5		46.5 AUGUER REFUSAL
1							ļ			1	2010				
1				\vdash						-					
50	0.0									1					
74	26 \$	SHA(JKH/	AM	RO/	AD T	ULLY	', N.Y						PH	UNE (607)842-6580

Cli CC Pro Lo IT	ent DNSL oject cation	It ELWYN PALMER VSULTING ENGINEERS Set NEW FIRE STATION Ition 408 Dryden Road ACA, NY									ON DRILL	.ING CO. DG	Boring No. Project No. Sheet Date Started Date Completed Driller <u>HARRY</u>	B4 	of 2
Drill	Rig	CME	E 45B							Boring L Ol	Location F MARKED LOO	AS STAKED, B	Y CLIENT - RELOC	ATED 6.5 N	ORTH
Casing 3 1/4" I.D. HOLLOW STEM AUGERS											Elevation	800.5 +/-			
Cas Soil	ng Ha Samp	immer: ler 2'	wt. ' SPLI ⁻	T SP	POON	Ib. Fal			in.		Date	Time	Ground Water Observ Casing at	ations Hol	e at Water at
Sam	, ple Ha	ammer:	Wt.	_	140	lb. Fal		30	in.		05/04/22	6:15 PM	7.5	10	9.0
Roc Othe	< Sam er:	pler:									05/04/22	7:30 PM 8:05 PM	<u>34.5</u> OUT	38	3.5 <u>32.0</u> 0.0 10.5
	41					<u> </u>	DAIN								
vvea	iner C	onallio	ns:	Γ		S				~					
	nber	Sar	nple	e	E	Blows or	n Sampl	er		covel					
	e Nui	De	pth	e Typ	0'/0.5'	0.5'/1.0'	1.0'/1.5'	1.5'/2.0'	N	e Rec		MATERIAL DES	SCRIPTION		REMARKS
epth	ample	From	То	ample		Rec	overy			ample				Depth of	
ŏ	ທຶ 1	(Ft)	(Ft)	s S	5	Ft.	%	7	RQD	<u>ഗ്</u> 15 Mi	OIST GREY FIN		COARSE TO	Change	
		0.0	2.0	Ŭ		10	Ŭ		10	FI	NE SAND			0.3	
	2	2.0	4.0	S	9	9	9	18	18	1.6 M	OIST BROWN I	FIRM FINE TO CO	DARSE SAND	1.0	
5	3	4.0	6.0	S	9	11	15	17	26	1.4 M	OIST BROWN I	FIRM FINE SAND	. TRACE SILT	1.0	
	4	6.0	8.0	9	14	16	22	24	38	15					
	-	0.0	0.0		14	10	22	24	50	1.0					
10	5	8.0	10.0	S	10	15	17	19	32	1.4		ES WET TO SAT		9.3	
10	6	10.0	12.0	S	10	10	11	12		1.7				11.0	
										GI	RADES TO SAT	URATED BROW	/N FIRM FINE	13.8	
										SA	ATURATED GR	EY MEDIUM CLA	Y. LITTLE SILT	15.0	
15	7	15.0	17.0	S	3	4	6	6	10	1.8				17.8	
										AN	ND FINE GRAV	EL		18.5	
										SA	ATURATED GR	EY STIFF SILT. S	SOME CLAY		
20	8	20.0	22.0	S	8	10	10	12	20	1.7					
										GI	RADES TO SAT			23.5	
										0.					
25	q	25.0	27.0	S	5	8	10	16	18	16					
20	5	20.0	21.0	Ŭ	0	Ŭ	10	10	10	1.0					
30	10	30.0	32.0	S	7	10	10	11	20	1.8					
35	11	35.0	37.0	S	8	9	10	12	19	1.7				37.8	
										PC	OSSIBLE SHAL	E BEDROCK			
	12	38.0	38.1	S	50/.1					0.1					
40											BORIN	NG TERMINATED	0 AT 38.5		AUGER REFUSAL AT 38.5
10															
				\vdash											
45				-											
				-											
50															
74	26 3	SHAC	CKH	AM	RO	AD T	ULLY	′, N.Y	.					PH	ONE (607)842-6580

CI C(Pr	Client ELWYN PALMER CONSULTING ENGINEERS Project NEW FIRE STATION									a 1		Boring No. Project No. Sheet	B5 1	of 1		
Lo	catior	4 <u>08</u> 4, NY	Drvde	n R	oad			<u>Security</u>	(æ	5	BORING LOG Date Started Date Completed Driller HARRY			05/04/22 05/04/22 LYON		
										Borir	AS STAKED, BY CL	LIENT - RELOCA	ATED 6.5 N	IORTH		
Drill	Rig	<u>CMI</u> 3.1/	<u>= 45B</u> 4" I D	HOI	IOW	STEM	AUGER	S		Surf	OF MARKED LOCATION ace Elevation 809.0 +/-					
Cas	ng Ha	ammer:	Wt.			lb. Fal			in.	Curre	Grour	nd Water Observa	tions			
Soil	Samp	oler <u>2</u>	SPLI	Γ SF	POON				<u> </u>		Date Time	Casing at	Hol	e at Water at		
San	ple H San	ammer:	Wt.		140	_lb. ⊦al		30	in.		05/04/22 2:10 PM 05/04/22 3:56 PM	<u> </u>	<u>22</u> 	$\frac{2.0}{3.1}$ $\frac{18.6}{44.0}$		
Othe	er:										05/04/22 4:45 PM	OUT	21	1.5 18.2		
We	ther (Conditio	ne.			60	RAIN									
-						S	OIL		<u> </u>	≥						
	mbe	Sar	nple	ЭС	E	Blows o	n Sample	er		cove						
	Nu e	De	pth	Typ	0'/0.5'	0.5'/1.0'	1.0'/1.5'	1.5'/2.0'	N	- Re	MATERIAL DESCRI	PTION		REMARKS		
pth	mple	From	То	mple		Rec	overy			mple			Depth of			
De	Sa	(Ft)	(Ft)	o Sa		Ft.	%		RQD	Sa			Change			
	1	0.0	2.0	5	2	2	3	2	5	1.2	FINE SAND	AROE IU	0.3			
	2	2.0	4.0	S	2	2	2	3	4	1.7	MOIST BROWN LOOSE FINE TO COA	ARSE SAND				
5	3	4.0	60	Q	2	Λ	3	3	7	1 /	AND FINE GRAVEL. TRACE ROOTS		0.8			
	5	4.0	0.0	3	5	4	5	5	1	1.4	MOIST BROWN LOOSE FINE SAND		5.0			
	4	6.0	8.0	S	3	4	8	14	12	1.5	MOIST BROWN LOOSE FINE SAND. 1	TRACE SILT	7.5			
	5	8.0	10.0	S	10	16	20	24	36	15	SIMILAR. GRADES TO COMPACT					
10	-															
	6	10.0	12.0	S	12	16	20	22	36	1.7						
													14.0			
45	7	45.0	47.0			7	0		45]	SIMILAR. FIRM					
15	/	15.0	17.0	5	6	1	8	9	15	1.8			18.0			
										1	SATURATED BROWN LOOSE FINE S	AND				
				-						-	AND SILT					
20	8	20.0	22.0	S	WOH	1	WOH	1		1.5						
				_						-						
0.5	0	05.0	07.0	6		0	40	10	10	1.0			24.0			
25	9	25.0	27.0	5	0	9	10	10	19	1.3	SATURATED STIFF GREY CLAY. LIT					
]						
				-						-						
30	10	30.0	32.0	S	4	5	6	8	11	1.6						
				-						-						
										1						
25	11	25.0	27.0	6	2	6	7	0	40	1.0						
35	11	33.0	37.0	3	3	0		0	13	1.9						
				-						-			40.5			
40	12	40.0	42.0	S	4	8	12	12	20	1.7	GRADES TO SATURATED GREY STIP	FF SILT				
				_						-	LITTLE CLAY	O FINE SAND	42.5			
	13	43.5	44.2	S	10	50/.2				0.7	AND FINE GRAVEL. TILL LIKE MATER	RIAL	45.8			
45										-	POSSIBLE WEATHERED BEDROCK	46.4				
45				-						1	BORING TERMINATED AT	40.1		AUGER REFUSAL AT 46.1		
						1	ļ			1						
				-						-						
50										<u> </u>						
74	26	SHA	CKH	AM	I RO	AD T	ULLY	΄, Ν.Ϋ	′.				PH	ONE (607)842-6580		



SEISMIC DESIGN REPORT





New Ithaca Fire Station

403 Elmwood Ave, Ithaca, NY 14850, USA

Latitude, Longitude: 42.4413608, -76.48172509999999

Collegetown Bagels			Humphreys Service Building	
ur Seasons Wings Over Ithaca			Cornell University Transportation and Coal Yard Cafe	
Gree Goog	eenStar op @ Co Cat gle	Food Co+	Fairview Apartments	
Date			5/9/2022, 11:53:49 AM	
Design Code Reference Document			ASCE7-16	
Risk Category			IV	
Site Class			E - Soft Clay Soil	
Туре	Value	Description		
SS	0.119	MCE _R ground motion. (for 0.2 second period)		
S ₁	0.045	5 MCE _R ground motion. (for 1.0s period)		
S _{MS}	0.285	0.285 Site-modified spectral acceleration value		
S _{M1}	0.191	Site-modified spectral acceleration value		
S _{DS}	0.19	Numeric seismic design value at 0.2 second SA		
S _{D1}	0.127	Numeric seismic design value at 1.0 second SA		
Туре	Value	Description		
SDC	С	Seismic design category		
Fa	2.4	Site amplification factor at 0.2 second		
Fv	4.2	Site amplification factor at 1.0 second		
PGA	0.058	MCE _G peak ground acceleration		
F _{PGA}	2.4	Site amplification factor at PGA		
PGA _M	0.139	Site modified peak ground acceleration		
ΤL	6	Long-period transition period in seconds		
SsRT	0.119	Probabilistic risk-targeted ground motion. (0.2 second)		
SsUH	0.127	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration		
SsD	1.5	Factored deterministic acceleration value. (0.2 second)		
S1RT	0.045	Probabilistic risk-targeted ground motion. (1.0 second)		
STUH	0.05	Factored deterministic acceleration value. (1.0 second)		
PGAd	0.5	Factored deterministic acceleration value. (1.0 second)		
CRS	0.939	Mapped value of the risk coefficient at short periods		
C _{P1}	0.917	Mapped value of the risk coefficient at a period of 1 s		

DISCLAIMER

While the information presented on this website is believed to be correct, <u>SEAOC</u> (<u>OSHPD</u> and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in this web application should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. SEAOC / OSHPD do not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the seismic data provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the search results of this website.

SECTION 024100 - DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

1.02 RELATED REQUIREMENTS

- A. Section 011200 Multiple Contract Summary: Limitations on Contractor's use of site and premises.
- B. Section 015000 Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 016000 Product Requirements: Handling and storage of items removed for salvage and relocation.
- D. Section 017300 Execution: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- E. Section 311000 Site Clearing and Demolition: Vegetation and existing debris removal. Demolition, removal and abandoning of existing utilities. Demolition and disposal of asphalt concrete pavements.
- F. Section 310000 Site Earthwork: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 Safety and Health Regulations for Construction.
- B. NFPA 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Vegetation to be protected.
 - 2. Areas for temporary construction and field offices.
 - 3. Areas for temporary and permanent placement of removed materials.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

Ithaca Fire Station Demolition 1. Minimum of five years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: As specified in Section 312323 - Fill.

PART 3 EXECUTION

3.01 SCOPE

- A. Remove the entire building designated "Building to be removed as specified".
- B. Remove foundation walls and footings in their entirety.
- C. Remove other items indicated, for salvage, relocation, and recycling.
- D. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 310000.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 7. Do not close or obstruct roadways or sidewalks without permit.
 - 8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Do not begin removal until built elements to be salvaged or relocated have been removed.
- D. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

- E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- F. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- G. Perform demolition in a manner that maximizes salvage and recycling of materials.
 - 1. Dismantle existing construction and separate materials.
 - 2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- 3.03 EXISTING UTILITIES
 - A. Refer to Section 311000 Site Clearing and Demolition
- 3.04 DEBRIS AND WASTE REMOVAL
 - A. Remove debris, junk, and trash from site.
 - B. Leave site in clean condition, ready for subsequent work.
 - C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 024100

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete for composite floor construction.
- C. Floors and slabs on grade.
- D. Concrete foundation walls.
- E. Concrete reinforcement.
- F. Joint devices associated with concrete work.
- G. Miscellaneous concrete elements, including equipment pads, equipment pits, light pole bases, and flagpole bases.
- H. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Section 014533 Code-Required Special Inspections and Procedures.
- B. Section 033511 Concrete Floor Finishes: Densifiers, hardeners, applied coatings, and polishing.
- C. Section 079200 Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.
- D. Section 079513 Expansion Joint Cover Assemblies.
- E. Section 321313 Concrete Paving: Sidewalks, curbs and gutters.
- 1.03 REFERENCE STANDARDS
 - A. ACI 117 Specifications for Tolerances for Concrete Construction and Materials.
 - B. ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - C. ACI 211.2 Standard Practice for Selecting Proportions for Structural Lightweight Concrete.
 - D. ACI 301 Specifications for Concrete Construction.
 - E. ACI 302.1R Guide to Concrete Floor and Slab Construction.
 - F. ACI 304R Guide for Measuring, Mixing, Transporting, and Placing Concrete.
 - G. ACI 305R Guide to Hot Weather Concreting.

- H. ACI 306R Guide to Cold Weather Concreting.
- I. ACI 308R Guide to External Curing of Concrete.
- J. ACI 318 Building Code Requirements for Structural Concrete.
- K. ACI 347R Guide to Formwork for Concrete.
- L. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
- M. ASTM A767/A767M Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
- N. ASTM A1064/A1064M Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
- O. ASTM C33/C33M Standard Specification for Concrete Aggregates.
- P. ASTM C39/C39M Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- Q. ASTM C94/C94M Standard Specification for Ready-Mixed Concrete.
- R. ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens).
- S. ASTM C143/C143M Standard Test Method for Slump of Hydraulic-Cement Concrete.
- T. ASTM C150/C150M Standard Specification for Portland Cement.
- U. ASTM C171 Standard Specification for Sheet Materials for Curing Concrete.
- V. ASTM C173/C173M Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
- W. ASTM C260/C260M Standard Specification for Air-Entraining Admixtures for Concrete.
- X. ASTM C309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- Y. ASTM C348 Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
- Z. ASTM C348 Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
- AA. ASTM C472 Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete.
- BB. ASTM C472 Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete.
- CC. ASTM C330/C330M Standard Specification for Lightweight Aggregates for Structural Concrete.
- DD. ASTM C494/C494M Standard Specification for Chemical Admixtures for Concrete.
- EE. ASTM C685/C685M Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
- FF. ASTM C827/C827M Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.
- GG. ASTM C881/C881M Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- HH. ASTM C1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration.
- II. ASTM C979/C979M Standard Specification for Pigments for Integrally Colored Concrete.
- JJ. ASTM C1260 Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method).
- KK. ASTM C1059/C1059M Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.
- LL. ASTM C1107/C1107M Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
- MM. ASTM C1116/C1116M Standard Specification for Fiber-Reinforced Concrete.
- NN. ASTM C1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration.
- OO. ASTM C1315 Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
- PP. ASTM C1582/C1582M Standard Specification for Admixtures to Inhibit Chloride-Induced Corrosion of Reinforcing Steel in Concrete.
- QQ. ASTM C1602/C1602M Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.
- RR. ASTM D8139 Standard Specification for Semi-Rigid, Closed-Cell Polypropylene Foam, Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- SS. ASTM D8139 Standard Specification for Semi-Rigid, Closed-Cell Polypropylene Foam, Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- TT. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- UU. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- VV. ASTM D1751 Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
- WW. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- XX. ASTM E154/E154M Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
- YY. ASTM E1155 Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers.

Ithaca Fire Station Cast-in-Place Concrete

- ZZ. ASTM E1155M Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers (Metric).
- AAA. ASTM E1643 Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
- BBB. ASTM E1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
- CCC. COE CRD-C 572 Corps of Engineers Specifications for Polyvinylchloride Waterstop.
- DDD. ICRI 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
- EEE. NSF 61 Drinking Water System Components Health Effects.
- FFF. NSF 372 Drinking Water System Components Lead Content.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
 - 1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
- C. Mix Design: Submit proposed concrete mix design.
 - 1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 Concrete Mixtures.
 - 2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 Concrete Quality, Mixing and Placing.
 - 3. Indicate proposed mix design complies with fiber reinforcing manufacturer's written recommendations.
 - 4. Indicate proposed mix design complies with admixture manufacturer's written recommendations.
- D. Samples: Submit samples of underslab vapor retarder to be used.
- E. Test Reports: Submit report for each test or series of tests specified.
- F. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.
- G. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.
- H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.1. Maintain one copy of each document on site.

- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.
- D. For slabs required to include moisture vapor reducing admixture (MVRA), do not proceed with placement unless manufacturer's representative is present for every day of placement.
- 1.06 MOCK-UP
 - A. If requested by Engineer of Record, cast concrete against mock-up panel. Obtain acceptance of resulting surface finish prior to erecting formwork.
 - B. Accepted mock-up panel is considered basis of quality for the finished work. Keep mock-up exposed to view for duration of concrete work.
 - C. Mock-up may remain as part of the Work.

1.07 WARRANTY

- A. See Section 017800 Closeout Submittals for additional warranty requirements.
- B. Moisture Emission-Reducing Curing and Sealing Compound, Penetrating: Provide nonprorated warranty to cover cost of flooring delamination failures for 20 years.
 - 1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
 - 2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.
- B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.
- C. Reinforcement Accessories:

Ithaca Fire Station Cast-in-Place Concrete

- 1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
- 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
- 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I Normal Portland type.
 1. Acquire cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
 1. Acquire aggregates for entire project from same source.
- C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.
- D. Early Age Crack-Control Fiber Reinforcement: ASTM C1116/C1116M.
 - 1. Fiber Type: Alkali-resistant synthetic.
 - 2. Fiber Length: 1.5 inch, nominal.
 - 3. Products:
 - a. Euclid Chemical Company; PSI Fiberstrand ____: www.euclidchemical.com/#sle.
 - b. Fibermesh; Fibermesh 150e3: www.fibermesh.com/#sle.
 - c. Forta Corporation; ECONO-NET (1-1/2"): www.forta-ferro.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
- E. Blended Fiber Reinforcement: ASTM C1116/C1116M, engineered blend of two or more sizes of reinforcing fibers.
 - 1. Fiber Type: Alkali-resistant synthetic.
 - 2. Fiber Length: 1.5 inch, nominal.
 - 3. Products:
 - a. Fibermesh; Novomesh 950: www.fibermesh.com/#sle.
 - b. Master Builders Solutions; MasterFiber MAC 360 FF: www.master-builderssolutions.com/en-us/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.

2.04 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C260/C260M.
- C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
- F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
- G. Accelerating Admixture: ASTM C494/C494M Type C.
- H. Retarding Admixture: ASTM C494/C494M Type B.

- I. Water Reducing Admixture: ASTM C494/C494M Type A.
- J. Corrosion Inhibiting Admixture: 1. ASTM C494/C494M, Type C.
- K. Waterproofing Admixture: Admixture formulated to reduce permeability to liquid water, with no adverse effect on concrete properties.
 - 1. Admixture Composition: Crystalline, functioning by growth of crystals in capillary pores.
 - 2. Potable Water Contact Approval: National Science Foundation (NSF) certification for use on structures holding potable water, based on testing in accordance with NSF 61 and NSF 372
 - 3. Products:
 - a. Euclid Chemical Company; Eucon Vandex AM-10: www.euclidchemical.com/#sle.
 - b. Xypex Chemical Corporation; XYPEX Admix C-500: www.xypex.com/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.

2.05 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder:
 - 1. Sheet Material: ASTM E1745, Class A; 15 mil thickness, stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single ply polyethylene is prohibited.
 - 2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
- B. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Grout: Comply with ASTM C1107/C1107M.
 - 2. Minimum Compressive Strength at 48 Hours, ASTM C109/C109M: 2,000 pounds per square inch.
 - 3. Minimum Compressive Strength at 28 Days, ASTM C109/C109M: 7,000 pounds per square inch.
 - 4. Products containing aluminum powder are not permitted.

2.06 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
- B. Epoxy Bonding System:
 1. Complying with ASTM C881/C881M and of Type required for specific application.
- C. Waterstops: Bentonite and butyl rubber.
 - 1. Configuration: As indicated on drawings.
 - 2. Products:
 - a. CETCO, a division of Minerals Technologies Inc; WATERSTOP RX: www.mineralstech.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.

- D. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.
 1. Material: ASTM D1751, cellulose fiber.
- E. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 12 inches on center; ribbed steel stakes for setting.

2.07 CURING MATERIALS

- A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
- B. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.
- C. Curing and Sealing Compound, Moisture Emission-Reducing, Penetrating: Clear, water-based, non-film-forming curing agent; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission, moisture vapor emission, and alkalinity.
 - 1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
 - 2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C39/C39M.
 - 3. Chloride Ion Resistance of Treated Concrete: Equal to or greater than strength after 28day water cure when tested according to ASTM C1202.
 - 4. Comply with ASTM C309 and ASTM C1315 Type I Class A.
 - 5. VOC Content: Zero.
- D. Do not use shrinkage-reducing admixture (SRA) in same concrete batch with MVRA or PIA.
- E. Moisture-Retaining Sheet: ASTM C171.1. White-burlap-polyethylene sheet, weighing not less than 3.8 ounces per square yard.
- F. Water: Potable, not detrimental to concrete.

2.08 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- C. Fiber Reinforcement: Add to mix at rate shown below.
- D. Concrete Mix requirements:

Portion of Structure	28-day Minimum Strength (psi)	Slump (+/- 1")	Maximum Water/cement Ratio	Air Content(+/- 1.5%)	Fiber (type/dosage)
Footings	4000	4"	0.45	6%	n/a
Foundation walls, piers, grade beams	4500	4"	0.42	6%	n/a
Interior slabs on grade	4500	4"	0.42	2%	Blended Fiber/5 lb/cy
Interior slabs on metal deck and topping slab (normal weight)	4000	4"	0.45	2%	n/a
Pavements, sidewalks	5000	4"	0.40	6%	Crack Control Fiber/1.5 lb/cy

2.09 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
 - 1. Fiber Reinforcement: Batch and mix as recommended by manufacturer for specific project conditions.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R, _____.
- E. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.

Ithaca Fire Station Cast-in-Place Concrete

- 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
- 2. Use latex bonding agent only for non-load-bearing applications.
- F. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- G. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
 - 1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as indicated on drawings. Do not use sand.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Notify Engineer of Record not less than 24 hours prior to commencement of placement operations.
- D. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- E. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- F. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.
- G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

- A. Locate joints as indicated on drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.

- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
 - 1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.
- E. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. An independent testing agency, as specified in Section 014000, will inspect finished slabs for compliance with specified tolerances.
- B. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
 - 1. Exposed to View and Foot Traffic: F(F) of 20; F(L) of 15, on-grade only.
 - 2. Under Carpeting: F(F) of 25; F(L) of 20, on-grade only.
 - 3. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25, on-grade only.
- C. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M), within 48 hours after slab installation; report both composite overall values and local values for each measured section.
- D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
- E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.
 - 2. Decorative Exposed Surfaces: Trowel as described in ACI 302.1R; take measures necessary to avoid black-burnish marks; decorative exposed surfaces include surfaces to receive liquid hardeners, surfaces to receive dry-shake hardeners, and surfaces to be polished.

- 3. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
- E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.08 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than seven days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
- D. Surfaces Not in Contact with Forms:
 - 1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
 - 2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 - a. Ponding: Maintain 100 percent coverage of water over floor slab areas, continuously for 4 days.
 - b. Spraying: Spray water over floor slab areas and maintain wet.
 - c. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.
 - 3. Final Curing: Begin after initial curing but before surface is dry.
 - a. Moisture-Retaining Sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges.
 - b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.09 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 014000 Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.

- F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.
- H. Slab Testing: Cooperate with manufacturer of specified moisture vapor reducing admixture (MVRA) to allow access for sampling and testing concrete for compliance with warranty requirements.

3.10 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Engineer of Record and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Engineer of Record. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer of Record for each individual area.

3.11 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION 033000

SECTION 033300- ARCHITECTURAL CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place architectural concrete, including form facings, reinforcement accessories, concrete placement, and concrete finishes.
 - 2. Requirements in Section 033000 "Cast-in-Place Concrete" apply to this Section.

1.3 DEFINITIONS

A. Cast-in-Place Architectural Concrete: Concrete that is exposed to view, is designated as architectural concrete, and that requires special concrete materials, formwork, placement, or finishes to obtain specified architectural appearance.

1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Form-facing panels.
 - 2. Form joint tape.
 - 3. Form joint sealant.
 - 4. Form-release agent.
 - 5. Surface retarder.
 - 6. Form ties.
 - 7. Bar supports.
 - 8. Portland cement.
 - 9. Aggregates.
 - 10. Admixtures:
 - a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

- 11. Repair materials.
- B. Design Mixtures: For each concrete mixture, include the following:
 - 1. Mixture identification.
 - 2. Minimum 28-day compressive strength.
 - 3. Durability exposure class.
 - 4. Maximum w/cm.
 - 5. Calculated equilibrium unit weight, for lightweight concrete.
 - 6. Slump limit.
 - 7. Air content.
 - 8. Nominal maximum aggregate size.
 - 9. Steel-fiber reinforcement content.
 - 10. Synthetic microfiber content.
 - 11. Amounts of mixing water to be withheld for later addition at Project site if permitted.
 - 12. Intended placement method.
 - 13. Alternative design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Shop Drawings:
 - 1. Formwork: Prepared by, and signed and sealed by, a qualified professional engineer responsible for their preparation, detailing fabrication, assembly, and support of forms.
 - a. Show formwork construction, including form-liner layout, form-liner termination details, dimensioned locations of form-facing material joints, rustications, construction and contraction joints, form joint-sealant details, form-tie locations and patterns, inserts and embedments, cutouts, cleanout panels, and other items that visually affect cast-in-place architectural concrete.
 - 1) Included separate layout for formwork used in field sample panels and mockups.
 - 2) Indicate proposed schedule and sequence of stripping of forms, shoring removal, and reshoring installation and removal.
 - 3) Location of construction joints is subject to approval of Architect.
- D. Samples: For each of the following materials:
 - 1. Form-facing panels.
 - 2. Form ties.
 - 3. Chamfers.
- E. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:

- 1. Concrete Class designation.
- 2. Location within Project.
- 3. Exposure Class designation.
- 4. Formed Surface Finish designation and final finish.
- 5. Curing process.
- F. Placement Schedule: Submit before start of placement operations.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
 - 1. Installer: Include copies of applicable ACI certificates.
 - 2. Ready-mixed concrete manufacturer.
- B. Material Certificates: For each of the following:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Repair materials.
- C. Material Test Reports: For the following, by a qualified testing agency:
 - 1. Portland cement.
 - 2. Aggregates: Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
- D. Research Reports: For concrete admixtures in accordance with ICC AC198.
- E. Preconstruction Test Reports: For each mix design.
- F. Concrete Repair: Submit a written, detailed description of materials, methods, equipment, and sequence of operations to be used for repairing architectural concrete, including protection of surrounding materials and Project site.
 - 1. If materials and methods other than those indicated are proposed for any repairs to architectural concrete, add a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and Installer's ability to use such materials and methods properly.
- G. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

- A. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
 - 1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. Installer Qualifications: An experienced cast-in-place architectural concrete installer, as evidenced by not less than five consecutive years' experience, specializing in installing cast-in-place architectural concrete similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
 - 1. Provide written evidence of qualifications and experience.
 - 2. Include locations, descriptions, and photographs of completed projects, including name of architect, substantiating the quality of the installer's experience.
- C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated and employing an ACI-certified Concrete Quality Technical Manager.
 - 1. Personnel performing laboratory tests shall be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Level I.
 - 2. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Level II.
- D. Field Sample Panels: After approval of verification sample and before casting architectural concrete, produce field sample panels to demonstrate the approved range of selections made under Sample submittals. Produce a minimum of three sets of full-scale panels, cast vertically, approximately 48 by 48 by 6 inches minimum, to demonstrate the expected range of finish, color, and texture variations.
 - 1. Locate panels as indicated or, if not indicated, as directed by Architect.
 - 2. Demonstrate methods of curing, aggregate exposure, wood sealers, and coatings, as applicable.
 - 3. In presence of Architect, damage part of an exposed-face surface for each finish, color, and texture, and demonstrate materials and techniques proposed for repair of tie holes and surface blemishes to match adjacent undamaged surfaces.
 - 4. Maintain field sample panels during construction in an undisturbed condition as a standard for judging the completed Work.
 - 5. Demolish and remove field sample panels when directed.
- E. Mockups: Before casting architectural concrete, build mockups, using the same procedures, equipment, materials, finishing procedures, and curing procedures that will be used for producing architectural concrete, to verify selections made under Sample submittals and to demonstrate typical joints, surface finish, color, texture, tolerances,

and standard of workmanship. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

- 1. Build mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
- 2. Build mockups of typical wall of cast-in-place architectural concrete as shown on Drawings, including vertical and horizontal rustication joints, and any sculptured features.
- 3. Construct mockups to include at least two lifts having heights equal to those anticipated for construction.
- 4. Demonstrate curing, cleaning, and protecting of cast-in-place architectural concrete, finishes, and contraction joints, as applicable.
- 5. In presence of Architect, damage part of the exposed-face surface for each finish, color, and texture, and demonstrate materials and techniques proposed for repair to match adjacent undamaged surfaces.
- 6. In presence of Architect, demonstrate materials and techniques proposed for repair of tie holes and surface blemishes to match adjacent undamaged surfaces.
- 7. Obtain Architect's approval of mockups before casting architectural concrete.
- 8. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.
 - 1. Include the following information in each test report:
 - a. Admixture dosage rates.
 - b. Slump.
 - c. Air content.
 - d. Seven-day compressive strength.
 - e. 28-day compressive strength.
 - f. Permeability.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Comply with ASTM C94/C94M and ACI 301 (ACI 301M).

1.9 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with Section 033000 "Cast-in-Place Concrete."
- B. Hot-Weather Placement: Comply with Section 033000 "Cast-in-Place Concrete."

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 FORM-FACING MATERIALS

- A. Source Limitations: Obtain each type of form-facing material from single source from single manufacturer.
- B. Form-Facing Panels for As-Cast Finishes:
 - 1. Steel- and glass-fiber-reinforced plastic, or other approved nonabsorptive panel materials that provide continuous, true, and smooth architectural concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- C. Chamfer Strips: Metal, rigid plastic, elastomeric rubber, or dressed wood, ½ by ½ inch, minimum; nonstaining; in longest practicable lengths.
- D. Form Joint Tape: Compressible foam tape; pressure sensitive; AAMA 800; minimum 1/4 inch thick.
- E. Form Joint Sealant: Elastomeric sealant complying with ASTM C920, Type M or Type S, Grade NS, that adheres to form joint substrates, does not stain, does not adversely affect concrete surfaces, and does not impair subsequent treatments and finishes of concrete surfaces.
- F. Form-Release Agent: Commercially formulated, colorless form-release agent that does not bond with, stain, or adversely affect architectural concrete surfaces and will not impair subsequent treatments and finishes of architectural concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
 - 2. Form-release agent for form liners shall be acceptable to form-liner manufacturer.
- G. Surface Retarder: Water-soluble chemical liquid set retarder, for application on formfacing materials, capable of temporarily delaying final hardening of newly placed architectural concrete surface to depth of aggregate exposure specified.
 - 1. Source Limitations: Obtain surface retarder from single source from single manufacturer.
- H. Form Ties: Factory-fabricated, glass-fiber-reinforced plastic, internally disconnecting or removable ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

- 1. Furnish ties that, when removed, will leave holes no larger than 3/4 inch in diameter on architectural concrete surface.
- 2. Furnish glass-fiber-reinforced plastic ties, not less than 1/2 inch and not more than 3/4 inch in diameter, of color to match Architect's sample.

2.3 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire fabric in place.
 - 1. Manufacture bar supports in accordance with CRSI's "Manual of Standard Practice."
 - 2. Where legs of wire bar supports contact forms, use CRSI Class 1, gray, plasticprotected bar supports.

2.4 CONCRETE MATERIALS

A. Comply with Section 0330000 "Cast-in-Place Concrete."

2.5 CURING MATERIALS

A. Comply with Section 0330000 "Cast-in-Place Concrete."

2.6 CONCRETE MIXTURES

A. Comply with Section 0330000 "Cast-in-Place Concrete" and retaining wall drawings.

PART 3 - EXECUTION

- 3.1 INSTALLATION OF FORMWORK
 - A. Limit deflection of form-facing panels to not exceed ACI 301 requirements.
 - B. Limit cast-in-place architectural concrete surface irregularities, as follows:
 - 1. Surface Finish-3.0: ACI 117 Class A, 1/8 inch.
 - C. Construct forms to result in cast-in-place architectural concrete that complies with ACI 117.
 - D. Seal form joints, chamfers, rustication joints, and penetrations at form ties with form joint tape or form joint sealant to prevent cement paste leakage.

- 1. Provide closure backing materials if indented rustication is used over a ribbed form line, and seal joint between rustication strip and form with joint sealant.
- E. Chamfer exterior corners and edges of cast-in-place architectural concrete.
- F. Coat contact surfaces of wood rustications and chamfer strips with wood sealer before placing reinforcement, anchoring devices, and embedded items.
- G. Coat contact surfaces of forms with form-release agent, in accordance with manufacturer's written instructions, before placing reinforcement, anchoring devices, and embedded items.
- H. Coat contact surfaces of forms with surface retarder, in accordance with manufacturer's written instructions, before placing reinforcement, anchoring devices, and embedded items.

3.2 INSTALLATION OF REINFORCEMENT AND ACCESSORIES

A. Comply with Section 0330000 "Cast-in-Place Concrete."

3.3 REMOVING AND REUSING FORMS

- A. Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 - 1. Schedule form removal to maintain surface appearance that matches approved field sample panels and mockups.
 - 2. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
 - 3. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
 - 4. Cut off and grind glass-fiber-reinforced plastic form ties flush with surface of concrete.
- B. Clean and repair surfaces of forms to be reused in the Work.
 - 1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
 - 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.

- 1. Align and secure joints to avoid offsets.
- 2. Do not use patched forms for cast-in-place architectural concrete surfaces.

3.4 JOINTS

- A. Construction Joints: Install construction joints true to line, with faces perpendicular to surface plane of cast-in-place architectural concrete, so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated.
 - 2. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 3. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at top of footings or floor slabs.
 - 4. Space vertical joints in walls, locations to be coordinated with the Engineer and Architect. Unless otherwise indicated on Drawings, locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 - 5. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- B. Contraction Joints: Form weakened-plane contraction joints true to line, with faces perpendicular to surface plane of cast-in-place architectural concrete, so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.

3.5 CONCRETE PLACEMENT

A. Comply with Section 033000 "Cast-in-Place Concrete."

3.6 FINISHING FORMED SURFACES

- A. Comply with Section 033000 "Cast-in-Place Concrete."
- B. Architectural Concrete Finish: Match Architect's design reference sample, identified and described as indicated, to satisfaction of Architect.
- C. As-Cast Surface Finishes: Comply with Section 033000 "Cast-in-Place Concrete" for the following:
 - 1. ACI 301 Surface Finish-3.0 (SF-3.0).
- D. Final Concrete Finish: Comply with Section 033000 "Cast-in-Place Concrete" for the following:

- 1. Smooth-rubbed finish.
- E. Maintain uniformity of architectural concrete finishes over construction joints unless otherwise indicated.

3.7 CONCRETE CURING

A. Comply with Section 033000 "Cast-in-Place Concrete" using identical curing procedures to that used for field sample panels and mockups.

3.8 REPAIR

- A. Comply with ACI 301.
- B. Repair damaged finished surfaces of cast-in-place architectural concrete when repairing is approved by Architect.
- C. Match repairs to color, texture, and uniformity of surrounding surfaces and to repairs on approved field sample panels and mockups.
- D. Remove and replace cast-in-place architectural concrete that cannot be repaired to Architect's approval.
- 3.9 FIELD QUALITY CONTROL
 - A. Comply with Section 033000 "Cast-in-Place Concrete."

3.10 CLEANING

- A. Clean cast-in-place architectural concrete surfaces after finish treatment to remove stains, markings, dust, and debris.
- B. Wash and rinse surfaces in accordance with concrete finish applicator's written instructions.
 - 1. Protect other Work from staining or damage due to cleaning operations.
 - 2. Do not use cleaning materials or processes that could change the appearance of cast-in-place architectural concrete finishes.

3.11 PROTECTION

A. Protect corners, edges, and surfaces of cast-in-place architectural concrete from damage; use guards and barricades.

B. Protect cast-in-place architectural concrete from staining, laitance, and contamination during remainder of construction period.

3.12 FINAL ACCEPTANCE

A. Final acceptance of completed architectural concrete Work will be determined by Architect by comparing approved field sample panels and mockups with installed Work, when viewed at a distance of 10 feet.

END OF SECTION 033300

SECTION 033500- CONCRETE FINISHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Liquid densifiers and hardeners.
- B. Dry shake hardeners.

1.2 RELATED REQUIREMENTS

A. Section 033000 – Cast-in-Place Concrete.

1.3 STANDARDS

- A. All work of this section shall conform to industry standards manufacturer's recommendations and the ACI manual of concrete practice.
- B. ACI 301 "Specifications for Structural Concrete for Buildings".
- C. ACI 303 "Guide to Cast-In-Place Architectural Concrete Practice".

1.4 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.

1.5 QUALITY ASSURANCE

A. All work of this section shall be performed by experienced workmen familiar with the work and according to manufacturer's recommendations and/or industry standards.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Protect against moisture exposure and damage.

PART 2 PRODUCTS

2.1 SALT GUARD SLAB SEALER

- A. Salt Guard WB (water based) by Prosoco, Inc. or Architect approved equivalent.
 - 1. Locations:
 - a. Apparatus Bay slab.
 - b. Exterior concrete slabs, stoops, aprons and sidewalks.
- B. Handle and apply according to manufacturer's Specifications.
- C. Apply salt guard sealer to slabs that are a minimum of 28 days old, have been thoroughly moist cured and have been allowed to air dry.

2.2 DENSIFIERS AND HARDENERS

- A. Liquid Densifier and Hardener (SC): Penetrating chemical compound that reacts with concrete, filling the pores, hardening, and dustproofing.
 - 1. Composition: Lithium silicate.
 - 2. Products:
 - a. Euclid Chemical Company; EUCO DIAMOND HARD: <u>www.euclidchemical.com/#sle</u>.
 - b. Kaufman Products Inc; SureHard LS: <u>www.kaufmanproducts.net/#sle</u>.
 - c. L&M Construction Chemicals, Inc, a subsidiary of Laticrete International, Inc; LiON HARD: <u>www.lmcc.com/#sle</u>.
 - d. W. R. Meadows, Inc; Liqui-Hard Ultra: <u>www.wrmeadows.com/#sle</u>
 - e. Substitutions: See Section 016000 Product Requirements.
 - 3. Locations: As noted as "SC" in the Room Finish Schedule.
- B. Dry Shake Hardener: Premixed dry powder for spreading on and working into concrete surface prior to set.
 - 1. Color(s): As selected by Architect from manufacturer's standard range.
 - 2. Composition: Non-metallic aggregate.
 - 3. Products:
 - a. Euclid Chemical Company; SURFLEX TR: <u>www.euclidchemical.com/#sle</u>.
 - b. Substitutions: See Section 016000 Product Requirements.
 - 4. Locations:
 - a. Apparatus Bay slab.
 - b. Exterior concrete slabs, stoops, aprons and sidewalks.

3.1 FINISHING UNFORMED SURFACES (SLABS)

- A. Floated & Soft Broomed Finish:
 - 1. Finish:
 - a. Apparatus Bay: Soft broomed finish.
 - b. Mezzanine: Float.
 - 2. After placing, consolidating, and striking-off level slabs per the following tolerances . Slope surfaces uniformly to drains. Do not work surface until ready for floating.
 - 3. Deviations in level and sloped surfaces:
 - a. Do not exceeding 1/8 in. in 2 ft when tested with a 2 ft straight edge.
 - b. Do not exceeding 1/4 in. in 10 ft when tested with a 10 ft straight edge.
 - 4. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
 - 5. These slabs should be finished with a mild, soft broom finish in the direction of drainage.
 - 6. The Contractor will prepare a 24" x 24" test panel or similar sample of the finish for approval by the Owner and Architect.
 - 7. Said sample will remain on the job site during finishing operations and will be used as a guide for the slab finish.
- B. Troweled Finish: (Non-Apparatus Bay Areas, for rooms to receive tile or carpet)
 - 1. After floating, steel-trowel slab surface to a smooth, even, impervious finish free from trowel marks. For exposed to view concrete slabs, give slab surface a second steel trowelling to a burnished finish, uniform in texture and appearance. Grind smooth surface defect which would telegraph through applied floor covering system.
 - 2. Deviations in level and sloped surfaces:
 - a. Do not exceeding 1/8 in. in 2 ft when tested with a 2 ft straight edge.
 - b. Do not exceeding 1/4 in. in 10 ft when tested with a 10 ft straight edge.
- C. Slip Broom Finish: (Exterior Concrete)
 - 1. After placing, consolidating, and striking-off slabs. Slope surfaces uniformly to drains. Do not work surface until ready for floating.
 - 2. Deviations in level and sloped surfaces:
 - a. Do not exceeding 1/8 in. in 2 ft when tested with a 2 ft straight edge.
 - b. Do not exceeding 1/4 in. in 10 ft when tested with a 10 ft straight edge.
 - 3. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to tolerances above. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
 - 4. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom in straight, parallel lines perpendicular to main traffic route. Coordinate required final finish with the Architect

before application.

D. Caution: Do not use jitterbugs at any time.

3.2 REPAIR OF DEFECTIVE WORK

- A. Repair of Unformed Surfaces (Slabs): Test unformed surfaces, such as monolithic slabs, for smoothness and to verify that surface planes conform to tolerances specified for each surface and finish. Correct low and high areas as specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.
 - 1. Repair finished unformed surfaces that contain defects which adversely affect durability of concrete. Surface defects include crazing, cracks in excess of 0.01 in. wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
 - 2. Repair defective areas, except random cracks and single holes not exceeding 1 inch diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4 in. clearance all around.
 - a) Dampen concrete surfaces in contact with patching concrete and apply specified bonding compound. Place patching concrete after bonding compound has dried. Mix patching of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 - 3. Repair isolated random cracks and single holes not over 1 in. in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles.
 - 4. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.
 - 5. Correct low areas in unformed surfaces during, or immediately after completion of, surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Use specified bonding or patching compound.
- B. Make structural repairs with prior approval of Architect as to method and procedures, using structural patching mortar.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 034113 - PRECAST CONCRETE HOLLOW CORE PLANKS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Precast floor planks.
- B. Connection plates with brackets and hangers.
- C. Grouting plank joint keys.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete.
- B. Section 014533 Code-Required Special Inspections and Procedures.
- 1.03 REFERENCE STANDARDS
 - A. ACI 301 Specifications for Concrete Construction.
 - B. ACI 318 Building Code Requirements for Structural Concrete.
 - C. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
 - D. ASTM A416/A416M Standard Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete.
 - E. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - F. AWS B2.1/B2.1M Specification for Welding Procedure and Performance Qualification.
 - G. AWS D1.1/D1.1M Structural Welding Code Steel.
 - H. AWS D1.4/D1.4M Structural Welding Code Reinforcing Steel.
 - I. PCI MNL-116 Manual for Quality Control for Plants and Production of Structural Precast Concrete Products.
 - J. PCI MNL-120 PCI Design Handbook Precast and Prestressed Concrete.
 - K. PCI MNL-123 Design and Typical Details of Connections for Precast and Prestressed Concrete.
 - L. PCI MNL-124 Design for Fire Resistance of Precast Prestressed Concrete.
 - M. PCI MNL-126 Manual For The Design of Hollow Core Slabs.
 - N. PCI MNL-135 Tolerance Manual for Precast and Prestressed Concrete Construction.
 - O. PCI (CERT) PCI Plant Certification.

Ithaca Fire Station Precast Concrete Hollow Core Planks

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate location of hanger tabs and devices for mechanical and electrical work and cutting of field openings.
- B. Preinstallation Meeting: Convene one week before starting work of this section.
 - 1. Discuss anchor and weld plate locations, sleeve locations, and cautions regarding cutting or core drilling.

1.05 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate standard component configuration, design loads, deflections, and cambers.
- C. Shop Drawings: Indicate plank locations, unit identification marks, connection details, edge conditions, bearing requirements, support conditions, dimensions, openings, openings intended to be field cut, and relationship to adjacent materials.
- D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.
- E. Designer's Qualification Statement.
- F. Manufacturer's Qualification Statement.
- G. Erector's Qualification Statement.
- H. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
- I. Delegated-Design Submittal: For precast structural concrete indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Design precast concrete hollow core planks under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- C. Erector Qualifications: Company specializing in performing the type of work specified in this section, with minimum 5 years of documented experience.
- D. Welding Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.4/D1.4M and no more than 12 months before start of scheduled welding work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Lifting or Handling Devices: Capable of supporting member in positions anticipated during manufacture, storage, transportation, and erection.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Precast Concrete Hollow Core Planks:
 - 1. Any manufacturer with PCI Plant Certification, Group C2.
 - 2. Substitutions: See Section 016000 Product Requirements.

2.02 PRECAST UNITS

- A. Precast Hollow Core Planks: Comply with PCI MNL-120, PCI MNL-126, PCI MNL-124 ACI 318, and ACI 301.
 - 1. Dimensions as indicated on drawings.
 - 2. Design components to withstand dead loads and design loads in the configuration indicated on drawings and as follows:
 - a. Floor Assembly: 100 pounds per square foot live load.
 - b. Design shall consider stair and CMU wall loads located on plank, see configuration on drawings.
 - c. Maximum Allowable Deflection of Floor Planks: 1/240 of span , cambered to achieve flat surface under dead load.
 - 3. Design connections in accordance with PCI MNL-123.
 - 4. Design components to accommodate construction tolerances, deflection of other building structural members and clearances of intended openings.
 - 5. Grouted Keys: Capable of transmitting horizontal shear force of 2,000 pounds per linear foot.

2.03 MATERIALS

- A. Concrete Materials: ACI 301.
- B. Tensioning Steel Tendons: ASTM A416/A416M, Grade 250 250K psi; seven-wire stranded steel cable; low-relaxation type; full length without splices; weldless; uncoated.
- C. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) deformed steel bars.
- D. Non-Shrink Grout: Non-metallic, minimum compressive strength of 10,000 psi at 28 days.
- E. Cement Grout: Minimum compressive strength of 3,000 psi at 28 days.

2.04 ACCESSORIES

- A. Connecting and Supporting Devices: Plates, angles, items cast into concrete, items connected to steel framing members, and inserts: ASTM A36/A36M carbon steel; prime painted.
- B. Core Hole End Plugs: Cardboard insert with stiff concrete fill.
- C. Hanger Tabs: Galvanized steel, designed to fit into grouted key joints, capable of supporting 500 lbs dead load, predrilled to receive hanger.

Ithaca Fire Station Precast Concrete Hollow Core Planks

- D. Bearing Pads: High density plastic, 1/8 inch thick, smooth on one side. Vulcanized elastomeric compound molded to size.
- E. Sill Seal: Compressible glass fiber strips.

2.05 FABRICATION

- A. Weld reinforcing in accordance with AWS D1.4/D1.4M.
- B. Embed anchors, inserts, plates, angles, and other items at locations indicated.
- C. Provide openings required by other sections, at locations indicated.
- D. Cut exposed ends flush.
- E. Plant Finish: Finish members to PCI MNL-116 Commercial Grade.
- F. Connecting and Supporting Steel Devices: Do not paint surfaces in contact with concrete or surfaces requiring field welding.

2.06 FABRICATION TOLERANCES

- A. Comply with PCI MNL-116 and PCI MNL-135.
- 2.07 SOURCE QUALITY CONTROL
 - A. See Section 033000 for testing of concrete and grout, materials, and mix designs.
 - B. Produce planks in accordance with requirements of PCI MNL-116. Maintain plant records and quality control program during production of precast planks. Make records available upon request.
 - C. Inspect and test stressing tendons before delivery for compliance with specified standards.

PART 3 EXECUTION

3.01 PREPARATION

A. Prepare support devices for the erection procedure and temporary bracing.

3.02 ERECTION

- A. Erect members without damage to structural capacity, shape, or finish. Replace or repair damaged members.
- B. Install bearing pads and sill seal at bearing ends of planks as indicated.
- C. Align and maintain uniform horizontal and end joints, as erection progresses.
- D. Maintain temporary bracing in place until final connection is made. Protect members from staining.

- E. Adjust differential camber between precast members to tolerance before final attachment and grouting.
- F. Adjust differential elevation between precast members to tolerance before final attachment.
- G. Install hanger tabs in joints at 24 inches on center.
- H. Secure units in place. Perform welding in accordance with AWS D1.1/D1.1M.
- I. Grout longitudinal keys as indicated.
- J. Tape seal underside of plank joints to prevent grout leakage.
- K. Make plank-to-plank joints smooth using grout, troweled smooth. Transition differential elevation of adjoining planks with grout to a maximum slope of 1:12.

3.03 TOLERANCES

A. Erect members level and plumb within allowable tolerances. Comply with PCI MNL-135.

3.04 PROTECTION

- A. Protect members from damage caused by field welding or erection operations.
- B. Provide non-combustible shields during welding operations.

3.05 CLEANING

A. Clean weld marks, dirt, and blemishes from surface of exposed members.

END OF SECTION 034113
SECTION 036000- GROUTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Agreement, including General and Supplementary Conditions, and Division 01 of the Specifications, apply to work of this Section.

1.2 SCOPE

A. Furnish labor and materials necessary to install a complete system.

1.3 STANDARDS

- A. All work of this section shall conform to industry standards and/or manufacturer's recommendations.
- B. ASTM C109 "Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 in. or 50 mm Cube Specimens)".
- C. ASTM C827 "Early Volume Change of Cementitious Mixtures".
- D. Corps of Engineers "CRD-C621 Specification for Non-Shrink Grout".
- E. ASTM C 476-16 Standard Specification for Grout for Masonry

1.4 SUBMITTALS

- A. Submit pursuant to 013300 Submittal Procedures for Shop Drawings, Product Data, Samples.
- B. Submit pursuant to 016000 Product Requirements.
- C. Certificates of Compliance for all grout products used on the project.

1.5 QUALITY ASSURANCE

A. All work of this section shall be performed by experienced workmen familiar with the work and according to manufacturers recommendations and/or industry standards.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Protect against moisture exposure and damage.

PART 2 PRODUCTS

2.1 GROUT FOR CONCRETE UNIT MASONRY

- A. Use fine grout for spaces up to $1 \frac{1}{2}$ wide or to fill cells up to 4" in size.
 - 1. Compressive strength at 28 days: 3,000 psi.
- B. Use course grout only to fill cells having larger dimensions.
 - 1. Compressive strength at 28 days: 3,000 psi.
- C. Mix Ratio:
 - 1. 1 part Portland cement
 - 2. 0.1 part hydrated lime or lime putty
 - 3. Aggregate as follows:
 - a) For fine grout, use fine aggregate in a volume of 2.2 to 3.0 times the sum of the volumes of the cementitious materials.
 - b) For a course grout with fine aggregate, use aggregate in a volume of 2.25 to 3.0 times the sum of the volumes of the cementitious materials
 - c) For a course grout with course aggregate, use aggregate in a volume of 1 to 2 times the sum of the volumes of the cementitious materials.
 - d) Maintain a slump of 8 to 10 inches.
 - e) Maintain a compressive strength of 3,000 psi.

PART 3 EXECUTION

- 3.1 INSTALLATION
 - A. Prepare surfaces, install non-shrink grout, and cure pursuant to manufacturer's recommendations.
 - B. Install grout in driest, stiffest possible mix, pursuant to manufacturer's published mixing instructions, that will assure filling of voids. Fill space between structural support member and bearing structure and work the grout so as to assure full contact and no voids. Trim and seal exposed edges.

3.2 FIELD QUALITY CONTROL

A. Grout testing per the 2013 edition of ACI 530.1/ASCE 6/TMS 602 specification.

END OF SECTION

SECTION 040513 - MASONRY MORTARING

PART 1 GENERAL

A. Drawings and general provisions of the Agreement, including General and Supplementary Conditions, and Division 01 of the Specifications, apply to work of this Section.

1.01 RELATED SECTIONS

- A. Section 040523 Masonry Accessories.
- B. Section 042200 Concrete Unit Masonry.
- C. Section 042613 Masonry Veneer.
- D. Section 044313 Stone Masonry Veneer.
- E. Section 047200 Cast Stone Masonry Veneer.
- F. Section 079200 Joint Sealants

1.02 SCOPE

A. Furnish labor and materials necessary to install a complete system.

1.03 STANDARDS

- A. All work of this section shall conform to industry standards and/or manufacturer's recommendations.
- B. ASTM C144 "Standard Specification for Aggregate for Masonry Mortar".
- C. ASTM C91 "Standard Specifications for Masonry Cement".
- D. ASTM C150 "Standard Specification for Portland Cement".
- E. ASTM C207 "Standard Specifications for Hydrated Lime for Masonry Purposes".
- F. ASTM C270 "Standard Specifications for Mortar for Unit Masonry".
- G. ASTM C780 "Standard Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry".

1.04 SUBMITTALS

- A. Submit pursuant to 013300 Submittal Procedures for Shop Drawings, Product Data, Samples.
- B. Submit pursuant to 016000 Product Requirements.
- C. Submit certificates of compliance and manufacturer's technical data describing cement, lime, and sand products specified.
- D. Submit manufacturer's technical data describing integral coloring specified.
- E. Submit small mortar samples depicting integral coloring manufacturer's entire range of available colors

Ithaca Fire Station Masonry Mortaring

- F. Submit mortar mix designs.
- G. Submit results of tests of field specimens.

1.05 QUALITY ASSURANCE

A. All work of this section shall be performed by experienced workmen familiar with the work and according to manufacturers recommendations and/or industry standards.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Protect against moisture exposure and damage.

PART 2 PRODUCTS

2.01 MORTAR MATERIALS

- A. Portland Cement: ASTM C150, Type I or Type II, Domestic; use as specified.
 - 1. Exterior (above grade)
 - a) Color at concrete unit masonry selected by architect.
 - b) Provide natural color or white cement as required to produce mortar color.
 - 2. Exterior (at or below grade)
 - a) Color at concrete unit masonry: gray.
 - 3. Interior
 - a). Color at concrete unit masonry by architect.
- B. Sand: ASTM C144; local mason sand.
- C. Water: Potable and salt free.
- D. Lime: ASTM C207, Type S mortar.
- E. Provide all cement products from one manufacturer.
- F. Provide white cement for integral coloring.
- G. Combine products for mortar in accordance with ASTM C270 for Type S.

2.02 ADMIXTURES

- A. Admixtures containing calcium chlorides are prohibited.
- B. All mortar for exterior concrete masonry applications shall contain "Dry-Block" integral water repellent mortar admixture. Do not use "Dry-Block" integral water repellent mortar admixture with clay masonry applications.
 - 1. Apply at dosage recommended by the manufacturer

2.03 INTEGRAL COLORING

- A. Product: dry mixture of non-fading, alkali-resistant iron-oxide pigments possessing uniform dispersion characteristics.
- B. Color selection by Architect.

2.04 MORTAR MIX

- A. Prepare mortar mixes pursuant to "Property Specification Requirements" of ASTM C270 for types indicated on Drawings and herein specified.
- B. Exterior Concrete Unit Masonry (above grade)
 - 1. Mortar:
 - a) Type S (min. average compressive strength at 28 days: 1,800 psi.).
 - b) Mix: Portland cement/lime.
 - 2. Admixture:
 - a) Coloring pigments, as selected by Architect from manufacturer's full range.
 - b) Must contain add mixture for waterproofing
 - (1) Submittals must specify water repellent agent.
 - (2) Submit product literature for approval prior to using mortar on any finished area.
- C. Exterior Concrete Unit Masonry (at or below grade)
 - 1. Mortar:
 - a) Type S (min. average compressive strength at 28 days: 1,800 psi.).
 - b) Mix: Portland cement/lime.
 - 2. Admixture:
 - a) Coloring pigments, as selected by Architect from manufacturer's full range.
- D. Interior Concrete Unit Masonry
 - 1. Mortar:
 - a) Type S (min. average compressive strength at 28 days: 1,800 psi.).
 - b) Mix: Portland cement lime.
 - 2. Admixture:
 - a) Coloring pigments, as selected by Architect from manufacturer's full range.
- E. Exterior Veneer Masonry (above grade)

Ithaca Fire Station Masonry Mortaring

- 1. Mortar:
 - a) Type N (min. average compressive strength at 28 days: 750 psi.).
 - b) Mix: Portland cement/lime.

2. Admixture:

- a) Coloring pigments, as selected by Architect from manufacturer's full range.
- b) Must contain add mixture for waterproofing
 - (1) Submittals must specify water repellent agent.
 - (2) Submit product literature for approval prior to using mortar on any finished area.
- F. Tests
 - 1. Prepare mix designs and conduct tests using a recognized laboratory.

PART 3 EXECUTION

3.01 MIXING

- A. Mix mortar by methods that will ensure accurate proportioning of all required ingredients to a uniform consistency.
- B. Mechanically mix between 3 to 5 min. Hand mixing is prohibited.
- C. Select ingredients that are compatible.
- D. Do not combine two air entraining materials within same mortar mix.
- 3.02 RETEMPERING
 - A. Use mortar within 2-1/2 hr of initial mixing.
 - B. Discard unused mortar after it has begun to set. Do not re-temper mortar that has begun to set.

3.03 ADMIXTURES

A. Mix admixtures into mortar pursuant to manufacturer's published instructions.

3.04 INTEGRAL COLORING

- A. Provide integral coloring to mortar for walls as scheduled.
- B. Mix into mortar pursuant to manufacturer's published instructions.

3.05 SPECIAL APPLICATIONS

A. Fill block cells with fine or course grout (not mortar) where indicated and where structural steel lintels or beams bear on masonry construction for support for a minimum of 16" wide

Ithaca Fire Station Masonry Mortaring by 3 courses deep, u.n.o. Place mortar free of voids. Provide inspection holes at base of each filled vertical cell.

B. Fill hollow metal door frames. Place mortar free of voids.

3.06 FIELD QUALITY CONTROL

A. Mortar testing per the 2013 edition of ACI 530.1/ASCE 6/TMS 602 specification.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 040523 - MASONRY ACCESSORIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Agreement, including General and Supplementary Conditions, and Division 01 of the Specifications, apply to work of this Section.
- B. 033000 Cast-in-Place Concrete
- C. 040513 Masonry Mortaring
- D. 042200 Concrete Unit Masonry
- E. 042613 Masonry Veneer
- F. 044313 Stone Masonry Veneer
- G. 076200 Sheet Metal Flashing and Trim.

1.02 SCOPE

- A. Furnish labor and materials necessary to install a complete system.
- B. Metal horizontal joint reinforcement for masonry.
- C. Masonry veneer ties and masonry anchors.
- D. Wall ventilation for masonry.
- E. In wall cavity mortar netting.

1.03 STANDARDS

- A. All work of this section shall conform to industry standards and/or manufacturer's recommendations.
- B. ASTM A82 "Standard Specification for Steel Wire, Plain, for Concrete Reinforcement".
- C. ASTM A153 "Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".
- D. ASTM A641 "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire".
- E. ASTM A951 "Standard Specification for Masonry Joint Reinforcing".
- F. ASTM D2287 "Standard Specification for Non-rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds".

1.04 SUBMITTALS

- A. Submit pursuant to 013300 Submittal Procedures for Shop Drawings, Product Data, Samples.
- B. Submit pursuant to 016000 Product Requirements.
- C. Submit certificates of compliance and manufacturer's technical data for but not limited to: horizontal joint reinforcing, veneer anchors, movement joints products, anchors, expansion bolts, and rigid ties.

1.05 QUALITY ASSURANCE

A. All work of this section shall be performed by experienced workmen familiar with the work and according to manufacturer's recommendations and/or industry standards.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Protect against moisture exposure and damage.

PART 2 PRODUCTS

- 2.01 HORIZONTAL JOINT REINFORCEMENT WITH TIES OR ANCHORS
 (Side and Cross Rods of same material) (CMU and veneer wythes adjacent to each other in extra (>4") wide cavity wall systems. Apparatus Bay cavity exceeds 4" at most locations)
 - A. Description: two or more parallel longitudinal deformed rods weld connected with transverse cross rods which forms a ladder design.
 - B. Provide with out-to-out longitudinal rod spacing two in. less than out-to-out of CMU wythe width.
 - 1. Lap side rods minimum of 6" at splices u.o.n.
 - C. Exterior Application:
 - 1. Side Rods: (2) rods 3/16-inch diameter.
 - 2. Cross Rods: 9 gauge.
 - 3. Finish: Stainless Steel: ASTM A580/ASTM 580M AISI Type 304.
 - 4. Pintel: super-heavy-duty eyelets, pintels are flattened and serrated.
 - D. Provide rectangular adjustable wall tie pintles.

- 1. Rectangular wall tie pintle spacing at 16 in. o.c. horizontally. Pintles to be embedded a minimum of 1.5 inches from the interior veneer face and should have at least 5/8-inch mortar or grout cover to the outside face.
- 2. Finish: Stainless Steel: ASTM A580/ASTM 580M AISI Type 304.
- E. Product: #280 Dub'l Loop-Lok with 3/16" Box Byna-Tie Veneer Anchor and Loop-Lok Washers by Hohmann & Barnard, Inc. (www.h-b.com), or approved equal.
- F. Product: #270 Ladder Eye-Wire by Hohmann & Barnard, Inc. (<u>www.h-b.com</u>), or approved equal. Use where there is no insulation between veneer and CMU back-up.

2.02 HORIZONTAL JOINT REINFORCEMENT WITHOUT TIES OR ANCHORS (Side and Cross Rods of same material) (single-wythe CMU walls)

- A. Description: two or more parallel longitudinal deformed rods weld connected to transverse cross rods. Ladder type design shall be used in single-wythe walls when "truss" type will interfere with vertical reinforcing or type of CMU insulation specified, see section 042200.
- B. Provide with out-to-out side rod spacing two in. less than out-to-out total wall system width.
 - 1. Lap side rods minimum of 6" at splices u.o.n.
- C. Exterior Application:
 - 1. Side Rods: a minimum of (2) 3/16 inch diameter.
 - 2. Cross Rods: 9 gauge.
 - 3. Finish: hot dipped galvanized 1.5 oz. Per sq. ft., ASTM A153 Class B-2.
- D. Interior Application:
 - 1. Side Rods: (2) 3/16 inch diameter.
 - 2. Cross Rods: 9 gauge.
 - 3. Finish: mill galvanized minimum of .10 oz. psf.
- E. Product: #220 Ladder Mesh by Hohmann & Barnard, Inc. (<u>www.h-b.com</u>), or approved equal.
- 2.03 VENEER ANCHORING SYSTEM (through the insul. to other than new CMU back up wall)
 - A. Description: vertically adjustable mechanical anchoring system for masonry veneer to wood or metal stud construction or to existing concrete masonry construction.
 - B. Provide 14-gauge veneer anchor with 3/16-inch diameter Vee Ties as manufactured by Hohmann & Barnard, Inc. or approved equivalent.
 - C. Install at wall studs. Legs must penetrate both exterior insulation board AND wall board. Space mechanical ties at 24" o.c. horizontally and 16" o.c. vertically when wall studs are 24" o.c., Space mechanical ties at 16" o.c. horizontally and 24" o.c. vertically when wall studs are 16" o.c. Space mechanical ties at 12" o.c. horizontally and 24" o.c. vertically

when wall studs are 12" o.c. Install at 24" o.c and within 12" around perimeter of openings in veneer that exceed 16" in any direction.

- D. Veneer anchors to be embedded a minimum of 1.5 inches from the interior veneer face and should have at least 5/8-inch mortar or grout cover to the outside face.
- E. Finish Anchor: hot dipped galvanized.
- F. Finish Triangular Tie: Stainless Steel: ASTM A580/ASTM 580M AISI Type 304.
- G. Product: X-Seal Anchor with 3/16" #VBT Vee Wall Ties by Hohmann & Barnard, Inc. (www.h-b.com), or approved equal.

2.04 VENEER ANCHORING SYSTEM (directly to other than new CMU back up wall)

- A. Description: vertically adjustable mechanical anchoring system for masonry veneer to wood or metal stud construction or to existing concrete masonry construction.
- B. Provide 14-gauge veneer anchor with 3/16-inch diameter Vee Ties as manufactured by Hohmann & Barnard, Inc. or approved equivalent.
- C. Install anchors and veneer ties at wall studs. Space mechanical ties at 24" o.c. horizontally and 16" o.c. vertically when wall studs are 24" o.c., Space mechanical ties at 16" o.c. horizontally and 24" o.c. vertically when wall studs are 16" o.c. Space mechanical ties at 12" o.c. horizontally and 24" o.c. vertically when wall studs are 12" o.c. Install at 24" o.c and within 12" around perimeter of openings in veneer that exceed 16" in any direction.
- D. Install dovetail anchors in concrete work at 24" o.c horizontally. Attach to forms prior to placing of concrete. Install Flexible Dovetail Brick ties at 16" o.c. vertically.
- E. Veneer anchors to be embedded a minimum of 1.5 inches from the interior veneer face and should have at least 5/8-inch mortar or grout cover to the outside face.
- F. Finish Anchor & Dovetail: Stainless Steel: ASTM A580/ASTM 580M AISI Type 304.
- G. Finish Triangular Tie: Stainless Steel: ASTM A580/ASTM 580M AISI Type 304.
- H. Product: DW-10HS Anchor with 3/16" dia. #VWT Vee Wall Ties by Hohmann & Barnard, Inc. (www.h-b.com), or approved equal.

2.05 MASONRY ANCHORING SYSTEM (masonry anchored to structural steel)

- A. Description: vertically adjustable mechanical anchoring system for masonry to steel construction. All columns that face and are adjacent (within 2 inches) to masonry shall have masonry anchors on those sides for full height of masonry. All steel beams that face masonry shall have masonry anchors on the web of the beam facing the masonry for the full length of the beam.
- B. For vertical applications (faces of columns) provide #317 (1/4-inch diameter) continuous wire rod anchor welded to steel members. For horizontal applications (webs of beams) provide #315 (1/4-inch diameter) wire rod anchors welded to steel members. The veneer ties are to be a triangular wires, 3/16 inch diameter. Use #316's when veneer is parallel with

steel. Use #318 triangular ties when veneer is perpendicular to steel. All as manufactured by Heckmann Building Products, Inc. or approved equivalent.

- C. Install as indicated on the drawings. When not indicated space triangular ties at 16 inches on center for vertical applications and space anchors and triangular ties at 16 inches on center for horizontal applications.
- D. Finish: #315's and #317's furnish plain or galvanized, painted with steel in shop. #316's and #318's hot dipped galvanized 1.5 oz. per sq. ft. ASTM A153 Class B-2.
- E. Veneer anchors to be embedded a minimum of 1.5 inches from the interior veneer face and should have at least 5/8-inch mortar or grout cover to the outside face.

2.06 MOVEMENT JOINT PRODUCTS

- A. Hohmann & Barnard or approved equivalent
 - 1. Control joint RS Series Rubber Control Joint by Hohmann & Barnard or approved equivalent
 - a. Material Rubber ASTM D-2000 –
 - b. Install in as continuous piece vertically as possible.
 - 2. Joint Stabilization Anchors by Hohmann & Barnard, Inc. (www.h-b.com), or approved equal.
 - a. Slip-Set Stabilizer
 - b. Finish: hot dipped galvanized.
 - c. Install at masonry vertical control joints at 4'-0" o.c. vertically.
 - 3. Compressible Joint Material: NS Closed Cell Neoprene Sponge by Hohmann & Barnard or approved equivalent.
 - a. Material: Neoprene ASTM D 1056 GRADE 2A1.
 - b. Install in as continuous piece horizontally at locations indicated, in thickness required.
 - c. Width: 3 inches.

2.07 GROUT SCREEN

- A. Description: 1/4-inch square, monofilament screen made of high strength, non-corrosive polypropylene polymers. Based on CMU thickness. Isolates flow of grout in designated areas.
- B. Product: MGS Mortar/Grout Screen by Hohmann & Barnard, Inc. (www.h-b.com), or approved equal.

2.08 WALL FLASHING (BASE FLASHING)

- A. Self-adhering stainless steel fabric flashing product with a clear adhesive. The adhesive is factory-laminated to a Class A material consisting of a layer of polymeric fabric with a single sheet of 304 stainless steel bonded to one side, field adhered to a 26-gage stainless steel drip edge, 3" wide with a 3/16" hemmed drip.
 - 1. Install in accordance with manufacturer's printed instructions at all exterior conditions.
 - 2. Flash all shelf angles (including but not limited to lintels), bond beams, sills, and wall bases.
 - 3. Install end dams a minimum of 2" high at all shelf angles, sills, and other ends.
 - 4. Lap all joints a minimum of 6" and seal with manufacturers approved mastic.
 - 5. Use pre-formed corners made by the same manufacturer as the flashing.
 - 6. Use 1/8" x 1", Type 304 stainless steel termination bar in 12' lengths and caulk in cavity walls against air barrier. Do not tear or puncture the air barrier.
 - 7. Extend drip edge1/4" past exterior face.
 - 8. Product: Mighty-Flash[™] SA by Hohmann & Barnard, Inc. (<u>www.h-b.com</u>) or Architect-approved equivalent.

2.09 WALL DRAINAGE AND VENTILATION

- A. Description: cell ventilation and weep unit.
 - 1. Provide: QV Quadro-Vent as manufactured by Hohmann & Barnard or approved equivalent.
 - 2. Install directly on top of through wall flashings and at highest point in cavity at 24" o.c.
 - 3. Color: to be selected by Architect from full product line. <u>NOTE</u>: Project may use multiple colors to blend with adjacent masonry.

2.10 IN WALL CAVITY MORTAR NETTING

- A. Description: 90% open polymeric mesh to allow unobstructed passage of air and water at base of wall cavity.
- B. Product: Mortar Net, by Mortar Net USA, Ltd., 10" high by 1" thick, minimum. Match product size to cavity size.
 - 1. Cavity should be no more than 0.25" wider than netting material.

2.11 EXPANSION BOLTS (attaching steel members to masonry walls)

Ithaca Fire Station Masonry Accessories

- A. Description: Stud type with a single piece three section wedge and zinc plated in accordance with ASTM B633 or where specified type 304 or type 316 stainless steel. See drawings for locations where stainless steel is required. Anchors shall be installed in drilled holes per manufacturer's recommendations.
- B. Product: Hilti Kwik Bolt TZ or Kwik Bolt 3, diameter as specified, by Hilti Corp. or approved equal.
- 2.12 ADHESIVE ANCHOR BOLTS (attaching steel members to masonry elements)
 - A. Description: Threaded anchor rods, nut and washer, a cylindrical mesh screen tube and an injectable adhesive (components A and B) material. Screen tube and anchors shall be installed in drilled holes and per manufacturer's recommendations. Anchor rods supplied in accordance with ASTM A 36, or if required: ASTM F 593 (AISI 304 stainless steel). Nuts shall be furnished to meet the requirements of the above anchor rod specifications. Anchors rods (non-stainless steel), nuts and washers to be zinc plated in accordance with ASTM A 153.
 - B. Product: Hilti HIT-HY 10 PLUS, diameter as specified, by Hilti Corp. or approved equal.
- 2.13 RIGID TIES (attaching intersecting masonry walls together that are not toothed)
 - A. Description: Mild steel "Z" ties, 1/4" thick, 1 1/2" wide x 24" long, with 2" long bent legs, hot dipped galvanized. Install at 16" o.c. vertically.
 - B. Product: Rigid Partition Anchor Type #344 by Hohmann & Barnard, Inc. or Bent Anchor Type 140 by Heckmann Building Products, Inc. or approved equal.

2.14 PARTITION TOP ANCHOR

- A. Description: Mild steel, 12 gauge, with 2" long bent legs, hot dipped galvanized. Install at 24" o.c. horizontally.
- B. Product: PTA Type #422 by Hohmann & Barnard, Inc. or approved equal.

2.15 CONCRETE SWIVEL ANCHOR

- A. Description: OSHA compliant, stainless steel, concrete swivel anchor rope tie-off device.
- B. Product: Part # 00242 by Guardian Fall Protection, Inc. or approved equal.

PART 3 EXECUTION

- 3.01 GENERAL
 - A. If more than one value or requirement is specified, see Drawings for location.

3.02 HORIZONTAL JOINT REINFORCEMENT

- A. Place horizontal joint reinforcing as follows:
 - 1. In solid wall panels, for interior and exterior walls, place at a vertical spacing of 16 in. on center vertically.
 - 2. In exterior parapets, place at a vertical spacing of 8 in. on center vertically.
- B. Place horizontal joint reinforcement in
 - 1. Single wythe walls of concrete unit masonry.
- C. Place reinforcing in the two (2) bed joints above and below window and door wall openings, extending a minimum of 24" beyond the opening (except at vertical control joints). At other special conditions, place horizontal joint reinforcement as described in manufacturer's published instructions and as illustrated on Drawings.
- D. Lap side rods at each end joint a minimum of 6 in. for normal shrinkage stresses.
- E. Install prefabricated corner and tee assemblies at each wall corner and intersection.
- F. Miter and butt end joints are prohibited.
- G. Place horizontal joint reinforcement in approximate center of out-to-out wall assembly and assuring a 5/8 in., minimum, mortar coverage on exterior face.
- H. Install horizontal joint reinforcement continuous, terminating only at vertical control joints.
- I. Do not install horizontal joint reinforcement at horizontal joints where there is thru-wall flashing.

3.03 REINFORCED VERTICAL CELLS (VERTICAL REINFORCEMENT)

- A. Place vertical reinforcement in concrete masonry cells as indicated on Drawings using wire-tying or prefabricated bar positioners. Wet-setting reinforcement is not permitted.
- B. Fill concrete masonry cells with fine or course gravel concrete grout (not mortar) as described in Section 042200 Concrete Unit Masonry.
- C. Place, tie, secure and lap reinforcement pursuant to Sections 033000 and 042200. Vertical bars must be placed within 1/2 inches of the location required within the thickness (out of plane) of the wall.

3.04 MORTAR NET

- A. Install as per manufacturers instructions.
- B. Install continuous length of mortar net immediately above all through wall flashings in masonry and masonry veneer applicators.

3.05 BENDING, CUTTING AND SPLICING REINFORCEMENT

- A. Make bends and splices in reinforcement only where indicated, or prior-approved by Architect. Bend reinforcement only when cold, and prior to any placement in construction, forming around a steel pin of diameter at least 6 times the reinforcement size. Cut bars only by approved sawing, shearing, or welding methods. Make ends of reinforcement straight, square, clean, and free of defects before splicing. Do not heat or weld bends and splices at points of maximum stress. Clip and bend any tie wires as required to direct the ends away from external surfaces of masonry walls.
- B. Where welding is necessary, provide materials and perform welding in accordance with AWS requirements.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 042200 - CONCRETE UNIT MASONRY (CMU)

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Agreement, including General and Supplementary Conditions, and Division 01 of the Specifications, apply to work of this Section.
- B. 040513 Masonry Mortaring
- C. 040523 Masonry Accessories
- D. 042613 Masonry Veneer
- E. Section 044313 Stone Masonry Veneer.
- F. Section 047200 Cast Stone Masonry Veneer.

1.02 SCOPE

- A. Furnish labor and materials necessary to install a complete system.
- B. Concrete unit masonry as shown on Drawings and specified herein.
- C. Mortar, grout, and masonry accessories are specified elsewhere.

1.03 STANDARDS

- A. ASTM specification standards C-55, C90-12 and C-140.
- B. ACI-530/ASCE 5/TMS 402 "Building Code Requirements for Concrete Masonry Structures and Commentary".
- C. ACI-531.1/ASCE 6/TMS 602 "Specifications for Concrete Masonry Construction".
- D. National Concrete Masonry Association Manual of Facts
- E. NYS Concrete Masonry Association Tek-Spec #1.

1.04 SUBMITTALS

- A. Submit pursuant to 013300 Submittal Procedures for Shop Drawings, Product Data, Samples.
- B. Submit pursuant to 016000 Product Requirements.

Ithaca Fire Station Concrete Unit Masonry

- C. Certification of Compliance: Furnish test reports attesting to compliance with UL-263 or certificates attesting to compliance with UL-618, each or both of which acknowledge compliance with fire ratings specified and strength requirements specified.
- D. Material Test Report to demonstrate compliance to ASMT C90-12: Compressive strength, absorption, density, and dimensional tolerances shall be based on tests of concrete masonry units of any configuration or dimension made with the same materials, concrete mix design, manufacturing process and curing method, conducted in accordance with Test Methods C140/C140M and not more than 12 months prior to delivery.
- E. Material Test Report: Total linear drying shrinkage shall be based on tests of concrete masonry units of any configuration or dimension made with the same materials, concrete mix design, manufacturing process and curing method, conducted in accordance with Test Method C426 and not more than 24 months prior to delivery.
- F. Material Test Report: Compliance to the National Concrete Masonry Associations Spray Bar Test (NCMA Method CMU-WR-09).

1.05 DELIVERY, STORAGE AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Protect against moisture exposure and damage.
- C. Deliver and handle materials in such a manner as to prevent damage. Store concrete unit masonry and packaged material above ground on wood pallets or blocking and protect from weather until used. Immediately remove from job site all damaged or otherwise unsuitable material.
- D. Receive, store, and protect construction materials in ways that prevent water from entering materials.

1.06 SAMPLE PANEL

- A. Before commencing concrete unit masonry work, erect a sample panel at job site for each separate exposed concrete masonry wall or partition. The sample panel will be used to determine the acceptable standard for the masonry work. All individual product submittals should be approved before the sample panel is constructed. The sample panel should be built from the masonry units manufactured for this project. Locate panels where directed by Architect preferably where the future masonry wall and the sample panel can be viewed together.
- B. Sample panel size for each wall or partition: not less than 8 ft wide by 6 ft high. Construct each sample panel representative of color and texture of the concrete unit masonry, bond, reinforcement, jointing, mortar, flashing, weeps, and workmanship. Modify panel per Section 042613 and as required by Architect.
- C. Do not start concrete unit masonry work until each sample panel has been approved by Architect. Leave approved sample panel in place during erection of concrete unit masonry

work. Protect approved sample panel against weather and damage. Remove sample panel from site when so directed by Architect.

- D. Sample panels may not be a part of the Work.
- E. Sample panel should be used for testing of cleaning methods and application of coatings and sealants. Clean one-half of the exposed face of the panel using the same means and methods that will be used to clean the exposed masonry walls of stains, efflorescence, mortar, grout dropping, and debris without damage to the masonry. Apply the specified post-applied surface treatment to the half of the sample panel that has been cleaned and allowed to dry.
- F. Sample panel must be cleaned and approved by the Architect prior to application of water repellent.
- G. Notify the architect at least one week in advance of the date when the sample panel will be completed, and the mortar has dried to its final color. Build the sample far enough in advance of actual construction so there is time to change the mortar color if the architect chooses.
- H. After the sample panel is approved in writing by the architect, the construction of the project can begin.
- I. The approved sample panel will be the tool to judge the project wall cleaning and appearance.

1.07 PROJECT/SITE CONDITIONS

- A. Masonry Preconstruction Meeting: A meeting will be held at the jobsite with representatives of the CMU manufacturer, mortar supplier, masonry contractor and the architect's representative. This meeting will be held prior to the construction of the sample panel and will address: Preconstruction testing, quality assurance testing, schedule for deliver of masonry units and accessories, sample panel location and construction, installation of flashing and weeps, mortar, mortar color, protection of masonry materials and walls during construction, cleaning and application of post-applied sealers.
- B. At end of day, or during a shut-down, protect top surface of all masonry to prevent rain from entering the masonry. Install protection, adequately anchored, to prevent water intrusion to cover top surface and extend a minimum of 2 ft down all sides of masonry.
- C. Brace walls according to NCMA and ANSI requirements.
- D. Prevent and remove immediately any mortar, grout and soil droppings that come in contact with CMU.
- E. Protect base of walls from rain-splashed mud and mortar by means of coverings on ground and over wall surface.
- F. Cold Weather Requirements: Comply ACI 530.1 Specification Section 1.8 Project Conditions

PART 2 PRODUCTS

2.01 EXTERIOR WALL CONCRETE MASONRY UNITS

- A. Hollow load bearing, normal weight, Type I, conforming to ASTM C90-12, Type 1. Specified concrete masonry strength, fm = 2,000 psi. (Masonry unit net area compressive strength = 2,800 psi.).
- B. Unit Thickness: as indicated on drawings using longest standard units compatible with coursing. See Drawings for unit heights.
- C. When more than one combination of criteria is specified, see Drawings for locations.
- D. CMU shall be manufactured with an integral water repellent such as "Dry-Block."
 - 1. Manufacturer's submittal must specify water repellent agent.
 - 2. CMU will comply with the performance criteria of the NCMA TEK 19-7 "Characteristics of Concrete Masonry Units with Integral Water Repellent" using the Spray Bar Test.
 - 3. All integral water repellent admixtures used for this project must certify their use in the CMU and mortar will NOT reduce flexural bond strength of the wall.
- E. All exterior CMU walls (without veneer wythe if applicable) shall be treated with a field applied sealer. After the masonry walls to be coated have been cleaned and approved (in writing) and all openings in the walls capped, apply two coats of sealer.
- F. See specification section 042613 for field applied sealer information for veneer.

2.02 INTERIOR WALL CONCRETE MASONRY UNITS

- A. Hollow load bearing, normal weight, Type I, conforming to ASTM C90-12, Type 1. Specified concrete masonry strength, fm = 2,000 psi. (Masonry unit net area compressive strength = 2,800 psi.).
- B. Hollow non-load bearing, normal weight, Type I, conforming to ASTM C129, fire resistance rating: 2-hour conforming to UL 618, as indicated on Drawings.
- C. Unit Thickness: as indicated on drawings using longest standard units compatible with coursing. See Drawings for unit heights.
- D. When more than one combination of criteria is specified, see Drawings for locations.

2.03 GENERAL CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.2.04 MASONRY LINTELS

- A. General: Provide one of the following:
- B. Concrete Lintels: ASTM C1623, matching CMUs in color, texture, and density classification; and with reinforcing bars indicated. Provide lintels with net-area compressive strength not less than that of CMUs.
- D. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs matching adjacent CMUs in color, texture, and density classification, with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

PART 3 EXECUTION

3.01 PREPARATION

A. Examine all surfaces to receive parts of the Work specified herein. Verify all dimensions of in-place and subsequent construction. Application or installation of materials constitutes acceptance of the adjacent and underlying construction.

3.02 GENERAL WORKMANSHIP

- A. Provide all masonry construction aligned, plumb and true in required layout, making straight level courses, unless otherwise specifically indicated. Construct masonry to full thickness as shown with masonry units of sizes as noted and specified, using whole units wherever possible. Cut masonry neatly by power saw to obtain sharp edges without damage, as approved for providing required bond pattern and proper fit at all adjoining construction. Build-in items and leave accurate openings necessary to accommodate installation of other work, in a manner to maintain required strength and appearance of masonry construction. Fill solidly around conduit passing through masonry, using mortar.
- B. Install pursuant to ASTM E835 unless specifically illustrated to the contrary.

C. No CMU smaller than 4" small be installed in any wall or work area.

- 1. The mason shall contact the Architect for interpretation if it appears that smaller than 4" CMU is required.
- 2. If the mason installs CMU smaller than 4", he shall bear the responsibility to remove and replace all effected work.
- D. All exposed CMU at corners to be return corner block.

3.03 CONSTRUCTION TOLERANCES

A. Construct unit masonry within following tolerances:

- 1. Maximum variation from plumb in vertical lines and surfaces of columns, walls, and arises and in alignment of head joints:
 - a) 1/4 in. in 10 ft.
 - b) 3/8 in. in a story height not to exceed 20 ft.
 - c) 1/2 in. in 40 ft or more.
- 2. Maximum variation from plumb for external corners, expansion joints and other conspicuous lines:
 - a) 1/4 in. in any story or 20 ft maximum.
 - b) 1/2 in. in 40 ft or more.
- 3. Maximum variation from level of grades for exposed lintels, sills, parapets, horizontal grooves, joints, and other conspicuous lines:
 - a) 1/4 inches in any bay or 20 feet.
 - b) 1/2 in. in 40 ft or more.
- 4. Maximum variation from plan location of related portions of columns, walls and partitions:
 - a) 1/2 in. in any bay or 20 ft.
 - b) 3/4 in. in 40 ft or more.
- 5. Maximum variation in cross-sectional dimensions of columns and thickness of walls from dimensions shown on Drawings:
 - a) Minus 1/4 in.
 - b) Plus 1/2 in.

3.04 COURSING

A. Lay walls/partitions as shown on Drawings.

3.05 MORTAR BEDDING AND JOINTING

- A. Lay hollow units with full mortar coverage on horizontal and vertical face shells. Bed webs in all courses of piers, columns, and pilasters, and in starting course on footings and solid foundation walls, and where adjacent to cells or cavities to be reinforced or filled with grout or concrete. Lay solid units with full head and bed joints.
- B. Mortar joints: 3/8 thick except where otherwise indicated.
 - 1. Exposed joint profile: Concave.
 - 2. Concealed joint profile and where indicated: Flush

- 3. Locations of different joint widths and profiles are shown on Drawings.
- C. Bond intersecting non-load bearing walls together in same manner as load bearing walls, except that non-load bearing partitions 8 in. or less in thickness may be anchored to each other and to other walls with Architect approved types of accessories specified in 040523 Masonry Accessories.
- D. Provide preformed resilient filler strips specified, minimum 3/8" thick, between tops of walls and undersides of slabs, or decks, or against abutting construction. Set filler strips in joints as masonry is laid up with lengths of strips butted together and all strips firmly compressed. Use solid masonry units, solidly filled units, or end units at such locations.
- E. At steel and/or structural concrete columns, provide anchors specifically designed and suited to each condition encountered and as specified in 040523 Masonry Accessories as applicable.
- F. At steel columns and elsewhere as indicated, provide preformed resilient filler strips specified. Completely cover all surfaces of columns to be encased in masonry. Neatly fold and fit covering tightly against flange and web surfaces and secure against displacement by taping or tying in place as applicable.

G. Where masonry units abut steel and/or structural concrete columns where such joints are exposed to view, use corner block units to create a straight line joint/interface between the two materials.

- H. Build-in all loose steel lintels, provide min. 8 in. bearing u.n.o. and bed lintels in mortar.
- I. Refer to Sect. 040523 Masonry Accessories for information on thru-wall flashing.
- J. Grout hollow metal frames in masonry walls solidly with mortar. Perform grouting without clogging holes, boxes, or spaces, required for the proper installation, or operation of hardware.
- K. Provide weep capability in mortar joints at 4 ft on center horizontally at base of each exterior wall by means of a manufactured insert installed in accord with manufacturer's published instructions.
- L. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point up all joints at corners, openings, and adjacent work to provide a neat, uniform appearance.

3.06 INSTALLATION

- A. Lay out walls in advance for accurate spacing of bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns and offsets. Avoid the use of less-than-half-size units at corners, jambs and where possible at other locations. Where required to provide bond pattern, dry cut units with saw and then thoroughly clean to remove cementitious sawings. Install to fit adjoining work neatly, all with clean, sharp, unchipped edges.
- B. Use only dry CMU do not wet.

- C. Build walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.
- D. Lay masonry in a one-half running bond pattern with vertical joint in each course centered on units in courses above and below unless indicated otherwise on drawings.
- E. All masonry shall be laid on a full bed of mortar coverage or horizontal and vertical face shells and webs. All head and bed joints to be tooled.
- F. When stopping and resuming work, in each course rack back 1/2-unit length. Do not tooth. Clean exposed surfaces of set masonry and remove loose CMU and mortar prior to laying new CMU.
- G. Care shall be taken when laying ACMU to maintain visual appearance of wall by placing units with similar split face profiles adjacent to each other. Every effort shall be made to avoid excessive protrusions of adjacent split faces at mortar joints.

3.07 PLACING REINFORCEMENT

- A. Provide joint reinforcement of types required for locations indicated or specified. Remove all deleterious matter from surfaces before placement, including loose rust and scale adversely affecting bond to mortar or grout. Install reinforcement in accurate position, aligned true and secured against displacement, with a minimum mortar cover of 5/8 in. at exterior face of walls and 1/2 in. at other locations.
- B. Provide deformed steel bars as vertical or horizontal reinforcement in masonry construction where indicated or specified. Place vertical bar reinforcing in as continuous lengths as practicable, inserting after laying of masonry and before grouting. Use approved devices to support vertical reinforcement at top, bottom, and intervals not exceeding 160 bar diameters. Wet–setting reinforcement is not permitted. Install horizontal bars as masonry is laid up. Lap all bar reinforcement by distance equal to 48 diameters.
- C. Vertical bars must be placed within 1/2 inches of the location required within the thickness (out of plane) of the wall. For 12" CMU walls or pilaster, this tolerance can be increased to 3/4 inch.

3.08 GROUTING OF WALL CONSTRUCTION

A. Use specified "fine" grout mixture to fill wall spaces up to 1-1/2 in. wide or to fill cells up to 4 in. size in hollow masonry units, and use specified "coarse" grout mixture only to fill spaces or cells having larger dimensions at all locations. Grout walls only after setting mortar has stiffened, and columns or pilasters have been braced or tied, as required to prevent displacement of masonry and reinforcement or ties due to pressure of grout pours. Clean and wet surfaces of preceding pour before placing new grout. Provide grouting in continuous manner, with not less than 30 minutes nor more than 1 hr between lifts of any given pour. If grouting is stopped more than 1 hr, form a horizontal construction joint by stopping pour 2 in. below top of uppermost masonry course. Remove all debris, mortar droppings or other matter from cavities and cells before grouting. Consolidate each grout lift with a rod to provide uniform flow into all spaces or voids.

1. Low-lift Grouting Method: Provide low-lift grouting as the laying of masonry and placement of reinforcement progresses. For grouting of wall spaces, first lift may be placed up to 16 in. high but limit all subsequent pours to maximum 12 in. lifts placed before masonry coursing is 24 in. higher than preceding pour. For grouting of cells in adjacent hollow masonry units, allow setting mortar to cure at least 4 hr after laying masonry, and place grout in cells up to top masonry course at a maximum 48 in. height above preceding pour.

3.09 CONTROL JOINTS

- A. Refer to Section 040523 Masonry Accessories for information on products.
- B. Install control joints at locations shown on the Drawings. If locations of control joints are not shown, provide vertical control joints spaced not to exceed 28 feet; locate additional joints at points of natural weakness in the masonry Work. This would include doors, windows, overhead doors, and changes in heights of walls.
- C. Mortar Control Joints: Fill abutting cells of masonry units with mortar after installing asphalt felt at one side of joint to break the bond. Rake joints to a depth of 3/8 inch.
- D. Premoulded Control Joint Strips: Install joint strip as the Work progresses. Compress strips as masonry units are laid.
- E. Do not butter masonry units to steel members, except where masonry bears on steel. Maintain 1/2 in. clearance. Fill vertical clearances with 1/2 in. semi-rigid fiberglass or other sort, incombustible board material.
- F. Build nonbearing partitions to a distance 3/8 to 3/4 in. from structural soffit above. When structure above has deflected from building loads placed upon it, wedge partition to structural soffit with metal or slate wedges and fill top joint with mortar.
- G. Straighten and position anchors and protruding reinforcement which were placed in reinforced brick lintel concrete so as to bond fine grout to concrete beam.
- 3.10 EXPANSION JOINTS See Division 07 (used in new abutting existing and in cases of severe material/plane changes)
 - A. Install expansion joints at locations shown on the Drawings. Keep joints free of mortar and debris.
 - B. Build flanges of metal expansion strips into masonry. Lap joints between metal strips 4 inches in direction of flow. Solder joints between metal strips below grade and at junctures with horizontal expansion joints.

3.11 REPAIR MASONRY

A. At completion of the Work, fill with mortar and suitably tool all holes in joints of masonry surfaces to be exposed or painted. Repair any cracks in masonry. Cut out and repoint defective joints.

Ithaca Fire Station Concrete Unit Masonry

- B. Repair masonry construction as required due to damaged or defective work and where required to accommodate adjacent materials in an approved manner so that patching is not visually apparent.
- C. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match and install in fresh mortar, pointed to eliminate evidence of replacement.
- D. When pointing, tool all joints required to enlarge any voids or holes, except weep holes, and then completely fill with mortar. Point up all joints including corners, openings, and adjacent construction to provide a neat, uniform appearance, prepared for application of sealants.

3.12 CLEANING

- A. Shall commence after mortar is thoroughly set and cured. Remove large mortar particles by hand with wooden or non-metallic tools. Test cleaning methods on sample wall panel, leaving 1/4 panel uncleaned for comparison purposes.
- B. Obtain Architect's approval of sample before proceeding with cleaning of CMU.
- C. Clean CMU using ProSoCo EK 2010 All Surface Cleaner or approved equal. Handle and apply per manufacturer's written instructions.
- D. Clean the exposed masonry surfaces of stains, efflorescence, mortar, grout dropping and debris using methods that do not damage the masonry.
- E. Follow cleaning methods as per National Concrete Masonry Association Tek Spec 08-02.
- F. Dry brush CMU walls at end of each day's work and also after final pointing. Leave clean and free from mortar spots and droppings.

3.13 FIELD QUALITY CONTROL

A. CMU Masonry testing per section 2105.1 of the Building Code – Unit Strength Method.

END OF SECTION

SECTION 042613 - MASONRY VENEER

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete block.
- B. Clay Facing Brick
- C. Installation of lintels.
- D. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 040513 Masonry Mortaring.
- B. Section 040523 Masonry Accessories.
- C. Section 042200 Concrete Masonry Unit (CMU) Masonry.
- D. Section 044313 Stone Masonry Veneer.
- E. Section 047200 Cast Stone Masonry Veneer.
- F. Section 055000 Metal Fabrications: Loose steel lintels.
- G. Section 061000 Rough Carpentry: Wood stud backup for masonry veneer.
- H. Section 079200 Joint Sealants: Sealing control and expansion joints.

1.03 REFERENCE STANDARDS

- A. ASTM C90 Standard Specification for Loadbearing Concrete Masonry Units 2021.
- B. ASTM C91/C91M Standard Specification for Masonry Cement 2018.
- C. ASTM C129 Standard Specification for Nonloadbearing Concrete Masonry Units 2017.
- D. ASTM C150/C150M Standard Specification for Portland Cement 2021.
- E. ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes 2018.
- F. ASTM C270 Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.
- G. ASTM C979/C979M Standard Specification for Pigments for Integrally Colored Concrete 2016.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: A masonry preconstruction meeting will be held at the jobsite with representatives of the cmu manufacturer, mortar supplier, mason contractor and the architect' s

Ithaca Fire Station Masonry Veneer representative. This meeting will be held prior to the construction of the sample panel and will address:

- 1. Schedule for delivery of masonry units and accessories.
- 2. Sample panel location and construction.
- 3. Installation of flashing and weeps.
- 4. Mortar.
- 5. Mortar color.
- 6. Protection of masonry materials and walls during construction.
- 7. Cleaning.
- 8. Application of Post-Applied Sealers (if specified).

1.05 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data for masonry units.
- C. Shop Drawings: Provide Shop Drawings for each and every veneer block, sill, water table, etc. to encompass every type, shape and dimension of veneer block on the project.
- D. Samples: Submit one full face (8" high x 16" long or 4" high x 16" long) sample of each decorative color that is specified. These samples must be representative of the color and texture of the CMU that will be manufactured for this project.
- E. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Extra Pre-Faced Units: 12 of each type, size, and color combination.

1.06 QUALITY ASSURANCE

- A. Architectural Concrete Masonry Units (ACMU) will contain Dry-Block Integral Water-Repellent or equivalent. ACMU will comply with the performance criteria of the National Concrete Masonry Association's TEK 19-7 "Characteristics of Concrete Masonry Units with Integral Water Repellent" using the Spray Bar Test.
- B. All Integral water repellent admixtures used for this project must certify their use in the ACMU and mortar will not reduce flexural bond strength of the wall.

1.07 SAMPLE PANEL

A. The sample panel will be used to determine the acceptable standard for the masonry work. All individual product submittals should be approved before the sample panel is constructed.

- B. Build a freestanding sample panel at a location where the future masonry walls and the sample panel can be viewed together. The sample panel is to be built by the mason contractor awarded the job, from the masonry units manufactured for this specific project.
- C. The sample panel will contain a reasonable representation of the full range of unit and mortar color and texture. Each procedure including cleaning and application of coatings and sealants should be demonstrated on the sample panel. Architect will provide a mock-up construction sketch after the pre-installation conference.
- D. Clean one-half of the exposed face of the panel using the same means and methods that will be used to clean the exposed masonry walls of stains, efflorescence, mortar, grout dropping, and debris -without damage to the masonry. Apply the specified post-applied surface treatment to the half of the sample panel that has been cleaned and allowed to dry.
- E. Notify the architect at least one week in advance of the date when the sample panel will be completed, and the mortar has dried to its final color. Build the sample far enough in advance of actual construction so there is time to change the mortar color if the architect chooses. After the sample panel is approved in writing by the architect, the construction of the project masonry can begin.
- F. Construct a masonry wall as a mock-up panel sized 8 feet long by 6 feet high; include mortar and accessories and structural backup in mock-up.
- G. Include air barrier and vapor retarder materials specified in other sections.
- H. Locate where directed by the Architect.
- I. Mock-up may not remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

1.09 FIELD CONDITIONS

- A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.
- B. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- C. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY VENEER

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.

Ithaca Fire Station Masonry Veneer

- 2. Moisture-Resistant Admixture: Water repellent compound designed to reduce capillarity.
 - a. Acceptable product: Dry-Block.
 - b. Acceptable product: ACME SHIELD
- 3. Special Shapes: Provide non-standard blocks configured for corners and other detailed conditions.
- 4. Bevel Note: ALL units requiring bevel cuts as depicted on the Elevations, Section and Details, **must** be cut post-production. Casting of bevels is not permitted unless the bevels are ground after casting.
- 5. Manufacturers:
 - a. Basis of Design: Westbrook Concrete Block, Westbrook, CT 06498: www.westbrookblock.com
 - b. Substitutions: See Section 016000 Product Requirements
- B. Concrete Masonry (Block) Veneer:
 - 1. Masonry Type 1.
 - a. Description: Normal weight, integrally pigmented loadbearing solid units with a net area compressive strength of greater than or equal to 2000 psi.
 - b. Compliance: ASTM C90
 - c. Coloring: Integral, through-body coloring; synthetic or natural iron oxide pigments.
 - d. Solid block, as indicated with integral moisture-resistant admixture.
 - e. Basis of Design: Reflection Stone Grand Full Veneer; County Materials Corp.
 - 1) Substitutions: See Section 016000 Product Requirements
 - f. Pattern: Random (Ashlar) Pattern.
 - g. Size: Nominal 4" thick in multiple sizes.
 - h. Colors: As selected from manufacturer's standard range of colors.

2.02 BRICK UNITS

- A. Basis of Design: Glen-Gery: 56 DD Standard.
- B. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW.
 - 1. Type: Modular
 - a. Actual Size: 3-5/8" x 2-1/4" x 7-5/8", unless otherwise indicated
 - b. Special Size: 5" x 2-1/4" x 7-5/8", where indicated.

- 2. Special Shapes: Molded units as required by drawings unless standard units can be sawn to produce an equivalent effect.
- 3. Compressive Strength: Match basis of design products, measured in accordance with ASTM C67/C67M.

2.03 MORTAR AND GROUT MATERIALS

A. Mortar and Grout: As specified in Sections 040513 and 040523.

2.04 ACCESSORIES

- A. Cleaning Solution: Use a cleaning solution that is not harmful to masonry work or adjacent materials.
- B. Coating: After the masonry walls specified to be coated have been cleaned and approved, and all openings in the walls capped, apply coating. Obtain written approval from the Architect before the coating is applied.
 - 1. Apply two coats of Aqua Seal Me-12, following manufacturer's directions. www.prosoco.com.
 - 2. Alternative: Apply two coats Prosoco Sure Klean Weather Seal Natural Stone Treatment, following manufacturer's directions. www.prosoco.com.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Block Cutting:
 - 1. All block shall be no less than a nominal 8" wide
 - 2. Any block requiring special consideration for coursing variation or block dimension variation will require prior Architect approval along with the possibility for dry stack mock-up for review.
- D. Concrete Masonry Units:
 - 1. Bond: As indicated for different locations.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.

Ithaca Fire Station Masonry Veneer 3. Mortar Joints: Concave, unless otherwise indicated

3.03 PLACING AND BONDING

- A. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- B. Remove excess mortar as work progresses.
- C. Interlock intersections and external corners, except for units laid in stack bond.
- D. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar, and replace.
- E. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- F. Isolate top joint of masonry veneer from horizontal structural framing members or support angles with compressible joint filler.

3.04 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
- B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.

3.05 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.

3.06 LINTELS

A. Install loose steel lintels over openings.

3.07 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control or expansion joints.
- B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- C. Form expansion joint as detailed on drawings.

3.08 TOLERANCES

- A. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.
- B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- C. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- E. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch.

Ithaca Fire Station Masonry Veneer

3.09 CUTTING AND FITTING

- A. Cut and fit for pipes and conduit. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.10 CLEANING

- A. Clean the exposed masonry surfaces of stains, efflorescence, mortar, grout dropping and debris using methods that do not damage the masonry. Remove excess mortar and mortar smears as work progresses on the masonry itself as well as on adjacent non-masonry surfaces. Adjacent surfaces shall be cleaned immediately so as to not impede the progress of work by Others.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution.
- D. Use non-metallic tools in cleaning operations.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION
SECTION 044313 - STONE MASONRY VENEER

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Anchored cut stone veneer at exterior walls.
- B. Cut stone Veneer at exterior walls and/or site masonry for signage.

1.02 RELATED REQUIREMENTS

- A. Section 040513 Masonry Mortaring
- B. Section 040523 Masonry Accessories
- C. Section 042200 Concrete Masonry Unit (CMU) Masonry.
- D. Section 042613 Masonry Veneer.
- E. Section 047200 Cast Stone Masonry Veneer.
- F. Section 072500 Weather Barriers: Water-resistive barrier over sheathing.
- G. Section 076200 Sheet Metal Flashing and Trim: Flashings.
- H. Section 079200 Joint Sealants: Sealing joints indicated to be left open for sealant.

1.03 REFERENCE STANDARDS

- A. ASTM A36/A36M Standard Specification for Carbon Structural Steel 2019.
- B. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- C. ASTM A580/A580M Standard Specification for Stainless Steel Wire 2018.
- D. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- E. ASTM C119 Standard Terminology Relating to Dimension Stone 2020.
- F. ASTM C270 Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.
- G. ASTM C568/C568M Standard Specification for Limestone Dimension Stone 2022.
- H. ASTM C1528/C1528M Standard Guide for Selection of Dimension Stone 2020.
- I. ILI (HB) Indiana Limestone Handbook 2007.
- J. TMS 402/602 Building Code Requirements and Specification for Masonry Structures 2016.

1.04 SUBMITTALS

- A. See Section 0133000 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide shop drawings on stone medallion units and date stone.
- C. Samples: Submit for Architect review and approval one stone sample of each available manufacturer's standard range of colors illustrating color range, texture, and markings.

1.05 QUALITY ASSURANCE

- A. Stone Fabricator Qualifications: Company specializing in fabricating cut stone with minimum ten years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type required by this section, with minimum 10 years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect stone from discoloration during storage on site.
- B. Provide ventilation to prevent condensation from forming on stone.

1.07 FIELD CONDITIONS

- A. Cold Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.
- B. Maintain materials and ambient air at minimum of 40 degrees F (5 degrees C) prior to, during, and for 48 hours after completion of work.

PART 2 PRODUCTS

2.01 STONE

- A. Indiana Oolitic Limestone: complying with ASTM C568/C568M Classification 1- Low Density.
 - 1. Grade: ILI Select, per ILI Handbook
 - 2. Color: To be selected by Architect from suppliers' full range of colors.
 - 3. Surface Finish: Sand-blasted as described in ASTM C119 and ASTM C1528/C1528M.
 - 4. Supplier: Adam Ross Cut Stone Company, Inc.: 1003 Broadway, Albany, NY 12204 www.adamrosscutstone.com
 - a. Substitutions: See Section 016000 Product Requirements.
- B. Granite: Woodbury Granite variety; complying with ASTM C615/C615M.
 - 1. Color: To be selected by Architect from manufacturer's range of standard color range.
 - 2. Finish: Thermal.

3. Supplier: Adam Ross Cut Stone Company, Inc.; 1003 Broadway, Albany, NY 12204 - www.adamrosscutstone.com

2.02 MORTAR APPLICATIONS

- A. Setting Bed Mortars: Setting bed used to adhere stone veneer units to cement board.
 - 1. See Section 040513.
- B. Pointing Mortars: Pointing or grouting mortars used to fill the joints between individual stone veneer units once the setting bed mortar has sufficiently cured.
 - 1. See Section 040513.

2.03 ACCESSORIES - ANCHORED VENEER

- A. Horizontal Joint Reinforcement: As specified in Section 040523.
- B. Other Anchors in Direct Contact with Stone: ASTM A666, Type 304, stainless steel, of sizes and configurations required for support of stone and applicable superimposed loads. See Section 040523.
- C. Setting Buttons and Shims: Plastic, non-staining to stone, sized to suit joint thickness and bed depths of stone units without intruding into the required depths of pointing materials.
- D. Flashings: As specified in 076200 and on the Drawings.
- E. Weep/Cavity Vents: as detailed on the Drawings.
- F. Lettering Paint: Contractor to provide product data submittals and color samples for Architect review for stone letter and graphics coloring as illustrated on the Drawings.
 - 1. Paint Basis of Design: Lithichrome Stone Paint as manufactured by Granite City Tools, Inc.: www.lithichrome.com
 - a. Substitutions: See Section 016000 Product Requirements.
 - 2. Surface Coating Basis of Design: Lithco Clear as manufactured by Granite City Tools, Inc.; www.lithichrome.com
 - a. Substitutions: See Section 016000 Product Requirements.
- G. Cleaning Solution: Type that will not harm stone, joint materials, or adjacent surfaces.
- H. Stone Sealer: After completion of installation and final cleaning apply an approved stone sealer (water repellent) to all exposed surfaces of stone per manufacturer's requirements.
 - 1. Subject to approval of application on visual mock-up, sealer shall be Prosoco Sure Klean Weather Seal Natural Stone Treatment or equal as approved by Architect. www.prosoco.com

2.04 STONE FABRICATION - ANCHORED VENEER

- A. Nominal Thickness: as per drawings.
- B. Pattern and Coursing: as per drawings.

- C. Fabricate for 3/8 inch beds and joints.
- D. Bed and Joint Surfaces:
 - 1. Cut or sawn full square for full thickness of unit.
- E. Backs: Sawn.
- F. Slope exposed top surfaces of stone and horizontal sill surfaces for shedding water.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that support work and site conditions are ready to receive work of this section.
- B. Verify that items built-in under other sections are properly located and sized.
- 3.02 PREPARATION ANCHORED VENEER
 - A. Establish lines, levels, and coursing. Protect from disturbance.
 - B. Clean stone prior to installation. Do not use wire brushes or implements that mark or damage exposed surfaces.
 - C. Clean sawn surfaces of rust stains and iron particles.
 - D. Perform a stone water sealer coating sample for Architect review on actual stone sample not less than 8" x 8" in front face area. Apply water sealer per manufacturer's recommended coverage rate using the Vertical Surface Instructions. Upon on-site review by Architect of effectiveness for water beading, direction will be provided if accepted as-is or if an additional application will be required. **Base scope shall include up to one (1) additional application over and above manufacturer recommendations.**

3.03 INSTALLATION - ANCHORED VENEER

- A. Install flashings of longest practical length and seal watertight to back-up. Lap end joints minimum 6 inches and seal watertight.
- B. Size stone units to fit opening dimensions and perimeter conditions.
- C. Wet absorptive stone in preparation for placement to minimize moisture suction from mortar.
- D. Prearrange stone pattern prior to sandblasting to provide color uniformity and minimize visual variations and provide a uniform blend of stone unit sizes.
- E. Arrange stone coursing in running bond with consistent joint width.
- F. Set stone in full mortar setting bed to fully support stone over bearing surface. Use setting buttons or shims to maintain correct joint width.
- G. Install weep/cavity vents in vertical stone joints at 24 inches on center horizontally; immediately above horizontal flashings, above shelf angles and supports, and at top of each cavity space; do not permit mortar accumulation in cavity space.

3.04 REINFORCEMENT AND ANCHORAGE - ANCHORED VENEER

A. Install horizontal joint reinforcement as specified in Section 040523.

3.05 JOINTS - ANCHORED VENEER

- A. Joints between stone & other materials: rake out mortar joints 3/8 to 1/2 inch and brush joints clean to accommodate faux soft joint with approved sealant.
- B. Joints between stone & stone: pack mortar into joints and work into voids. Neatly tool surface to concave joint.
- C. At joints to be sealed, clean mortar out of joint before it sets. Brush joints clean.

3.06 CLEANING

- A. Remove excess mortar as work progresses, and upon completion of work.
- B. Clean soiled surfaces with cleaning solution.
- C. Use non-metallic tools in cleaning operations.

3.07 PROTECTION

A. During temporary storage on site, at the end of working day, and during rainy weather, cover stonework exposed to weather with non-staining waterproof coverings, securely anchored.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 047200 - CAST STONE MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Architectural cast stone.
- B. Units required are:
 - 1. Exterior wall units, including but not limited to lintels, sills, water tables, surrounds, belt courses and wall base
 - 2. Other items indicated on the drawings as "cast stone" or "cast stone masonry".

1.02 REFERENCE STANDARDS

- A. ACI 318 Building Code Requirements for Structural Concrete 2019, with Errata (2021).
- B. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- C. ASTM A185/A185M Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- D. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2020.
- E. ASTM A767/A767M Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement 2019.
- F. ASTM A884/A884M Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement 2019, with Editorial Revision (2020).
- G. ASTM A1064/A1064M Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.
- H. ASTM C33/C33M Standard Specification for Concrete Aggregates 2018.
- I. ASTM C114 Standard Test Methods for Chemical Analysis of Hydraulic Cement; 2013.
- J. ASTM C150/C150M Standard Specification for Portland Cement 2021.
- K. ASTM C270 Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.
- L. ASTM C426 Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Unit; 2010.
- M. ASTM C494/C494M Standard Specification for Chemical Admixtures for Concrete 2019.
- N. ASTM C618 Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2012.

- O. ASTM C979/C979M Standard Specification for Pigments for Integrally Colored Concrete 2016.
- P. ASTM C989/C989M Standard Specification for Slag Cement for Use in Concrete and Mortars; 2013.
- Q. ASTM C 1194 Standard Test Method for Compressive Strength of Architectural Cast Stone.
- R. ASTM C 1195 Standard Test Method for Absorption of Architectural Cast Stone.
- S. ASTM C1364 Standard Specification for Architectural Cast Stone 2019.
- T. ASTM D2244 Standard Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates; 2011.
- U. PCI MNL-117 Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products; Precast/Prestressed Concrete Institute; 2007.
- V. PCI MNL-120 PCI Design Handbook Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; Seventh Edition, 2010.

1.03 DEFINITIONS

- A. Cast Stone: a refined architectural concrete building unit manufactured to simulate natural cut stone, used in Division 4 masonry applications.
- B. Wet Cast: manufactured from measurable slump concrete.
 - 1. Wet casting method: manufactured from measurable slump concrete and vibrated into a mold until it becomes densely consolidated.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Manufacturer's Qualification Data: Documentation showing compliance with specified requirements.
- C. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions; test results of cast stone components made previously by the manufacturer.
 - 1. Include one copy of ASTM C1364 for Architect's use.
- D. Shop Drawings: Include plans, elevations, dimensions, layouts, profiles, cross sections, reinforcement, exposed faces, arrangement of joints, anchoring methods, anchors, and piece numbers.
 - 1. Indicate joints, reveals, and extent and location of each surface finish.
 - 2. Indicate details at building corners.
 - 3. Indicate separate face and backup mixture locations and thicknesses.
 - 4. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.

- 5. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
- 6. Indicate locations, extent, and treatment of dry joints if two-stage casting is proposed.
- 7. Include plans and elevations showing unit location and sequence of erection for special conditions.
- 8. Indicate location of each architectural precast concrete unit by same identification mark placed on panel.
- 9. Indicate relationship of architectural precast concrete units to adjacent materials.
- 10. Indicate locations and details of brick units, including corner units and special shapes, and joint treatment.
- 11. Indicate locations of electrical conduit and receptacle boxes.
- 12. Design Modifications: If design modifications are proposed to meet performance requirements and field conditions, submit design calculations with Shop Drawings. Do not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.
- E. Mortar Color Selection Samples, using same sand and mortar ingredients to be used on Project.
- F. Verification Samples: Pieces of actual cast stone components not less than 12 inches square, illustrating range of color and texture to be anticipated in components furnished for the project. Provide in sets of three for each type of finish required.
 - 1. When other faces of cast stone components are exposed, include Samples illustrating workmanship, color, and texture of backup concrete as well as facing concrete.
- G. Material Test Reports for aggregates and each mix required to produce cast stone, based on ASTM C1194 testing within the previous two years. Include freeze/thaw resistance test.
 - 1. Include copies of material test reports for completed projects, indicating compliance of cast stone with ASTM C 1364.
- H. Material Certificates, signed by the manufacturer for cementitious materials, reinforcing materials, and admixtures.
- I. Quality-Control Plan: Provide documentation showing compliance, if requested by Architect.
- J. Source Quality Control Test Reports.
- K. Field quality control test and special inspection reports.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. A firm with a minimum of5 years' experience producing cast stone of types required for project and assumes responsibility for engineering cast stone masonry units to comply with performance requirements. This responsibility includes preparation of Shop

Drawings and comprehensive engineering analysis by a qualified professional engineer licensed in the State in which the Project is located.

- 2. Current producer member of the Cast Stone Institute or the Architectural Precast Association.
- 3. Manufacturer's production facility currently holds a Plant Certification from the Cast Stone Institute or the Architectural Precast Association.
- 4. Adequate plant capacity to furnish quality, sizes, and quantity of cast stone required without delaying progress of the work.
- 5. Products previously produced by plant and exposed to weather shall exhibit satisfactory appearance as determined by the Architect.
- B. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.
- C. Design Standards: Comply with ACI 318 and PCI MNL 120, applicable to types of cast stone indicated.
- D. Quality-Control Standards: Comply with PCI MNL 117.
- E. Quality-Control Plan: Manufacturer's written quality-control plan that includes all elements of the Cast Stone Institute's "Quality Control Procedures Required for Plant Inspection."

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cast stone components secured to shipping pallets and protected from damage and discoloration. Protect corners from damage.
- B. Provide itemized shipping list of products to support the bill of lading.
- C. Number each piece individually to match shop drawings and schedule.
- D. Store cast stone components and installation materials in accordance with manufacturer's instructions.
- E. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move cast stone units, if required, using dollies with wood supports.
- F. Store cast stone components on pallets with non-staining, waterproof covers. Ventilate under covers to prevent condensation. Do not double stack pallets. Prevent contact with dirt and splashing.
- G. Protect cast stone components during handling and installation to prevent chipping, cracking, staining or other damage.
- H. Handle long units at center and both ends simultaneously to prevent cracking.
- I. Store mortar materials where contamination can be avoided.
- J. Schedule and coordinate production and delivery of cast stone components with unit masonry work to optimize on-site inventory and to avoid delaying the work.

1.07 FIELD CONDITIONS

- A. Schedule and coordinate production and delivery of cast stone components with unit masonry work to optimize on-site inventory and to avoid delaying the Work.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until cast stone has dried, but not less than 7 days after completing cleaning.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 PRODUCTS

2.01 SOURCE LIMITATIONS

- A. Architectural Cast Stone: Obtain cast stone units through one source from a single manufacturer.
- B. Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, from one manufacturer for each cementitious component, and from one source or producer for each aggregate.

2.02 MANUFACTURERS

- A. Basis-of-Design Manufacturer Architectural Cast Stone:
 - 1. Westbrook Concrete Block, Westbrook, CT; www.westbrookblock.com
- B. Substitutions: See Section 016000 Product Requirements.

2.03 ARCHITECTURAL CAST STONE

- A. Cast Stone: Architectural concrete product manufactured to simulate appearance of natural stone, complying with ASTM C1364, using the wet-cast method.
 - 1. Compressive Strength: As specified in ASTM C1194; calculate strength of pieces to be field cut at 80 percent of uncut piece.
 - 2. Absorption: ASTM C1195: 6% maximum by the cold-water method, or 10% maximum by the boiling method for products at 28 days.
 - 3. Linear Shrinkage: ASTM C 426: Shrinkage shall not exceed 0.065%.
 - 4. Surface Texture: Fine grained texture similar to natural stone, with no bugholes, air voids, or other surface blemishes visible from distance of 5 feet.
 - a. No air voids in excess of 1/32 inch and the density of such voids shall be less than 3 occurrences per any 1 square inch.

- b. Units shall exhibit a texture approximately equal to the approved sample when viewed under direct daylight illumination at a 10 ft distance.
 - 1) ASTM D 2244 permissible variation in color between units of comparable age subjected to similar weathering exposure.
 - (a) Total color difference not greater than 6 units.
 - (b) Total hue difference not greater than 2 units.
- c. Minor chips shall not be obvious under direct daylight illumination from distance of 20 feet.
- 5. Color: Selected by Architect from manufacturer's full range.
- 6. Remove cement film and blemishes from exposed surfaces before packaging for shipment.
- B. Shapes: Provide shapes indicated on drawings.
 - 1. Variation from Any Dimension, Including Bow, Camber, and Twist: Maximum of plus/minus 1/8 inch or length divided by 360, whichever is greater, but not more than 1/4 inch.
 - a. Maximum length of any unit shall not exceed 15 times the average thickness of such unit unless otherwise approved by the manufacturer.
 - 2. Location of Dowel Holes, Anchor Slots, Flashing Grooves, False Joints and Similar Features: On formed sides of unit, 3/8 inch, on unformed sides of unit, 3/8 inch maximum deviation.
 - 3. Fabricate with sharp arris and details accurately reproduced with indicated texture on exposed surfaces, unless otherwise indicated.
 - 4. Unless otherwise indicated on drawings, provide:
 - a. Wash or slope of 1:12 on exterior horizontal surfaces.
 - b. Drips on projecting components, wherever possible.
 - c. Raised fillets at back of sills and at ends to be built in.
- C. Reinforcement: Provide reinforcement as required to withstand handling and structural stresses; comply with ACI 318.
 - 1. Minimum Reinforcing Cover: Twice diameter of reinforcing bars.
 - 2. Pieces More than 24 inches in Any Dimension: Provide full length two-way reinforcement of cross-sectional area not less than 0.25 percent of unit cross-sectional area.
 - 3. Noncorrosive where faces exposed to weather are covered with less than 1.5 inch of concrete material.
- D. Curing: Cure units in a warm curing chamber approximately 100°F (37.8°C) at 95 percent relative humidity for approximately 12 hours, or cure in a 95 percent moist environment at a minimum 70°F (21.1°C) for 16 hours after casting. Additional yard curing at 95 percent

relative humidity shall be 350 degree-days (i.e. 7 days @ 50° F (10° C) or 5 days @ 70° F (21° C)) prior to shipping. Form cured units shall be protected from moisture evaporation with curing blankets or curing compounds after casting.

2.04 MATERIALS

- A. Portland Cement: ASTM C150, containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
 - 1. For Units: Type I and Type III, white or gray as required to match Architect's sample.
- B. Coarse Aggregate: ASTM C33/C33M, except for gradation; granite, quartz, or limestone.
 - 1. Gradation as needed to produce required textures and colors as needed to produce required cast stone colors.
- C. Fine Aggregate: ASTM C33/C33M, except for gradation; natural or manufactured sands.
 - 1. Gradation as needed to produce required textures and colors as needed to produce required cast stone colors.
- D. Pigments: ASTM C979, inorganic iron oxides; do not use carbon black.
- E. Admixtures: Do not use admixtures unless specified or approved in writing by Architect.
 - 1. Certified by manufacturer for compatibility with cement and other admixtures used.
 - 2. Water-Reducing, Retarding, or Accelerating Admixtures: ASTM C494/C494M, containing not more the 0.1 percent chloride ions.
 - 3. Air-Entraining Admixtures: ASTM C260.
 - 4. Mineral Admixtures: ASTM C618; do not use admixtures of dark and variable colors in surfaces intended to be exposed to view.
 - 5. Granulated Blast Furnace Slag: ASTM C989; use only to improve physical properties and tests are required to verify these features.
 - 6. Other Admixtures: Intergral water repellent and other chemicals, for which no ASTM Standard exists, shall be previously established as suitable for use in concrete by proven field performance or thorough laboratory testing.
- F. Water: Potable.
- G. Reinforcing Bars: ASTM A615/A615M, Grade 40 (40,000 psi), deformed bars, galvanized.
 - 1. Galvanized in accordance with ASTM A767/A767M, Class I.
- H. Steel Welded Wire Reinforcement: ASTM A1064/A1064M, galvanized or ASTM A884/A884M, epoxy coated.
- I. Embedded Anchors, Dowels, and Inserts: Type 304 stainless steel of type and size as required for conditions.
- J. Shelf Angles and Similar Structural Items: Type 304 stainless steel, of shapes and sizes as required for conditions.

- K. Mortar: Portland cement-lime, as specified in Section 040513; do not use masonry cement.
- L. Cleaner: General-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by cast stone manufacturer and by cleaner manufacturer for use on cast stone and adjacent masonry materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine construction to receive cast stone components. Notify Architect if construction is not acceptable.
- B. Do not begin installation until unacceptable conditions have been corrected. Commencement of work indicates acceptance of substrates.
- C. Examine cast stone units for fit and finish before installation. Do not install unacceptable units.

3.02 INSTALLATION OF CAST STONE

- A. Install cast stone components in conjunction with masonry, complying with requirements of Section 042613.
- B. Mechanically anchor cast stone units indicated; set remainder in mortar.
- C. Pull units from multiple cubes during installation to minimize color variation.
- D. Cut units with motor driven masonry saws.
- E. Do not use pry bars or other equipment in a manner that could damage cast stone units.
- F. Setting:
 - 1. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
 - 2. Drench cast stone components with clear, running water immediately before installation.
 - 3. Set units in a full bed of mortar unless otherwise indicated.
 - 4. Fill vertical joints with mortar.
 - 5. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.

3.03 CLEANING

- A. Clean completed exposed cast stone after mortar is thoroughly set and cured.
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Wet surfaces with water before applying cleaner.

Ithaca Fire Station Cast Stone Masonry

- 3. Perform test of cleaner on small area and receive Architect's approval before full cleaning. Leave one sample uncleaned for comparison purposes.
- 4. Verify cleaner will not damage and/or discolor surrounding work.
- 5. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
- 6. Apply cleaner to cast stone in accordance with manufacturer's instructions.
- 7. Remove cleaner promptly by rinsing thoroughly with clear water.
- 8. Clean cast stone by bucket-and-brush hand-cleaning method described in BIA Technical Notes No. 20.
- 9. Do not use acidic cleaners, power washing, sand blasting, or other harsh cleaning materials or methods that would damage or discolor surfaces.

3.04 PROTECTION

- A. Protect completed work from damage.
- B. Clean, repair, or restore damaged or mortar-splashed work to condition of new work.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural steel framing members.
- B. Base plates, shear stud connectors and expansion joint plates.
- C. Grout.
- D. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 014533 Code-Required Special Inspections and Procedures.
- B. Section 053100 Steel Decking: Support framing for small openings in deck.
- C. Section 055000 Metal Fabrications: Steel fabrications affecting structural steel work.
- D. Division 09 Sections for surface preparation, priming and final paining requirements.

1.03 REFERENCE STANDARDS

- A. AISC (MAN) Steel Construction Manual.
- B. AISC 303 Code of Standard Practice for Steel Buildings and Bridges.
- C. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
- D. ASTM A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished.
- E. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- F. ASTM A307 Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
- G. ASTM A500/A500M Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- H. ASTM A501/A501M Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- I. ASTM A572/A572M Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
- J. ASTM A992/A992M Standard Specification for Structural Steel Shapes.
- K. ASTM C827/C827M Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.

- L. ASTM E164 Standard Practice for Contact Ultrasonic Testing of Weldments.
- M. ASTM E165/E165M Standard Test Method for Liquid Penetrant Examination for General Industry.
- N. ASTM E709 Standard Guide for Magnetic Particle Testing.
- O. ASTM F3125/F3125M Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength.
- P. ASTM F959/F959M Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners, Inch and Metric Series.
- Q. ASTM F1554 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
- R. AWS A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- S. AWS B2.1/B2.1M Specification for Welding Procedure and Performance Qualification.
- T. AWS D1.1/D1.1M Structural Welding Code Steel.
- U. IAS AC172 Accreditation Criteria for Fabricator Inspection Programs for Structural Steel.
- V. RCSC (HSBOLT) Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections.
- W. SSPC-Paint 20 Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").
- X. SSPC-SP 3 Power Tool Cleaning.
- Y. SSPC-SP 6 Commercial Blast Cleaning.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
 - 1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
 - 2. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
- D. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.05 QUALITY ASSURANCE

A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."

- B. Installer Qualifications, shall comply with one of the following:
 - 1. Erector shall be a qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE CSE.
 - 2. For non AISC-Certified Erectors, installer shall comply with the following practices and procedure requirements, and submit supporting documentation.
 - a. Provide a written safety plan, compliant with governmental regulations, that is understood and implemented by supervision and erection crews.
 - b. All welders are qualified per AWS D1.1, "Structural Welding Code--Steel."
 - c. Provide a written bolt tightening procedure, compliant with the Research Council on Structural Connections (RCSC) specifications.
 - d. Provide a written fall protection procedure, periodically monitored and recorded by a qualified fall protection personal.
 - e. Crane operators shall be CCO certified or equivalently trained.
 - f. Provide project specific erection plans with all hoisting and erection requirements.
 - g. Erector shall provide a project history, a minimum of four projects, of similar size jobs with reference contacts.
- C. Fabricator Qualifications, shall comply with one of the following. Additional requirements are provided in the "Source Quality Control" Article.
 - 1. Fabricator shall be a qualified fabricator who participates in the AISC Quality Certification Program and is certified to the "Standard for Steel Building Structures (STD)."
 - 2. For non AISC-Certified Plants, comply with independent testing and inspection requirements.
 - a. Fabricator shall be registered with and approved by authorities having jurisdiction.
 - b. Erector shall provide a project history, a minimum of four projects, of similar size jobs with reference contacts.
- D. Maintain one copy of each document on site.
- E. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and no more than 12 months before start of scheduled welding work.
- F. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 341 and AISC 341s1.
 - 2. AISC 360.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Sections.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver structural steel to Project site in such quantities and at such times to ensure continuity of installation.
- B. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

- C. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.07 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Angles and Plates: ASTM A36/A36M.
- B. Steel W Shapes and Tees: ASTM A992/A992M.
- C. Rolled Steel Structural Shapes: ASTM A992/A992M.
- D. Steel Plates and Bars: ASTM A572/A572M, Grade 50 (345) high-strength, columbium-vanadium steel.
- E. Cold-Formed Structural Tubing: ASTM A500/A500M, Grade B.
- F. Hot-Formed Structural Tubing: ASTM A501/A501M, seamless or welded.
- G. Shear Stud Connectors: Made from ASTM A108 Grade 1015 bars.
- H. High-Strength Structural Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, with matching compatible ASTM A563 or ASTM A563M nuts and ASTM F436/F436M washers.
- I. Tension Control Bolts: Twist-off type; ASTM F3125/F3125M.
- J. Unheaded Anchor Rods: ASTM F1554, Grade 36, plain, with matching ASTM A563 or ASTM A563M nuts and ASTM F436/F436M Type 1 washers.
- K. Headed Anchor Rods: ASTM F1554 Grade 36, plain.
- L. Threaded Rods: ASTM A 36.
 - 1. Nuts: ASTM A 563 heavy hex carbon steel.
 - 2. Washers: ASTM F 436 hardened or ASTM A 36 carbon steel.
- M. Load Indicator Washers: Provide washers complying with ASTM F959/F959M at connections requiring high-strength bolts. Provide "Squirter" washers, using highly visible orange gel that squirts out when the correct tension has been reached.

- N. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- O. Grout: ASTM C1107/C1107M; Non-shrink; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch.
 - 2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.
 - 3. Height Change, Plastic State; when tested according to ASTM C827/C827M:
 - a. Maximum: Plus 4 percent.
 - b. Minimum: Plus 1 percent.
- P. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type I Inorganic, complying with VOC limitations of authorities having jurisdiction.

Q. PRIMER

1. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer.

2.02 FABRICATION

- A. Shop fabricate to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
- B. Space shear stud connectors equally, quantiy as shown on drawings.
- C. Continuously seal joined members by continuous welds. Grind exposed welds smooth.
- D. Fabricate connections for bolt, nut, and washer connectors.
- E. Develop required camber for members.

2.03 FINISH

- A. Prepare structural component surfaces in accordance with SSPC-SP 3 for interior steel exposed to view.
- B. Prepare structural component surfaces in accordance with SSPC-SP 6 for interior steel exposed to view in the appartus bay area.
- C. Shop prime structural steel members. Do not prime surfaces that will be galvanized, fireproofed, field welded, in contact with concrete, or high strength bolted.
- D. Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide the dry film thickness specified, but not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
- E. Stripe paint corners, crevices, bolts, welds, and sharp edges.
 - Apply two coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first.
- F. Galvanize structural steel members to comply with ASTM A123/A123M. Provide minimum 1.7 oz/sq ft galvanized coating.
 - 1. Fill vent holes and grind smooth after galvanizing.

a

2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls.

2.04 SOURCE QUALITY CONTROL

- A. For AISC certified facilities, submit a written program for the proposed fabrication quality control. As a minimum, perform at least the following shop tests and inspections and submit test reports. If Fabricator's facility is not AISC certified, Contractor will engage an independent testing and inspecting agency, acceptable to the Owner, to perform shop inspections and tests and to prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
 - 2. Testing agency will conduct and interpret tests and state in each report whether test specimens comply with or deviate from requirements.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- D. High-Strength Bolts: Provide testing and verification of shop-bolted connections in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".
- E. Welded Connections: Visually inspect all shop-welded connections and test welds using one of the following according to AWS D1.1:
 - 1. Radiographic testing performed in accordance with ASTM E94/E94M.
 - 2. Ultrasonic testing performed in accordance with ASTM E164.
 - 3. Liquid penetrant inspection performed in accordance with ASTM E165/E165M.
 - 4. Magnetic particle inspection performed in accordance with ASTM E709.
- F. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1 for stud welding and as follows:
 - 1. Bend tests will be performed if visual inspections reveal either a less-than- continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.
- B. Proceed with installation only after unsatisfactory cond

3.02 ERECTION

- A. Erect structural steel in compliance with AISC 303.
- B. Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of

Ithaca Fire Station Structural Steel Framing permanent bracing.

- C. Field weld components and shear studs indicated on shop drawings.
- D. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".
- E. Do not field cut or alter structural members without approval of Engineer of Record.
- F. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- G. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.
- H. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting base and bearing plates. Clean bottom surface of base and bearing plates.
 - 1. Set base and bearing plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of base plate.
 - 3. Snug-tighten or pretension anchor rods as directed, after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate before packing with grout.
 - 4. Promptly pack grout solidly between bearing surfaces and base or bearing plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- I. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

3.03 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.

3.04 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 014000 Quality Requirements.
- B. Correct deficiencies in or remove and replace structural steel that inspections and test reports indicate do not comply with specified requirements.
- C. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- D. High-Strength Bolts: Provide testing and verification of field-bolted connections in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".
- E. Welded Connections: Visually inspect all field-welded connections according to AWS D1.1
 1. Ultrasonic testing performed in accordance with ASTM E164.

Ithaca Fire Station Structural Steel Framing

- a. 100 % of all full penetration welds.
- b. 100 % of all column splices in braced or moment frames.
- c. 20 % of all other partial penetration column splices.
- 2. Magnetic particle inspection performed in accordance with ASTM E709.
 - a. 20 % of all connection fillet welds at random, final pass only.
 - b. 20 % of all continuity plate and bracing gusset plate fillet welds at random, final pass only.
 - c. 100 % of tension member fillet welds (i.e. hanger connection plates and other similar connections) for root and final passes.
 - d. 20 % of length of built-up column member partial penetration and fillet welds at random for root and final passes.
 - e. 100 % of length of built-up girder member partial penetration and fillet welds at random for root and final passes.

3.05 REPAIRS AND PROTECTION

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories, bearing plates, and abutting structural steel.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
 - 2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

END OF SECTION 051200

SECTION 053100 - STEEL DECKING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Roof deck.
- B. Composite floor deck.
- C. Supplementary framing for openings up to and including 18 inches.
- D. Bearing plates and angles.
- E. Stud shear connectors.

1.02 RELATED REQUIREMENTS

- A. Section 014000 Quality Requirements
- B. Section 014533 Code-Required Special Inspections and Procedures
- C. Section 033000 Cast-in-Place Concrete: Concrete topping over metal deck.
- D. Section 051200 Structural Steel Framing: Support framing for openings larger than 18 inches and shear stud connectors.
- E. Section 051200 Structural Steel Framing: Placement of embedded steel anchors for bearing plates in cast-in-place concrete.
- F. Section 055000 Metal Fabrications: Steel angle concrete stops at deck edges.

1.03 REFERENCE STANDARDS

- A. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
- B. ASTM A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished.
- C. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A510/A510M Standard Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel.
- E. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- F. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
- G. ASTM B633 Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel.

- H. ASTM E384 Standard Test Method for Microindentation Hardness of Materials.
- I. AWS B2.1/B2.1M Specification for Welding Procedure and Performance Qualification.
- J. AWS D1.1/D1.1M Structural Welding Code Steel.
- K. AWS D1.3/D1.3M Structural Welding Code Sheet Steel.
- L. FM (AG) FM Approval Guide.
- M. FM DS 1-28 Wind Design.
- N. FM DS 1-29 Roof Deck Securement and Above-Deck Roof Components.
- O. IAS AC172 Accreditation Criteria for Fabricator Inspection Programs for Structural Steel.
- P. ICC-ES AC43 Acceptance Criteria for Steel Deck Roof and Floor Systems.
- Q. ICC-ES AC70 Acceptance Criteria for Fasteners Power Driven into Concrete, Steel and Masonry Elements.
- R. ITS (DIR) Directory of Listed Products.
- S. NFPA 70 National Electrical Code.
- T. SDI (DM) Publication No.30, Design Manual for Composite Decks, Form Decks, and Roof Decks.
- U. SSPC-Paint 15 Steel Joist Shop Primer/Metal Building Primer.
- V. SSPC-Paint 20 Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").
- W. UL 209 Cellular Metal Floor Raceways and Fittings.
- X. UL (DIR) Online Certifications Directory.
- Y. UL (FRD) Fire Resistance Directory.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittals procedures.
- B. Product Data: Provide deck profile characteristics, dimensions, structural properties, and finishes.
- C. Shop Drawings: Indicate deck plan, support locations, projections, openings, reinforcement, pertinent details, and accessories.
- D. Certificates: Certify that products furnished meet or exceed specified requirements.
- E. Submit manufacturer's installation instructions.
- F. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
- G. Designer's Qualification Statement.

- H. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.
- I. Field quality-control test and inspection reports.
- J. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that the following complies with requirements:
 - 1. Power-actuated mechanical fasteners: Provide calculations verifying equivalent diaphragm shear strength of fasteners to weld patterns specified.

1.05 QUALITY ASSURANCE

- A. Design deck layout, spans, fastening, and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M and dated no more than 12 months before start of scheduled welding work.
- C. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated.
- D. Fabricator Qualifications: A qualified steel fabricator that is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.
- E. Installer Qualifications: Company specializing in performing the work of this Section with minimum 5 years of experience.
- F. Fire-Test-Response Characteristics: Where indicated, provide steel deck units identical to those tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
- G. Fire-Resistance Ratings: Indicated by design designations of applicable testing and inspecting agency.
 - 1. Steel deck units shall be identified with appropriate markings of applicable testing and inspecting agency.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Cut plastic wrap to encourage ventilation.
- C. Separate sheets and store deck on dry wood sleepers; slope for positive drainage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Steel Deck:

Ithaca Fire Station Steel Decking

- 1. Canam Steel Corporation:
- 2. Cordeck, Inc
- 3. Nucor-Vulcraft Group
- 4. Epic Metals Corporation
- 5. United Steel Deck, Inc
- 6. New Millennium Building Systems, LLC
- 7. Substitutions: See Section 016000 Product Requirements.

2.02 STEEL DECK

- A. Roof Deck: Non-composite type, fluted steel sheet:
 - 1. Galvanized Steel Sheet: ASTM A653/A653M, Structural Steel (SS) Grade 33/230, with G90/Z275 galvanized coating.
 - 2. Span Design: Triple or more.
 - 3. Minimum Base Metal Thickness: As noted on drawings
 - 4. Nominal Height: As noted on drawings.
 - 5. Profile: As noted on drawings.
 - 6. Formed Sheet Width: 36 inch.
 - 7. Side Joints: Lapped, welded.
 - 8. End Joints: Lapped, welded.
- B. Composite Floor Deck: Fluted steel sheet embossed to interlock with concrete:
 - 1. Galvanized Steel Sheet: ASTM A653/A653M, Structural Steel (SS) Grade 33/230, with G60/Z180 galvanized coating.
 - 2. Span Design: Triple or more.
 - 3. Minimum Base Metal Thickness: As noted on drawings.
 - 4. Nominal Height: As noted on drawings.
 - 5. Profile: As noted on drawings.
 - 6. Formed Sheet Width: 36 inch.
 - 7. Side Joints: Lapped, welded.
 - 8. End Joints: Lapped, welded.

2.03 ACCESSORY MATERIALS

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Bearing Plates and Angles: ASTM A36/A36M steel, galvanized per ASTM A123/A123M.
- C. Stud Shear Connectors: ASTM A 108, Grades 1010 through 1020 headed stud type, cold-finished carbon steel, AWS D1.1, Type B, with arc shields.
- D. Welding Materials: AWS D1.1/D1.1M.
- E. Fasteners: Galvanized hardened steel, self tapping.
- F. Mechanical Fasteners: Steel; hex washer head, self-drilling, self-tapping.
 - 1. Design Requirements for Sidelap Connections: Provide number and type of fasteners that comply with the applicable requirements of SDI (DM) design method for roof deck and floor deck applications and ICC-ES AC43.
 - 2. Fasteners for Steel Roof Decks Protected with Waterproofing Membrane: ASTM B633, SC1, Type III zinc electroplate.

- 3. Fasteners for Exposed Steel Roof Deck Application: Manufacturer's standard stainless steel with bonded neoprene washer.
- G. Weld Washers: Mild steel, uncoated, 3/4 inch outside diameter, 1/8 inch thick.
- H. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, complying with VOC limitations of authorities having jurisdiction.
- I. Flute Closures: Closed cell foam rubber, 1 inch thick; profiled to fit tight to the deck.

2.04 FABRICATED DECK ACCESSORIES

- A. Sheet Metal Deck Accessories: Metal closure strips, wet concrete stops, and cover plates same material and finish as deck, and of thickness and profile recommended by SDI Publication No. 30 for overhand and slab depth.
- B. Cant Strips: Formed sheet steel, ____ gauge, ____ inch minimum thickness, 45 degree slope, 3-1/2 inch nominal width and height, flange for attachment.
- C. Roof Sump Pans: Formed sheet steel, 14 gauge, 0.0747 inch minimum thickness, flat bottom, sloped sides, recessed 1-1/2 inches below roof deck surface, bearing flange 3 inches wide, sealed watertight.
- D. Floor Drain Pans: Formed sheet steel, 14 gauge, 0.0747 inch minimum thickness, flat bottom, sloped sides, recessed 1-1/2 inches below floor deck surface, bearing flange 3 inches wide, sealed watertight.
- E. Wedge Nut hanging devices shall be installable and relocatable along the length of the interior ribs of the dovetail deck. the manufacturers' product data shall be consulted for minimum spacing, load capabilities, and proper installation procedure of the Wedge Nut hanging devices.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions prior to beginning work.

3.02 INSTALLATION - General

- A. Erect metal deck in accordance with SDI Design Manual and manufacturer's instructions. Align and level.
 - 1. Install temporary shoring before placing deck panels, if required to meet deflection limitations.
 - 2. Locate deck bundles to prevent overloading of supporting members.
- B. On concrete and masonry surfaces provide minimum 4 inch bearing.
- C. On steel supports provide minimum 1-1/2 inch bearing.
- D. Fasten deck to steel support members at ends and intermediate supports at 12 inches on center maximum, parallel with the deck flute and at each transverse flute using methods specified.
 1. Welding: Use fusion welds through weld washers.
- E. At welded male/female side laps weld at 12 inches on center maximum.

Ithaca Fire Station Steel Decking

- F. Weld deck in accordance with AWS D1.3/D1.3M.
- G. At deck openings from 6 inches to 18 inches in size, provide 2 by 2 by 1/4 inch steel angle reinforcement. Place angles perpendicular to flutes; extend minimum two flutes beyond each side of opening and fusion weld to deck at each flute. Or see details provided in structural drawings.
- H. At deck openings greater than 18 inches in size, provide steel angle reinforcement. as specified in Section 051200 and on structural drawings.
- I. At floor edges, install concrete stops upturned to top surface of slab, to contain wet concrete. Provide stops of sufficient strength to remain stationary without distortion.
- J. At openings between deck and walls, columns, and openings, provide sheet steel closures and angle flashings to close openings.
- K. Close openings above walls and partitions perpendicular to deck flutes with single row of foam cell closures.
- L. Place metal cant strips in position and fusion weld.
- M. Position roof drain pans with flange bearing on top surface of deck. Fusion weld at each deck flute.
- N. Position floor drain pans with flange bearing on top surface of deck. Fusion weld at each deck flute.
- O. Weld stud shear connectors through steel deck to structural members below.
- P. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up primer.

3.03 ROOF-DECK INSTALLATION

- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches long, and as follows:
 - 1. Weld Diameter: 5/8 inch, nominal.
 - 2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds 12 inches apart in the field of roof and 6 inches apart in roof corners and perimeter, based on roof-area definitions in FMG Loss Prevention Data Sheet 1-28.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of 1/2 of the span or 12 inches, and as follows:
 - 1. Fasten with a minimum of 1-1/2-inch long welds.
 - 2. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 2 inches, with end joints lapped 2 inches minimum.

3.04 FLOOR-DECK INSTALLATION

A. Fasten floor-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated and as follows:

Ithaca Fire Station Steel Decking

- 1. Weld Diameter: 5/8 inch, nominal.
- 2. Weld Spacing: Weld edge ribs of panels at each support. Space additional welds an average of 12 inches apart, but not more than 18 inches apart. Space welds at closer spacing when indicated on drawings.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of half of the span or 36 inches, and as follows:
 - 1. Fasten with a minimum of 1-1/2-inch long welds.
 - 2. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 2 inches, with end joints butted.

3.05 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Field welds and mechanical fasteners will be subject to inspection.
- C. Shear connector stud welds will be inspected and tested according to AWS D1.1 for stud welding and as follows:
 - 1. All shear connector stud welds will be visually inspected or impact hammer tested.
 - 2. Bend test 20 % of all studs at random.
 - 3. Additional bend tests will be performed if visual inspections reveal less than a full 360degree flash or welding repairs to any shear connector stud.
 - 4. Tests will be conducted on additional shear connector studs if weld fracture occurs on shear connector studs already tested according to AWS D1.1.
- D. Testing agency will report inspection results promptly and in writing to Contractor and Architect.
- E. Remove and replace work that does not comply with specified requirements.
- F. Additional inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.06 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

END OF SECTION 053100

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Continuous track at ends of cold formed metal roof bottom chords.
- B. Framing between roof trusses.
- C. Exterior entrance soffit and vestibule ceilng framing.

1.02 RELATED REQUIREMENTS

A. Section 092116 - Gypsum Board Assemblies: Lightweight, non-load bearing metal stud framing and interior gypsum based sheathing.

1.03 REFERENCE STANDARDS

- A. AISI S100-12 North American Specification for the Design of Cold-Formed Steel Structural Members.
- B. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- C. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- D. ASTM C955 Standard Specification for Cold-Formed Steel Structural Framing Members.
- E. AWS D1.1/D1.1M Structural Welding Code Steel.
- F. SSPC-Paint 20 Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations.
- C. Product Data: Provide manufacturer's data on factory-made framing connectors, showing compliance with requirements.
- D. Shop Drawings: Indicate component details, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
 - 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
 - 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

- 3. Indicate framing layout.
- 4. Describe method for securing studs to tracks and for bolted framing connections.
- 5. Design data:
 - a. Shop drawings signed and sealed by a professional structural engineer licensed in the State of New York.
- 6. Calculations for loadings and stresses of specially fabricated framing, signed and sealed by a professional structural engineer.
- 7. Details and calculations for factory-made framing connectors, signed and sealed by a professional structural engineer.
- E. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention .

1.05 QUALITY ASSURANCE

- A. Designer Qualifications: Design framing system under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of New York.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, and with minimum five years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Framing:
 - 1. ClarkDietrich: www.clarkdietrich.com/#sle.
 - 2. Marino: www.marinoware.com/#sle.
 - 3. The Steel Network, Inc: www.SteelNetwork.com/#sle.
- B. Framing Connectors and Accessories:
 - 1. Same manufacturer as metal framing.

2.02 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.
- B. Design Requirements: Provide completed framing system having the following characteristics:
 - 1. Design: Calculate structural characteristics of cold-formed steel framing members according to AISI S100-12.
 - 2. Structural Performance: Design, engineer, fabricate, and erect to withstand specified design loads for project conditions within required limits.
 - 3. Design Loads: As follows:
 - a. Wind Loads: Components and cladding loadihng as calculated by the metal framing engineer of record. Wind design criteria shall be the following:
 - 1) Ultimate Wind Speed (Risk Category IV): 122 MPH
 - 2) Exposure Category: C
 - 4. Live load deflection meeting the following, unless otherwise indicated:
 - a. Exterior Walls: Maximum horizontal deflection under wind load of 1/180 of span.

Ithaca Fire Station Cold-Formed Metal Framing

- b. Design non-axial loadbearing framing to accommodate not less than 1 in vertical deflection.
- 5. Able to tolerate movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
- 6. Able to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
- C. Shop fabricate framing system to the greatest extent possible.
- D. Deliver to project site in largest practical sections.

2.03 FRAMING MATERIALS

- A. Studs and Track: ASTM C955; studs formed to channel, C- or Sigma-shaped with punched web; U-shaped track in matching nominal width and compatible height.
 - 1. Minimum Base Metal Thickness: 0.0478 inches.
 - 2. Minimum Flange Width: 1 5/8 inches.
 - 3. Stud Depth: Refer to drawings and as required to meet performance requirements.
 - 4. Galvanized in accordance with ASTM A653/A653M, G90/Z275 coating.
- B. Framing Connectors: Factory-made, formed steel sheet.
 - 1. Material: ASTM A653/A653M SS Grade 33 and 40 (minimum), with G90/Z275 hot dipped galvanized coating for base metal thickness less than 10 gauge, 0.1345 inch, and factory punched holes and slots.
 - 2. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
 - 3. Fixed Connections: Provide non-movement connections for tie-down to floor.

2.04 EXTERIOR ENTRANCE SOFFIT AND FESTIBULE CEILING FRAMING

A. Manufacturer's standard C-shaped steel sections, of web depths indicated bove, with stiffened flanges.

2.05 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Drilled expansion bolts.
- C. Welding: Comply with AWS D1.1/D1.1M.

2.06 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.
- B. Plates, Gussets, Clips: Formed Sheet Steel, thickness determined for conditions encountered; finish to match framing components.
- C. Supplementary framing, web stiffeners, anchor clips, end clips, stud kickers, knee braces and hole reinforcing plates and backer plates sheet steel thickness determined for conditions

Ithaca Fire Station Cold-Formed Metal Framing encountered; finish to match framing components.

- D. Galvanizng Repair Paint: SSPC-Paint 20 Type I Inorganic, complying with VOC limitations of authorities having jurisdiction.
- E. Shims: Load-bearing, high-density, multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as framing members supported by shims.

2.07 FABRICATION

- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
 - 1. Fabricate framing assemblies using jigs or templates.
 - 2. Cut framing members by sawing or shearing; do not torch cut.
 - 3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.
 - 4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion
- C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 feet and as follows:
 - 1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
 - 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify field measurements and adjust installation as required.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION OF STUDS AND RUNNER TRACKS

- A. Install components in accordance with manufacturers' instructions and AISI S200/ AISI S202
- B. Place ceiling framing at 16 inches on center; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using clip and tie method.

Ithaca Fire Station Cold-Formed Metal Framing
C. Touch-up field welds and damaged galvanized surfaces with primer.

END OF SECTION 054000

SECTION 054400 - COLD-FORMED METAL TRUSSES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Light gauge cold-formed steel roof trusses.
- B. Anchorages, bracing, and bridging.

1.02 RELATED REQUIREMENTS

- A. Section 014533 Code-Required Special Inspections and Procedures.
- B. Section 061000 Rough Carpentry: Floor and roof sheathing.

1.03 REFERENCE STANDARDS

- A. AISI S100 North American Specification for the Design of Cold-Formed Steel Structural Members.
- B. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- C. ASTM A780/A780M Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
- D. AWS B2.1/B2.1M Specification for Welding Procedure and Performance Qualification.
- E. AWS D1.1/D1.1M Structural Welding Code Steel.
- F. AWS D1.3/D1.3M Structural Welding Code Sheet Steel.
- G. CFSEI 5000 Field Installation Guide for Cold-Formed Steel Roof Trusses.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Meet at project site prior to beginning of installation to review requirements. Require attendance by representatives of the following:
 - 1. Truss fabricator.
 - 2. Truss installer.
 - 3. Other entities affected by the work of this section, including but not limited to truss support framing installer, mechanical systems installer, and electrical systems installer.

1.05 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Span charts.
 - 2. Storage and handling requirements and recommendations.

Ithaca Fire Station Cold-Formed Metal Trusses

- 3. Installation methods.
- C. Shop Drawings:
 - 1. Include detailed floor truss layout.
 - 2. Show member type, location, spacing, size and gauge, methods of attachment, and erection details. Indicate supplemental bracing, strapping, splices, bridging, and accessories.
 - 3. Include truss design drawings, signed and sealed by a qualified professional engineer registered in the State in which the Project is located, verifying ability of each truss design to meet applicable code and design requirements.
 - a. Include the following:
 - 1) Design criteria.
 - 2) Engineering analysis depicting member stresses and deflections.
 - 3) Member sizes and gauges.
 - 4) Details of connections at truss joints.
 - 5) Truss support reactions.
 - 6) Bracing requirements.
 - 7) Conn
- D. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention, and _____.
- E. Designer's Qualification Statement.
- F. Fabricator's Qualification Statement.
- G. Installer's Qualification Statement.
- H. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated within the previous 12 months.
- 1.06 QUALITY ASSURANCE
 - A. Designer Qualifications: Design trusses under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
 - B. Fabricator Qualifications: Steel truss fabricator with minimum 10 years of experience designing and fabricating truss systems equivalent to those required for this project and licensed by an acceptable manufacturer.
 - C. Installer Qualifications: Experienced installer approved by truss system fabricator.
 - D. Welder Qualifications: Welding processes and welding operators qualified within previous 12 months in accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver trusses and other materials in manufacturer's unopened bundles or containers, each marked with manufacturer's name, brand, type, and grade. Exercise care to avoid damage during unloading, storing, and erection.
- B. Store trusses on blocking, pallets, platforms, or other supports, off the ground and in an upright position, sufficiently braced to avoid damage from excessive bending. Gently slope stored

trusses to avoid accumulation of water on interior of truss chord members.

C. Protect trusses and accessories from contact with earth, corrosion, deformation, mechanical damage, or other deterioration when stored at project site.

PART 2 PRODUCTS

2.01 TRUSS DESIGN REQUIREMENTS

- A. Design: Calculate structural characteristics of cold-formed steel truss members according to AISI S100.
- B. Structural Performance: Design, engineer, fabricate, and erect trusses to withstand specified design loads for project conditions within required limits.
 - 1. Design Loads: as indicated on the structural drawings .
 - Deflections: Live load deflection meeting the following, unless otherwise indicated:
 a. Roofs: Maximum vertical deflection under live load of 1/360 of span.
 - 3. Design trusses to accommodate movement attributable to temperature changes within a range of 120 degrees F without damage or overstressing, sheathing failure, undue strain on fasteners and anchors, or other deleterious effects.

2.02 COMPONENTS

- A. Trusses: Light gauge steel assemblies providing a complete horizontal framing system for locations indicated, ready for deck installation.
 - 1. Truss Type, Span, and Height: As indicated on drawings.
 - 2. Chord and Web Members: Fabricate required shapes from commercial quality galvanized steel sheet complying with ASTM A653/A653M, with minimum yield strength of 40,000 psi; minimum G60/Z180 coating; gauges as required for load conditions; all edges rolled or closed.
- B. Fasteners: Self-drilling, self-tapping screw fasteners with corrosion-resistant plated finish, as recommended by steel truss manufacturer and marked for easy identification.
 - 1. Welding: Comply with applicable provisions of AWS D1.1/D1.1M and AWS D1.3/D1.3M.
- C. Bracing, Bridging, and Blocking Members: Fabricate required shapes from commercial quality galvanized steel sheet complying with ASTM A653/A653M, with minimum yield strength of 33,000 psi; minimum G60/Z180 coating; gauges as required for load conditions.

2.03 FABRICATION

- A. Factory fabricate cold-formed steel trusses plumb, square, true to line, and with secure connections, complying with manufacturer's recommendations and project requirements.
 - 1. Fabricate trusses using jig templates.
 - 2. Cut truss members by sawing, shearing, or plasma cutting.
 - 3. Fasten members in full compliance with instructions of manufacturer. Wire tying of framing members is not permitted.
- B. Tolerances: Fabricate trusses to maximum allowable tolerance variation from plumb, level and true line of 1/8 inch in 10 feet.
 - 1. Up to 30 feet Long: Maximum plus or minus 1/2 inch from design length.

- 2. Over 30 feet Long: Maximum plus or minus 3/4 inch from design length.
- 3. Up to 5 feet High: Maximum plus or minus 1/4 inch from design height.
- 4. Over 5 feet High: Maximum plus or minus 1/2 inch from design height.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install cold-formed steel trusses in strict accordance with manufacturer's instructions and approved shop drawings, using approved fastening methods.
- B. Install temporary erection bracing and permanent bracing and bridging before application of any loads. Erect trusses with plane of truss webs vertical and parallel to each other, accurately located at spacing indicated. Anchor trusses securely at bearing points.
- C. Adequately distribute applied loads to avoid exceeding the carrying capacity of any one joint, truss, or other component.
- D. Exercise care to avoid damaging truss members during lifting and erection and to minimize horizontal bending of trusses.
- E. Removal, cutting, or alteration of any truss chord, web, or bracing member in the field is prohibited, unless approved in advance by Engineer of Record or the engineer of record and the truss manufacturer.
- F. Repair or replace damaged members and complete trusses as directed and approved in writing by Engineer of Record or the engineer of record and the truss manufacturer.
- G. Galvanizing Repair: Touch up bare steel with zinc-rich paint in compliance with ASTM A780/A780M.
- H. Field Welding: In accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M, as applicable, and as follows:
 - 1. Connections: Provide fillet, flat, plug, or butt welds, as indicated.
 - 2. Minimum steel thickness for welded connections, 18 gauge, 0.0478 inch.
- I. Roof Trusses:
 - 1. Comply with recommendations of CFSEI 5000.
 - 2. Align truss bottom chords with load-bearing studs or continuously reinforce track as required to transfer loads to structure.
 - 3. Install continuous bridging and permanent truss bracing as indicated.
 - 4. Install roof cross bracing and diagonal bracing as indicated.

3.02 TOLERANCES

- A. Install trusses to maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet.
- B. Space individual trusses not more than plus or minus 1/8 inch from plan location. Cumulative error in placement may not exceed minimum fastening requirements of sheathing or other material fastened to trusses.

3.03 FIELD QUALITY CONTROL

Ithaca Fire Station Cold-Formed Metal Trusses A. Perform field inspection and testing in accordance with Section 014000 - Quality Requirements and per Section 014533 - Code-Required Special Inspections and Procedures.

3.04 PROTECTION

- A. Protect trusses from damage by subsequent construction activities.
- B. Repair or replace damaged trusses, truss members, and bracing members; obtain approval in advance by Engineer of Record or the engineer of record and the truss manufacturer for all cutting, repairs, and replacements.

END OF SECTION 054400

SECTION 055000 - METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Placement of metal fabrications in concrete.
- B. Section 042000 Unit Masonry: Placement of metal fabrications in masonry.
- C. Section 051200 Structural Steel Framing: Structural steel column anchor bolts.
- D. Section 053100 Steel Decking: Bearing plates for metal deck bearing, including anchorage.
- E. Section 055100 Metal Stairs.
- F. Section 055133 Metal Ladders.
- G. Section 099123 Interior Painting: Paint finish.

1.03 REFERENCE STANDARDS

- A. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
- B. ASTM A53/A53M Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- C. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A283/A283M Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
- E. ASTM A501/A501M Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- F. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- G. ASTM A1011/A1011M Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- H. AWS A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- I. AWS D1.1/D1.1M Structural Welding Code Steel.
- J. IAS AC172 Accreditation Criteria for Fabricator Inspection Programs for Structural Steel.

- K. SSPC-Paint 15 Steel Joist Shop Primer/Metal Building Primer.
- L. SSPC-Paint 20 Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").
- M. SSPC-SP 2 Hand Tool Cleaning.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
 - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
 - 2. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.
 - a. Include the following, as applicable:
 - 1) Design criteria.
 - 2) Engineering analysis depicting stresses and deflections.
 - 3) Member sizes and gauges.
- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- D. Designer's Qualification Statement.
- E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.
- 1.05 QUALITY ASSURANCE
 - A. Design metal fabrications under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
 - B. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

PART 2 PRODUCTS

- 2.01 MATERIALS STEEL
 - A. Steel Sections: ASTM A36/A36M.
 - B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
 - C. Plates: ASTM A283/A283M.
 - D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
 - E. Slotted Channel Fittings: ASTM A1011/A1011M.
 - F. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.

Ithaca Fire Station Metal Fabrications

- G. Bolts, Nuts, and Washers: ASTM A325 (ASTM A325M), Type 1, galvanized to ASTM A153/A153M where connecting galvanized components.
- H. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- I. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- J. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

- A. Ledge Angles, Shelf Angles, Channels, and Plates Not Attached to Structural Framing: For support of metal decking and masonry; prime paint finish.
- B. Lintels: As detailed; galvanized and prime painted finish.
- C. Door Frames for Overhead Door Openings and Wall Openings: Channel sections; galvanized and prime paintyed finish.
- D. Slotted Channel Framing: Fabricate channels and fittings from structural steel complying with the referenced standards; factory-applied, rust-inhibiting thermoset acrylic enamel finish.

2.04 FINISHES - STEEL

- A. Prime paint steel items.
 - 1. Exceptions: Galvanize items to be embedded in concrete and items to be embedded in masonry.
- B. Prepare surfaces to be primed in accordance with SSPC-SP2.
- C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- D. Prime Painting: One coat.
- E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating.

- F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.
- G. Slotted Channel Framing: ASTM A653/A653M, Grade 33.
- 2.05 FABRICATION TOLERANCES
 - A. Tolerances shall be noncumulative.
 - B. Squareness: 1/8 inch maximum difference in diagonal measurements.
 - C. Maximum Offset Between Faces: 1/16 inch.
 - D. Maximum Misalignment of Adjacent Members: 1/16 inch.
 - E. Maximum Bow: 1/8 inch in 48 inches.
 - F. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

3.04 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION 055000

SECTION 055100 - METAL STAIRS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Stairs with concrete treads.
- B. Structural steel stair framing and supports.
- C. Handrails and guards.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Concrete fill in stair pans; mesh reinforcement for landings.
- B. Section 033000 Cast-in-Place Concrete: Placement of metal anchors in concrete.
- C. Section 042000 Unit Masonry: Placement of metal fabrications in masonry.
- D. Section 099123 Interior Painting: Paint finish.

1.03 REFERENCE STANDARDS

- A. ASTM A6/A6M Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.
- B. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
- C. ASTM A53/A53M Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- D. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A283/A283M Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
- F. ASTM A500/A500M Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- G. ASTM A501/A501M Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- H. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
- I. ASTM A1011/A1011M Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.

- J. ASTM F3125/F3125M Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength.
- K. AWS A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- L. AWS D1.1/D1.1M Structural Welding Code Steel.
- M. SSPC-Paint 15 Steel Joist Shop Primer/Metal Building Primer.
- N. SSPC-SP 2 Hand Tool Cleaning.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
 - 1. Delegated-Design Submittal: For stairs, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
 - 3. Include the design engineer's seal and signature on each sheet of shop drawings.
- C. Design Data: As required by authorities having jurisdiction.
- D. Welders' Certificates.

1.05 QUALITY ASSURANCE

- A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.
- B. Welder Qualifications: Show certification of welders employed on the Work, verifying AWS qualification within the previous 12 months.
- C. Fabricator Qualifications:
 - 1. A company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

PART 2 PRODUCTS

- 2.01 METAL STAIRS GENERAL
 - A. Metal Stairs: Provide stairs of the design specified, complete with landing platforms, vertical and horizontal supports, railings, and guards, fabricated accurately for anchorage to each other and to building structure.
 - 1. Regulatory Requirements: Provide stairs and railings that comply with most stringent requirements of local, state, and federal regulations; where requirements of Contract Documents exceed those of regulations, comply with Contract Documents.

- 2. Handrails: Comply with applicable accessibility requirements of ADA Standards.
- 3. Structural Design: Provide complete stair and railing assemblies that comply with the applicable local code.
- 4. Dimensions: As indicated on drawings.
- 5. Shop assemble components; disassemble into largest practical sections suitable for transport and access to site.
- 6. No sharp or rough areas on exposed travel surfaces and surfaces accessible to touch.
- 7. Separate dissimilar metals using paint or permanent tape.
- B. Metal Jointing and Finish Quality Levels:
 - 1. Commercial: Exposed joints as inconspicuous as possible, whether welded or mechanical; underside of stair not covered by soffit IS considered exposed to view.
 - a. Welded Joints: Intermittently welded on back side, filled with body putty, and sanded smooth and flush.
 - b. Welds Exposed to View: Ground smooth and flush.
 - c. Mechanical Joints: Butted tight, flush, and hairline.
 - d. Bolts Exposed to View: Countersunk flat or oval head bolts; no exposed nuts.
 - e. Exposed Edges and Corners: Eased to small uniform radius.
 - f. Metal Surfaces to be Painted: Sanded or ground smooth, suitable for satin or matte finish.
- C. Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.
- D. Anchors and Related Components: Same material and finish as item to be anchored, except where specifically indicated otherwise; provide all anchors and fasteners required.

2.02 METAL STAIRS WITH CONCRETE TREADS

- A. Jointing and Finish Quality Level: Commercial, as defined above.
- B. Risers: Closed.
- C. Treads: Metal pan with field-installed concrete fill.
 - 1. Concrete Depth: 1-1/2 inches, minimum.
 - 2. Tread Pan Material: Steel sheet.
 - 3. Tread Pan Thickness: As required by design; 14 gauge, 0.075 inch minimum.
 - 4. Factory Fabricated Tread and Nosing: Manufacturer's standard, field applied aluminum walking surface with integral nosing, abrasive filler and factory applied finishes.
 - 5. Pan Anchorage to Stringers: Continuously welded, from top, to be exposed to view from bottom.
 - 6. Concrete Reinforcement: Welded wire mesh.
 - 7. Concrete Finish: Steel troweled.
- D. Risers: Same material and thickness as tread pans.
 - 1. Nosing Depth: Not more than 1 inch overhang.
 - 2. Nosing Return: Flush with top of concrete fill, not more than 1/2 inch wide.
- E. Stringers: Rolled steel channels.
 - 1. Stringer Shape and Size: As indicated on drawings.
 - 2. End Closure: Sheet steel of same thickness as risers welded across ends.

- F. Landings: Similar construction, using corrugated steel decking, supported and reinforced as required to achieve design load capacity.
- G. Railings: Steel picket railings.
- H. Finish: Shop- or factory-prime painted.
- I. Under Side of Stair: Exposed to view, to be finished same as specified for other exposed to view surfaces.

2.03 HANDRAILS AND GUARDS

- A. Wall-Mounted Rails: Round pipe or tube rails unless otherwise indicated.
 1. Outside Diameter: 1-1/2 inches, maximum.
- B. Guards:
 - 1. Top Rails: Round pipe or rectangular tube rails unless otherwise indicated.
 - a. Outside Diameter: 1-1/2 inches, maximum.
 - b. Rectangular Tube: As indicated ion the drawings.
 - 2. Infill at Picket Railings: Vertical pickets.
 - a. Horizontal Spacing: Maximum 4 inches on center.
 - b. Material: Solid steel bar.
 - c. Shape: Square.
 - d. Size: 1/2 inch square.
 - e. Top Mounting: Welded to underside of top rail.
 - f. Bottom Mounting: As indicated on drawings.
 - 3. End and Intermediate Posts: Same material and size as top rails.
 - a. Horizontal Spacing: As indicated on drawings.
 - b. Mounting: Welded to top surface of stringer.

2.04 MATERIALS

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A500/A500M or ASTM A501/A501M structural tubing, round and shapes as indicated.
- C. Steel Plates: ASTM A6/A6M or ASTM A283/A283M.
- D. Pipe: ASTM A53/A53M Grade B Schedule 40, black finish.
- E. Ungalvanized Steel Sheet: Hot- or cold-rolled, except use cold-rolled where finished work will be exposed to view.
 - 1. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Designation CS (commercial steel).
 - 2. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Designation CS (commercial steel).
- F. Concrete Fill: See Section 033000.
- G. Concrete Reinforcement: Mesh type as detailed, galvanized.

2.05 ACCESSORIES

A. Factory Fabricated Stair Tread and Nosing:

Ithaca Fire Station Metal Stairs

- 1. Materials: Cast Aluminum.
 - a. Tread Abrasive: Cross-hatched silicon carbide abrasive 20 grit.
- 2. Manufacturers:
 - a. 1. Basis of Design Product: American Safety Tread; Style 801SP..
 - b. Substitutions: See Section 016000 Product Requirements.
- B. Steel Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, and galvanized to ASTM A153/A153M where connecting galvanized components.
- C. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- D. Shop and Touch-Up Primer: SSPC-Paint 15, and comply with VOC limitations of authorities having jurisdiction.

2.06 SHOP FINISHING

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime Painting: Use specified shop- and touch-up primer.
 - 1. Preparation of Steel: In accordance with SSPC-SP 2 Hand Tool Cleaning.
 - 2. Number of Coats: One.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

- A. When field welding is required, clean and strip primed steel items to bare metal.
- B. Supply items required to be cast into concrete and embedded in masonry with setting templates.

3.03 INSTALLATION

- A. Install components plumb and level, accurately fitted, free from distortion or defects.
- B. Provide anchors, plates, angles, hangers, and struts required for connecting stairs to structure.
- C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- D. Provide welded field joints where specifically indicated on drawings. Perform field welding in accordance with AWS D1.1/D1.1M.
- E. Other field joints may be either welded or bolted provided the result complies with the limitations specified for jointing quality levels.
- F. Obtain approval prior to site cutting or creating adjustments not scheduled.

G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.04 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.

END OF SECTION 055100

SECTION 055133 - METAL LADDERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop-fabricated metal elevator ladder.
- B. Prefabricated hatch ladder.

1.02 RELATED REQUIREMENTS

- A. Section 099113 Exterior Painting: Paint finish.
- B. Section 099123 Interior Painting: Paint finish.
- C. Section 142400 Hydraulic Elevators.

1.03 REFERENCE STANDARDS

- A. ANSI A14.3 American National Standard for Ladders -- Fixed -- Safety Requirements.
- B. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
- C. ASTM A53/A53M Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- D. ASTM A283/A283M Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
- E. ASTM A307 Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
- F. ASTM A501/A501M Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- G. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- H. ASTM B209M Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
- I. ASTM B211/B211M Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire.
- J. AWS A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- K. AWS B2.1/B2.1M Specification for Welding Procedure and Performance Qualification.
- L. AWS D1.1/D1.1M Structural Welding Code Steel.
- M. AWS D1.2/D1.2M Structural Welding Code Aluminum.
- N. SSPC-Paint 15 Steel Joist Shop Primer/Metal Building Primer.

Ithaca Fire Station Metal Ladders

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide prefabricated ladders data sheets on each ladder safety system product to be used, including installation instructions.
- C. Shop Drawings:
 - 1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
 - 2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- D. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

1.05 QUALITY ASSURANCE

- A. Design shop fabricated ladders under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.2/D1.2M and dated no more than 12 months before start of scheduled welding work.

PART 2 PRODUCTS

- 2.01 MATERIALS STEEL
 - A. Steel Sections: ASTM A36/A36M.
 - B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
 - C. Plates: ASTM A283/A283M.
 - D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
 - E. Mechanical Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.
 - F. Bolts, Nuts, and Washers: ASTM A307, plain.
 - G. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
 - H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- 2.02 MATERIALS ALUMINUM
 - A. Extruded Aluminum: ASTM B211/B211M, 6063 alloy, T6 temper.
 - B. Sheet Aluminum: ASTM B209 (ASTM B209M), 5052 alloy, H34 temper.

2.03 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.04 FABRICATED LADDERS

- A. Ladders: Steel; in compliance with ANSI A14.3; with mounting brackets and attachments; prime paint finish.
 - 1. Side Rails: 3/8 by 2 inches members spaced at 18 inches clear.
 - 2. Rungs: One inch diameter solid round bar spaced 12 inches on center.
 - 3. Space rungs 7 inches from wall surface.

2.05 PREFABRICATED HATCH LADDER

- A. Prefabricated Ladder: Welded metal unit complying with ANSI A14.3; factory fabricated to greatest degree practical and in the largest components possible.
 - 1. Heavy Duty Tubular Rail: Roof Access Ladder
 - Model 501-SD-SP-0001 as manufactured by O' Keeffe' s Inc.
 - 1) Model to include lockable security door and safety post in Mill Finish
 - 2. Components: Manufacturer's standard rails, rungs, treads, handrails. returns, platforms and safety devices complying with the requirements of the MATERIALS ALUMINUM article of this section.
 - 3. Materials: Aluminum; ASTM B211/B211M 6063 alloy, T52 temper.
 - 4. Finish: Mill finish aluminum.
 - 5. Fabrication:

a.

- a. Rungs: Not less than 1-1/4 inches in section and 18- 3/8 inches long, formed from tubular aluminum extrusions. Squared and deeply serrated on all sides.
 - 1) Rungs shall withstand a 1,500 pound load without deformation or failure.
- b. Channel Side Rails: Not less than 1/8 inch wall thickness by 3 inches wide.
- c. Heavy Duty Tubular Side Rails: Assembled from two interlocking aluminum extrusions no less than 1/8 inch (3 mm) wall thickness by 3 inches (76 mm) wide. Construction shall be self-locking stainless steel fasteners, full penetration TIG welds and clean, smooth and burr-free surfaces.
- d. Walk-Through Rail and Roof Rail Extension: Not less than 3 feet 6 inches (1067 mm) above the landing and shall be fitted with deeply serrated, square, tubular grab rails.
- e. Ladder Safety Post: Retractable hand hold and tie off.
 - 1) Roof Access Ladder to be equipped with Ladder Safety Post with Caution Yellow Finish #1018.

2.06 FINISHES - STEEL

Ithaca Fire Station Metal Ladders

- A. Prime paint steel items.
- B. Prime Painting: One coat.

2.07 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Coordinate anchorages. Furnish setting drawings, templates, and anchorage structural loads for fastener resistance.
- C. Do not begin installation until supporting structure is complete and ladder installation will not interfere with supporting structure work.
- D. If supporting structure is the responsibility of another installer, notify Architect of unsatisfactory supporting work before proceeding.
- 3.02 PREPARATION

3.03 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction
- C. Install ladder safety system in accordance with manufacturer's instructions.
- D. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- E. Obtain approval prior to site cutting or making adjustments not scheduled.

3.04 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 055133

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to the Contract and General Conditions and all Sections of Division 01 General Requirements which are hereby made a part of the Specifications.
- B. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the Work of this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of the Section. Cooperate with such trades to assure steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Stainless-steel pipe and tube railings and guard rails.
 - 2. Decorative guard railing.
- B. Related Sections:
 - 1. Division 03 "Cast-in-Place Concrete" for structural applications of concrete.

1.3 PERFORMANCE REQUIREMENTS

- A. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
 - 1. Stainless Steel: 60 percent of minimum yield strength.
 - 2. Steel: 72 percent of minimum yield strength.
- B. Structural Performance: Provide railings capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 - 2. Infill of Guards:
 - a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).

- b. Uniform load of 25 lbf/sq. ft. (1.2 kN/sq. m) applied horizontally.
- c. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Provide exterior railings that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Grout.
 - 2. Anchors.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Verification: For each type of exposed finish required.
- D. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.
- E. Welding certificates.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing through one source from a single manufacturer.
- B. Welding: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1, "Structural Welding Code--Steel."
 - 2. AWS D1.6, "Structural Welding Code--Stainless Steel."

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating railings without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

1.7 COORDINATION AND SCHEDULING

- A. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- B. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 - PRODUCTS

- 2.1 Performance Requirements
 - A. Building Product Disclosure Requirements: Provide Building Product Disclosure documentation for products used in this section where available.
 - 1. Environmental Product Declarations.
 - B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. All Railings:
 - a. Raulli Iron works.
 - b. JPW Companies.
 - c. Miscellaneous Iron Fabricators.

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

2.3 STEEL AND IRON

- A. Tubing: ASTM A 500 (cold formed).
- B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
 - 1. Provide galvanized finish for exterior installations and where indicated.

- C. Plates, Shapes, and Bars: ASTM A 36/A 36M.
- 2.4 STAINLESS STEEL
 - A. Tubing: ASTM A 554, Grade MT 304.
 - B. Pipe: ASTM A 312/A 312M, Grade TP 304, Schedule 40 unless another grade and weight are required by structural loads.
 - C. Sheet, Strip, Plate, and Flat Bar: ASTM A 666, Type 304.
 - D. Bars and Shapes: ASTM A 276, Type 304.

2.5 FASTENERS

- A. General: Provide the following:
 - 1. Steel and Stainless-Steel Railings: Type 316 stainless-steel fasteners.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

2.6 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- A. Anchoring Cement: Hydraulic cement compound: one-component, rapid setting and hardening, non-shrink, non-metallic compound.
 - 1. Acceptable Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use. Subject to requirements, provide the following:
 - a. SPEED-E-ROC anchoring cement grout by W. R. Meadows.
- B. Anchors: Provide chemical anchors, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

2.7 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

- B. Assemble railings in the shop. Field splicing and assembly are not acceptable. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections, unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- I. Form changes in direction as follows:
 - 1. As detailed.
- J. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- K. Close exposed ends of railing members with prefabricated end fittings.

2.8 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.9 STAINLESS-STEEL FINISHES

- A. Remove tool and die marks and stretch lines or blend into finish.
- B. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
- C. 320-Grit Polished Finish: Oil-ground, uniform, fine, directionally textured finish.
- D. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to verify that locations of post anchorages are coordinated with railings.

3.2 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).
- C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in Part 2 "Fabrication."
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50

mm) beyond joint on either side, fasten internal sleeve securely to 1 side, and locate joint within 6 inches (150 mm) of post.

3.4 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Leave anchorage joint exposed; wipe off surplus anchoring material; and leave 1/8-inch (3-mm) buildup, sloped away from post.

3.5 ADJUSTING AND CLEANING

A. Clean stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

3.6 **PROTECTION**

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 05 52 13

SECTION 061000 - ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Nonstructural dimension lumber framing.
- C. Rough opening framing for doors, windows, and roof openings.
- D. Sheathing.
- E. Roofing nailers.
- F. Preservative treated wood materials.
- G. Fire retardant treated wood materials.
- H. Communications and electrical room mounting boards.
- I. Concealed wood blocking, nailers, and supports.
- J. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Setting anchors in concrete.
- B. Section 051200 Structural Steel Framing: Prefabricated beams and columns for support of wood framing.
- C. Section 055000 Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.
- D. Section 072500 Weather Barriers: Water-resistive barrier over sheathing.
- E. Section 076200 Sheet Metal Flashing and Trim: Sill flashings.
- F. Section 092116 Gypsum Board Assemblies: Gypsum-based sheathing.
- G. Section 099724 Exterior Textured Finish Sytems Gypsum soffit board.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- B. ASTM C557 Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.

- C. ASTM C1177/C1177M Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- D. ASTM D2898 Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing.
- E. ASTM D3498 Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing.
- F. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- G. AWC (WFCM) Wood Frame Construction Manual for One- and Two-Family Dwellings.
- H. AWPA U1 Use Category System: User Specification for Treated Wood.
- I. PS 1 Structural Plywood.
- J. PS 2 Performance Standard for Wood Structural Panels.
- K. PS 20 American Softwood Lumber Standard.

1.04 SUBMITTALS

- A. See Section Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. Species: Spruce Pine Fir, unless otherwise indicated.
 - 2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
 - 3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 8):
 - 1. Species: Spruce Pine Fir.
 - 2. Grade: No. 2.
- D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
 - 1. Species: Spruce Pine Fir.
 - 2. Grade: No. 2.
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Roof Sheathing: PS 2 type, rated Structural I Sheathing.
 - 1. Bond Classification: Exposure 1.
 - 2. Span Rating: 40/20.
 - 3. Performance Category: 5/8 PERF CAT.
- B. Roof Sheathing: Oriented strand board wood structural panel; PS 2, with factory-applied fire-retardant treatment and fire-resistant cementitious facer.
- C. Wall Sheathing: Glass mat faced gypsum, ASTM C1177/C1177M, 5/8 inch Type X fire resistant.
 - 1. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly.
- D. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
- C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
- D. Sill Gasket on Top of Foundation Wall: 1/4 inch thick, plate width, closed cell plastic foam from continuous rolls.
- E. Sill Flashing: As specified in Section 076200.
- F. Subfloor Adhesives: Waterproof, air cure type, cartridge dispensed; adhesives designed for subfloor applications and complying with either ASTM C557 or ASTM D3498.
- G. Construction Adhesives: Adhesives complying with ASTM C557 or ASTM D3498.
- H. Water-Resistive Barrier: As specified in Section 072500.

Ithaca Fire Station Rough Carpentry

2.05 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 - 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
- B. Fire Retardant Treatment:
 - 1. Manufacturers:
 - a. Lonza Group: www.wolmanizedwood.com/#sle.
 - b. Hoover Treated Wood Products, Inc: www.frtw.com/#sle.
 - c. Koppers, Inc: www.koppersperformancechemicals.com/#sle.
 - d. Viance, LLC: www.treatedwood.com/#sle.
 - e. Substitutions: See Section 016000 Product Requirements.
 - 2. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat exterior rough carpentry items as indicated
 - c. Do not use treated wood in direct contact with the ground.
 - 3. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat rough carpentry items as indicated .
 - c. Do not use treated wood in applications exposed to weather or where the wood may become wet.
- C. Preservative Treatment:
 - 1. Manufacturers:
 - a. Lonza Group: www.wolmanizedwood.com/#sle.
 - b. Koppers Performance Chemicals, Inc: www.koppersperformancechemicals.com/#sle.
 - c. Viance, LLC: www.treatedwood.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
 - 2. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber exposed to weather.
 - c. Treat lumber in contact with roofing, flashing, or waterproofing.
- d. Treat lumber in contact with masonry or concrete.
- e. Treat lumber less than 18 inches above grade.
- f. Treat lumber in other locations as indicated.
- 3. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with roofing, flashing, or waterproofing.
 - c. Treat plywood less than 18 inches above grade.
 - d. Treat plywood in other locations as indicated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.
- B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- C. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.
- E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
- F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

G. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- C. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- D. Provide the following specific nonstructural framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.
 - 3. Visual display boards and projection screens.
 - 4. Handrails.
 - 5. Grab bars.
 - 6. Towel and bath accessories.
 - 7. Wall-mounted door stops.
 - 8. Chalkboards and marker boards.
 - 9. Wall paneling and trim.
 - 10. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

3.06 INSTALLATION OF CONSTRUCTION PANELS

- A. Subflooring/Underlayment Combination: Glue and nail to framing; staples are not permitted.
- B. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. Nail panels to framing; staples are not permitted.
- C. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
 - 1. Place water-resistive barrier horizontally over wall sheathing, weather lapping edges and ends.
- D. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.

- 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
- 3. Install adjacent boards without gaps.

3.07 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.08 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Surface Flatness of Floor: 1/8 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.
- C. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.
- 3.09 FIELD QUALITY CONTROL
 - A. See Section 014000 Quality Requirements, for additional requirements.

3.10 CLEANING

- A. Waste Disposal:
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

SECTION 062000 - FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Finish carpentry items.
- B. Wood trim and floor base.
- C. Attachment accessories.
- D. Shop Finishing

1.02 RELATED REQUIREMENTS

- A. Section 064100 Architectural Wood Casework: Shop fabricated custom cabinet work.
- B. Section 123600 Countertops: Window sills.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) Architectural Woodwork Standards, 2nd Edition.
- B. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Scale of Drawings: 3 inch to 1 foot, minimum.
 - 2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
- C. Samples: Submit two samples of wood trim 6 inch long with finish.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-fabricated units to project site in original packages, containers or bundles.
- B. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.
- C. Protect from moisture damage.

Ithaca Fire Station Finish Carpentry D. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

- A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Interior Woodwork Items:
 - 1. Moldings, Floor Bases, and Miscellaneous Trim: Refer to Section 090613 Materials Legend.

2.02 LUMBER MATERIALS

A. Hardwood Lumber: Species as indicated in section 090613 Materials Legend, plain sawn, maximum moisture content of 6 percent ; with flat grain , of quality suitable for transparent finish.

2.03 FASTENINGS

A. Fasteners: Of size and type to suit application.

2.04 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Lumber for Shimming and Blocking: Softwood lumber of any species indicated.
- C. Primer: Alkyd primer sealer.
- D. Wood Filler: Oil base, tinted to match surface finish color.

2.05 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.06 SHOP FINISHING

- A. Sand work smooth.
- B. Apply wood filler in exposed indentations.
- C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.
- D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
 - 1. Transparent:

Ithaca Fire Station Finish Carpentry

- a. System 9, UV Curable, Acrylated Epoxy, Polyester or Urethane.
- b. Stain: Prepare for stain finish to match Wood Doors.
- c. Sheen: Refer to Section 090613 Materials Legend..
- E. Seal internal surfaces and semi-concealed surfaces. Brush apply only.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

- A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.
- C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
- D. Finished Wood Joints: Install components with minimum number of joints possible.
 - 1. Cope at returns and mitre corners.
 - 2. Scarf end to end joints.
 - 3. Fit to produce hairline joints.
 - 4. Match color and grain pattern across joints.
 - 5. No exposed joints in panel products
- E. Install trim with wall adhesive by gun application and screws or nails at spacing recommended by fabricator..

3.03 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

SECTION 064100 - ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Hardware.
- C. Preparation for installing utilities.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Support framing, grounds, and concealed blocking.
- B. Section 123600 Countertops.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) Architectural Woodwork Standards, 2nd Edition.
- B. BHMA A156.9 Cabinet Hardware.
- C. HPVA HP-1 American National Standard for Hardwood and Decorative Plywood.
- D. NEMA LD 3 High-Pressure Decorative Laminates.
- 1.04 SUBMITTALS
 - A. See Section Section 013300 Submittal Procedures for submittal procedures.
 - B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
 - C. Product Data: Provide data for hardware accessories.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with AWI/AWMAC Architectural Woodwork Quality Standards illustrated.
- B. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.07 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
- B. Wood Veneer Faced Cabinet: (Alternate No.1)
 - 1. Exposed Surfaces: HPVA HP-1 Grade A, Walnut, plain sliced, random-matched.
 - 2. Semi-Exposed Surfaces: HPVA HP-1 Grade B, Walnut, plain sliced, random-matched
 - 3. Concealed Surfaces: Manufacturer's option.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.
- B. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.
 1. Wood Moisture Content: 5 to 10 percent.
- C. Particleboard: ANSI A208.1, Grade M-2.
- D. Exterior Grade Plywood: PS1, expsoure 1.

2.03 LAMINATE MATERIALS

A. Manufacturers:

- 1. Refer to Section 090613 Materials Legend.
- B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- C. Provide specific types as indicated.
 - 1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, colors as indicated, finish as indicated.
 - 2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, colors as indicated, finish as indicated.
 - 3. Cabinet Liner: CLS, 0.020 inch nominal thickness, colors as indicated, finish as selected.

2.04 COUNTERTOPS

A. Countertops: See Section 123600.

2.05 ACCESSORIES

A. Laminate Adhesive: Polyvinyl acetatte, do not use contact adhesive.

- B. Edging Adhesive: Moisture resistant hot melt adhesive.
- C. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
 1. Color: As selected by Architect from manufacturer's full range.
- D. Fasteners: Size and type to suit application.
- E. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.
- F. Concealed Joint Fasteners: Threaded steel.
- G. Grommets: Standard plastic or rubber grommets for cut-outs, in color to match adjacent surface.

2.06 HARDWARE

- A. Hardware: BHMA A156.9, types as indicated for quality grade specified.
- B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.
- C. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.
- D. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.
- E. Drawer Slides:
 - 1. Type: Full extension.
 - 2. Static Load Capacity: 50# capacity for files, 100# for others up to 27 inches wide..
 - 3. Mounting: Side mounted.
 - 4. Stops: Integral type.
 - 5. Features: Provide self closing/stay closed type.
 - 6. Manufacturers:
 - a. Accuride International, Inc: www.accuride.com/#sle.
 - b. Blum, Inc: www.blum.com/#sle.
 - c. Knape & Vogt Manufacturing Company: www.knapeandvogt.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
- F. Hinges: Concealed, adjustable full overlay snap-on type with self closing feature, 120 degree Concealed, adjustable full overlay snap-on type with self closing feature, 120 degree
 - 1. Manufacturers:
 - a. Blum, Inc: www.blum.com/#sle.
 - b. Hardware Resources: www.hardwareresources.com/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.

2.07 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- B. Cabinet Style: Flush overlay.

- C. Cabinet Doors and Drawer Fronts: Flush style
- D. Standard Dimensions: Except where noted otherwise.
 - 1. Base and Tall Units: 24 inches, nominal.
 - 2. Wall Units: 14 inches, nominal but not less than 12-3/4" clear interior.
- E. Wall Units: 14 inches, nominal but not less than 12-3/4" clear interior.
- F. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- G. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- H. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises.
 - 1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
 - 2. Cap exposed plastic laminate finish edges with material of same finish and pattern.
 - 3. Apply laminate to faces exposed to view in whole or in part, including units or components that may be hidden by equipment or furniture.

I. Hardware:

- 1. Hinges: Mount in accordance with hinge manufacturer's written instructions and as follows:
 - a. Provide two hinges for each door up to 36 inches, three hinges for each door from 37 to 62 inches, and four hinges for each door from 63 to 80 inches.
 - b. Locks: Provide as indicated on drawings.
 - c. Hanging File Systems: Mount straight and level for full length of file drawers.
- J. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

- 3.01 EXAMINATION
 - A. Verify adequacy of backing and support framing.
 - B. Verify location and sizes of utility rough-in associated with work of this section.
- 3.02 INSTALLATION
 - A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.
 - B. Cabinet Base: Rigidly join components in ladder truss configuration with front and side panels.
 1. Level base and do not attach to the floor.
 - C. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.1. Align faces of adjacent units.
 - D. Use fixture attachments in concealed locations for wall mounted components.

- E. Use concealed joint fasteners to align and secure adjoining cabinet units.
- F. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- H. Service Devices: Some units require electrical, mechanical, or plumbing devices.
 - 1. Coordinate installation for precise placement.
 - 2. Coordinate installation for precise placement.

3.03 ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

SECTION 066000 - CELLULAR PVC FABRICATIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cellular PVC fabrications including the following:
 - 1. Fascia.
 - 2. Crown Moulding.
 - 3. Wall Mounted Bench.

1.2 RELATED SECTIONS

- A. Section 061000 Rough Carpentry for support structures.
- B. Section 099113 Exterior Painting for field painting fascia and crown moulding.
- C. Section 123600 Countertops for wall mounted bench supports.

1.3 REFERENCES

- A. ASTM D792 Density and Specific Gravity of Plastics by Displacement.
- B. ASTM D570 Water Absorption of Plastics.
- C. ASTM D638 Tensile Properties of Plastics.
- D. ASTM D790 Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- E. ASTM D1761 Mechanical Fasteners in Wood.
- F. ASTM D5420 Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a
- G. Striker Impacted by a Falling Weight.
- H. ASTM D256 Determining the Pendulum Impact Resistance of Plastics.
- I. ASTM D696 Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous
- J. Silica Dilatometer.
- K. ASTM D635 Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

- L. ASTM E84 Surface Burning Characteristics of Building Materials.
- M. ASTM D648 Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
- N. ASTM D3679 Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Verification Samples: For each finish product specified, two samples, minimum size 6 inches square representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with a minimum of 15 years producing PVC trim products.
- B. Installer Qualifications: Installer with a minimum of 3 years experience with the installation of PVC trim products.
- C. Regulatory Requirements: Comply with requirements of authorities having jurisdiction and applicable codes at the location of the project.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Comply with manufacturer's recommendations. Handle materials to avoid damage.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

A. Provide manufacturer's standard limited warranty for products, stating that components will be free from defects in material that occur as a direct result of the manufacturing process, occur under normal use and service, occur during the warranty period and result in blistering, peeling, flaking, cracking, splitting, cupping, rotting or structural defects from termites or fungal decay. 1. Warranty Period: Lifetime.

PART 2 PRODUCTS

2.1 MATERIALS

A. Solid Cellular PVC: Free foam cellular PVC material with a small cell microstructure and density of .55 grams/cm³.

2.2 FASCIA

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide PVC Trimboard; AZEK Building Products, Inc., or a comparable product.
 - 1. Substitutions: See Section 016000 Product Requirements
- B. Fire Performance Characteristics: Provide products complying with the following:
 - 1. Flame Spread Index: Less than 25, ASTM E 84.
- C. Material shall have the following characteristics:
 - 1. Material: Solid Cellular PVC.
 - 2. Nominal Thickness:
 - a. Fascia: 5/4 inch (1 inch actual)
 - b. Wall Mounted Bench: 1 ¹/₂ inches.
 - 3. Style: Traditional.
 - 4. Finish: Smooth.
 - 5. Trim Size: As indicated on the drawings.

2.3 CROWN MOULDING

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide AZM-7954 Solid Crown Moulding; AZEK Building Products, Inc., or a comparable product.
 - 1. Substitutions: See Section 016000 Product Requirements
- B. Fire Performance Characteristics: Provide products complying with the following:
 - 1. Flame Spread Index: Less than 25, ASTM E 84.
- C. Material shall have the following characteristics:
 - 1. Material: Solid Cellular PVC.
 - 2. Style: Crown.
 - 3. Finish: Smooth.

2.4 ACCESSORIES

- A. Fasteners: Stainless steel or hot-dip galvanized, with thin shank, blunt point, full round head as recommended by the manufacturer.
- B. Adhesives: Manufacturers standard non-toxic, odorless, UV stable, water-based PVC cement.
- C. Sealants: Urethane, polyurethane or acrylic based sealants without silicone.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions that may be detrimental to proper or timely completion.
- B. For porch flooring installations, ensure surfaces are suitable for installation of decking and that adequate structural support has been provided.
- C. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install products in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
 - 1. Use manufacturer's recommended fasteners, not more than 2 inches from ends.
 - 2. Glue joints to eliminate joint separation.
 - 3. Allow for expansion and contraction at ends of the runs.
 - 4. Finish edges per manufacturer's instructions.

3.3 CLEANING AND PROTECTION

- A. Protect from damage during construction operations. Promptly repair any damaged surfaces. Remove and replace work which cannot be satisfactorily repaired.
- B. Clean products, prior to Substantial Completion, using materials recommended by the manufacturer to remove stains, dirt and debris prior to final acceptance.

SECTION 071300 - SHEET WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheet Waterproofing:1. Self-adhered modified bituminous sheet membrane.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Concrete substrate.
- B. Section 072100 Thermal Insulation: Insulation used for protective cover.
- C. Section 076200 Sheet Metal Flashing and Trim: Metal flashing.
- D. Section 079200 Joint Sealants: Sealing moving joints in waterproofed surfaces that are not required to be treated in this section.

1.03 ABBREVIATIONS

A. NRCA - National Roofing Contractors Association.

1.04 REFERENCE STANDARDS

- A. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
- B. ASTM D570 Standard Test Method for Water Absorption of Plastics.
- C. ASTM D882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
- D. ASTM D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
- E. ASTM D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test).
- F. ASTM D1970/D1970M Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- G. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- H. ASTM E154/E154M Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
- I. NRCA (WM) The NRCA Waterproofing Manual.

1.05 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide data for membrane and joint and crack sealants and drainage mat.

Ithaca Fire Station Sheet Waterproofing

- C. Shop Drawings: Indicate special joint or termination conditions and conditions of interface with other materials.
- D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and acceptable installation temperatures.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.07 FIELD CONDITIONS

A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application and until liquid or mastic accessories have cured.

1.08 WARRANTY

- A. Contractor shall correct defective Work within a five year period after Date of Substantial Completion; remove and replace materials concealing waterproofing at no extra cost to Owner.
- B. Provide five year manufacturer warranty for waterproofing failing to resist penetration of water, except where such failures are the result of structural failures of building. Hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 PRODUCTS

2.01 MEMBRANE MATERIALS

- A. Self-Adhered Modified Bituminous Sheet Membrane:
 - 1. Thickness: 60 mil, 0.060 inch, minimum.
 - 2. Sheet Width: 36 inches, minimum.
 - 3. Tensile Strength:
 - a. Film: 5,000 psi, minimum, measured in accordance with ASTM D882 and at gripseparation rate of 2 inches per minute.
 - b. Membrane: 325 psi, minimum, measured in accordance with ASTM D412 Method A, using die C and at spindle-separation rate of 2 inches per minute.
 - 4. Elongation at Break: 500 percent, minimum, measured in accordance with ASTM D412.
 - 5. Water Vapor Permeance: 0.05 perm, maximum, measured in accordance with ASTM E96/E96M.
 - 6. Peel Strength: 7 pounds per inch, minimum, when tested according to ASTM D903.
 - 7. Lap Adhesion Strength: 5 pounds per inch, minimum, when tested according to ASTM E96/E96M.
 - 8. Puncture Resistance: 48 pounds, minimum, measured in accordance with ASTM E154/E154M.
 - 9. Water Absorption: 0.1 percent increase in weight, maximum, measured in accordance with ASTM D570, 72 hour immersion.
 - 10. Adhesives, Sealants, Tapes, and Accessories: As recommended by membrane manufacturer.
 - 11. Products:

- a. W.R. Meadows, Inc; MEL-ROL: www.wrmeadows.com/#sle.
- b. Substitutions: See Section 016000 Product Requirements.

2.02 ACCESSORIES

- A. Seaming Materials: As recommended by membrane manufacturer.
- B. Membrane Sealant: As recommended by membrane manufacturer.
- C. Sealant for Cracks and Joints In Substrates: Resilient elastomeric joint sealant compatible with substrates and waterproofing materials.
- D. Protection Board: Rigid insulation, see Section 072100.
- E. Drainage Panel: Drainage layer with geotextile filter fabric on earth side.
 - 1. Composition: Dimpled polystyrene, polyethylene, or polypropylene core; polypropylene filter fabric.
 - 2. Thickness: 1/4 inch.
 - 3. Products:
 - a. W.R. Meadows, Inc; Mel-Drain 5012: www.wrmeadows.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.
- F. Flexible Flashings and Fillets:
 - 1. Products:
 - a. W.R. Meadows, Inc; Mel-Rol Liquid Membrane: www.wrmeadows.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.
- G. Termination Bars: Stainless steel; compatible with membrane and adhesives.
- H. Surface Conditioner: Type, compatible with membrane and recommended by manufacturer.
- I. Adhesives: As recommended by membrane manufacturer.
- J. Poiting Mastic: Seal all terminations with pointing mastic.
- K. Corner Tape:
 - 1. Products:
 - a. W.R. Meadows, Detail Strip; www.wrmeadows.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.
- L. Thinner and Cleaner: As recommended by adhesive manufacturer, compatible with sheet membrane.

PART 3 EXECUTION

- 3.01 EXAMINATION
 - A. Verify existing conditions are acceptable prior to starting this work.
 - B. Verify substrate surfaces are durable; free of matter detrimental to adhesion or application of waterproofing system.
 - C. Verify items that penetrate surfaces to receive waterproofing are securely installed.

Ithaca Fire Station
Sheet Waterproofing

3.02 PREPARATION

- A. Protect adjacent surfaces from damage not designated to receive waterproofing.
- B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions; vacuum substrate clean.
- C. Do not apply waterproofing to surfaces unacceptable to membrane manufacturer.
- D. Fill nonmoving joints and cracks with a filler compatible with waterproofing materials.
- E. Seal moving cracks with sealant and nonrigid filler, using procedures recommended by sealant and waterproofing manufacturers.
- F. Install corner tape on all inside and outside corners, including the footing.
- G. Apply a 9" strip of self-adhering membrane over construction, control and expansion joints and over cracks greater than 1/16" wide.
- H. Seal all terminations with pointing mastic.
- I. Concrete Surfaces for Adhesive Bonding: Prepare concrete substrate in accordance with ASTM D5295/D5295M.
- 3.03 INSTALLATION MEMBRANE
 - A. Install membrane waterproofing in accordance with manufacturer's instructions and NRCA (WM) applicable requirements.
 - B. Roll out membrane, and minimize wrinkles and bubbles.
 - C. Overlap edges and ends, minimum 3 inches, seal permanently waterproof by method recommended by manufacturer, and apply uniform bead of sealant to joint edge.
 - D. Reinforce membrane with multiple thickness of membrane material over joints, whether joints are static or dynamic.
 - E. Weather lap joints on sloped substrate in direction of drainage, and seal joints and seams.
 - F. Flexible Flashings: Seal items watertight that penetrate through waterproofing membrane with flexible flashings.
 - G. Seal membrane and flashings to adjoining surfaces.

3.04 INSTALLATION - DRAINAGE PANEL

A. Place drainage panel directly against membrane, butt joints, and position to encourage drainage downward; scribe and cut boards around projections, penetrations, and interruptions.

SECTION 072100 - THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation at cavity wall construction, perimeter foundation wall, and underside of floor slabs.
- B. Batt insulation and vapor retarder in exterior wall, ceiling, and roof construction.
- C. Insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Supporting construction for batt insulation.
- B. Section 072119 Foamed-In-Place Insulation: Plastic foam insulation other than boards.
- C. Section 072500 Weather Barriers: Separate air and weather barrier materials.
- D. Section 075300 Elastomeric Membrane Roofing: Insulation specified as part of roofing system.
- E. Section 078400 Firestopping: Insulation as part of fire-rated through-penetration assemblies.
- F. Section 081113 Hollow Metal Doors and Frames: Filling perimeter exterior hollow metal door frame shim spaces and crevices.
- G. Section 084313 Aluminum-Framed Storefront: Filling perimeter exterior window shim spaces and crevices.
- H. Section 092116 Gypsum Board Assemblies: Acoustic insulation inside walls and partitions.

1.03 REFERENCE STANDARDS

- A. ASTM C578 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- B. ASTM C665 Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- C. ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- D. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- E. ASTM E136 Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C.
- F. NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations for every type of insulation listed in Section 2.02.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Product test reports from and based on tests performed by qualified independent testing laboratory evidencing compliance of insulation products with requirements including r-values (aged values for plastic foam insulation), fire performance characteristics, perm ratings, water absorption ratings, and other properties, based on comprehensive testing of current products.

1.05 QUALITY ASSURANCE

- A. Allowable Thickness Variations: Manufacturer's standard units that vary slightly from the thickness indicated may be acceptable, **SUBJECT TO THE APPROVAL OF THE ARCHITECT.**
- 1.06 DELIVERY, STORAGE AND HANDLING
 - A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources.
 - B. Store inside and in a dry location.
 - C. Comply with manufacturer's recommendations for handling, storage, and protection during installation.
 - D. Protect plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time.
 - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.07 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 PERFORMANCE CRITERIA

A. Perform all work of this section with experienced workmen familiar with the work, and in accordance with industry standards and manufacturer's recommendations.

- B. Fire Performance Characteristics: Provide insulation materials identical to those whose indicated fire performance characteristics have been determined per the ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting organization.
 - 1. Surface Burning Characteristic: ASTM E84.
 - 2. Fire resistance Ratings: ASTM E119
- C. Thermal Resistance: The thicknesses shown are for the thermal resistance (R-Value in accordance with ASTM C177 or ASTM C518) specified for each material. The R-Values specified are minimum acceptable. Provide adjusted thicknesses as directed for the use of material having a different thermal resistance.

2.02 APPLICATIONS

- A. Insulation Under Concrete Slabs: Extruded polystyrene (XPS) board.
- B. Insulation at Perimeter of Foundation: Extruded polystyrene (XPS) board.
- C. Insulation Inside Masonry Cavity Walls: Polyisocyanurate board with facers both sides.
- D. Insulation for Veneer Bearing in Exterior Walls (Structural): : High-Density Rigid Polyurethane Insulation.
- E. Insulation in Wood Framed Walls: Batt insulation with no vapor retarder.

2.03 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with either natural skin or cut cell surfaces.
 - 1. Type and Compressive Resistance (Under Slab and Perimeter Foundation): Unless other wise indicated below provide Type IV, 25 psi (173 kPa), minimum.
 - a. Basis-of-Design Product: Owens-Corning; Formular 250.
 - b. Substitutions: See Section 016000 Product Requirements.
 - 2. Type and Compressive Resistance: Apparatus Bay Under Slab (ASTM D 1621): Type VII, 60 psi (4124 kPa)
 - a. Basis-of-Design Product: Owens Corning; Formular 600..
 - b. Substitutions: See Section 016000 Product Requirements.
 - 3. Flame Spread Index (FSI): Class A 0 to 25, when tested in accordance with ASTM E84.
 - 4. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 5. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88) and Type VII, minimum, per 1 inch thickness at 75 degrees F mean temperature.
 - 6. Board Edges: Square.
 - 7. Board Size: 48 inch x 96 inch..
 - 8. Board Thickness: As indicated on the drawings.
 - 9. Type and Water Absorption: .03 percent by volume, maximum, by total immersion.
- B. Polyisocyanurate (ISO) Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289.
 - 1. Classifications:
 - a. Type I: Faced with aluminum foil on both major surfaces of core foam.

- 1) Compressive Strength: 20 psi, minimum.
- 2) Thermal Resistance, R-value: At 1-1/2 inch thick; 9.0, minimum, at 75 degrees F.
- 2. Water Absorption: ASTM C 209, less than 0.05 percent by volume.
- 3. Dimensional Stability: ASTM D 2126, 2 percent linear change (7 days).
- 4. Moisture Vapor Permeance: ASTM E 96, less than 0.05 perm.
- 5. Flame Spread Index (FSI): Class A 0 to 25, when tested in accordance with ASTM E84.
- 6. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
- 7. Complies with fire resistance requirements indicated on drawings as part of an exterior non-load-bearing exterior wall assembly when tested in accordance with NFPA 285.
- 8. Board Size: 48 inch by 96 inch.
- 9. Board Thickness: As indicated on drawings.
- 10. Board Edges: Square.
- 11. Products:
 - a. Hunter Panels; Xci Foil (Class A): www.hunterpanels.com/#sle.
 - b. Johns Manville; AP Foil-Faced: www.jm.com/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.
- C. Rigid Polyurethane Foam Insulation (Structural Insulation Board): ASTM D1622/D1622M high-density rigid polyurethane block, with the following characteristics:
 - 1. Location: At base of exteterior veener, where indicated.
 - 2. Block Size: As indicated.
 - 3. Board Thickness: 1 inch.
 - 4. Board Edges: Square.
 - 5. Thermal Conductivity: 0.512 Btu-inch/hr*ft*ft*degrees F when tested in accordance with ASTM C518
 - 6. Compressive Strength parallel to rise @75 degrees F: Minimum of 1998 psi.
 - 7. Compressive Strength perpendicular to rise @75 degrees F: Minimum of 2287 psi
 - 8. Water Absorption: In accordance with ASTM D2842, 0.006 lbs/ft/ft maximum.
 - 9. Manufacturer
 - a. Last-A-Foam R-9330 by General Plastics Manufacturing Company; https://www.generalplastics.com/r-9300.html.
 - b. Substitutions: See Section 016000 Product Requirements.
 - 1) Submit evidence that the proposed substitution complies with the specified requirements.

2.04 BATT INSULATION MATERIALS

- A. Mineral Fiber Batt Insulation: Preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
 - 1. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.
 - 2. Thermal Resistance: R-value of 4 per inch.
 - 3. Thickness: As indicated on drawings.
 - 4. Density: 4 pcf (nominal) for 1" thick material
 - 5. Density: 3.0 pcf (nominal) for thicknesses greater than 1"
 - 6. Basis-of-Design Product: Subject to compliance with requirements provide FS-15; Thermafiber, Inc.
 - 7. Substitutions: See Section016000-Product Requirements.

2.05 ACCESSORIES

- A. Sheet Vapor Retarder: Clear polyethylene film for above grade application, 10 mil, 0.010 inch thick.
 - 1. Locatiion: At openings in construction.
- B. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inch wide.
- C. Tape joints of rigid insulation in accordance with roofing and insulation manufacturers' instructions.
- D. Insulation Fasteners: Impaling clip of copper-coated low carbon steel with washer retainer, to be adhered to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.
 - 1. Self-Locking washer: Mild steel, 0.016-inch thick, sizes as required to hold insulation securely.
 - a. Where spindles will be exposed to human contact after installation, project ends with capped self-locking washers.
- E. Nails or Staples: Steel wire; galvanized; type and size to suit application.
- F. Wire Mesh: Galvanized steel, hexagonal wire mesh; ; 16 gauge wire, spacing at 24" o.c., minimum.
- G. Adhesive: Type recommended by insulation manufacturer for application with demonstrated capability to bond insulation or mechanical anchors securely to substrates indicated withou damaging or corroding insulation, anchors, or substrates.
- H. Insulation Vent Baffles: Provide rigid insulation baffles at vented eaves.
- I. Sill Sealer: Flexible, high density polyethylene foam gasketing strip at exterior stud walls.
 1. Product: Dow Chemical Company "WEATHERMATE™ SILL SEAL Foam Gasket"; building.dow.com.
- J. Attic Measuring Rulers: "#RT240HD 24" Heavy Duty R-Value Rulers" as manufactured by ADO Products, Inc.: www.energyconscious.com.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.
- C. Verify mechanical and electrical services within walls have been installed and inspected.
- D. Do not proceed with installation of insulation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

Ithaca Fire Station Thermal Insulation A. Clean substrates of substances harmful to insulation or vapor retarders, including removal of projections that might puncture vapor retarders.

3.03 INSTALLATION, GENERAL

- A. Butt insulation tight.
- B. Fasten insulation in place at maximum 6 inches on center, tape in place, or retain in place with insulation fasteners or retain in place with wire mesh secured to framing members as required by manufacturer's published instructions. Tape seal butt ends and lapped side flanges. Tape seal tears or cuts in membrane with material compatible with membrane, on an insulation that bears a facing.'
- C. Fill and seal spaces around windows, doors and other penetrations with foamed in placeinsulation specified in Section 072119; voids are not acceptable.
- D. In exterior stud walls and insulated interior stud walls, cavities within studs placed adjacent to each other shall have insulation placed as stud assemblies are built. Likewise cavities in headers shall have insulation placed in any voids.
 - 1. Use foamed in place insulation, specified in Section 072119 where batt insulation cannot be installed.
- E. No voids in the insulation will be permitted.
 - 1. Slit or place insulation around conduits, pipes, boxes or any other pieces in walls or roof.
 - 2. Do not compress insulation when placed.
- F. Fill and seal holes, voids, or spaces between heated and unheated spaces with foamed-in-place insulation specified in Section 072119; voids are not acceptable
- G. Provide attic measuring rulers where insulation is being installed in an attic. Place no more than 10 feet apart and position for ease of inspection.
- H. Provide sound-attenuating mineral fiber batt insulation (SAFB), friction-fit, in all partitions or as indicated by the wall type on the floor plans. Use metal clips or wire as required to ensure that the blankets remain in place in the rated assembly. Install the insulation consistently on one side of the partition.

3.04 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Install insulation in accordance with manufacturer's instructions.
- B. Apply adhesive to back of boards:
 - 1. Three continuous beads per board length.
- C. Install boards horizontally on foundation perimeter.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install single length boards from underside of slab to top of foundation..
 - 3. Install in running bond pattern.
 - 4. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, unbonded to foundation on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

Ithaca Fire Station Thermal Insulation F. Prevent insulation from being displaced or damaged while placing concrete and backfilling.

3.05 BOARD INSTALLATION AT CAVITY WALLS

- A. Secure impale fasteners to substrate at following frequency:1. Six (6) per insulation board.
- B. Apply adhesive to back of boards:1. Three continuous beads per board length.
- C. Install boards to fit snugly between wall ties.1. Place membrane surface facing out, and tape seal board joints.
- D. Install boards horizontally on walls.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install in running bond pattern.
 - 3. Butt edges and ends tightly to adjacent boards and protrusions.
 - 4. Place impale fastener locking discs.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- F. Fill voids greater than 1/4" with spray insulation or per manufacturers recommendations.

3.06 BOARD INSTALLATION UNDER CONCRETE SLABS

- A. Place insulation under slabs on grade after base for slab has been compacted.
- B. Extend insulation 48" horizontally or as minimally required for in slab heat, beneath concrete slab.
- C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- D. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.07 BATT INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation. Leace3 no gaps or voids.
- E. Slit or place insulation around conduits, pipes, boxes or any other pieces in walls or roof.
- F. Do not install insulation over or within 3 inches of recessed lighting fixtures unless light fixture is IC rated.
- G. Install insulation to fill cavities within stud framing placed adjacent to each other as stud assemblies are constructed.
 - 1. Apply foamed-in-place insulation where batt insulation cannot be installed

Ithaca Fire Station Thermal Insulation

- H. Install insulation to fill voids within cavities of headers.
 - 1. Apply foamed-in-place insulation where batt insulation cannot be installed.
- I. Retain insulation batts in place with spindle fasteners at 12 inches on center.
- J. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.
- K. Coordinate work of this section with construction of air barrier seal, see Section 072700.
- L. At wood framing openings, place vapor retarder on warm side of insulation by stapling at 6 inches on center. Lap and seal sheet retarder joints over face of member. Overlap air barrier.
- M. Tape seal tears or cuts in vapor retarder.
- N. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane; tape seal in place.

3.08 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment. Provide temporary coverings or enclosures as required.

SECTION 072119 - FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Foamed-in-place insulation.
 - 1. In exterior framed walls.
 - 2. In exterior wall crevices.
 - 3. At junctions of dissimilar wall and roof materials.
 - 4. At gaps between rough openings of windows and doors and adajacent substrate.

1.02 RELATED REQUIREMENTS

A. Sections 08 11 13 Aluminum-Framed Entrances and Storefront and Section 08 11 13 Hollow Metal Doors and Frames for filling perimeter shim spaces.

1.03 REFERENCE STANDARDS

- A. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- B. ASTM D2842 Standard Test Method for Water Absorption of Rigid Cellular Plastics.
- C. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- E. ASTM E2178 Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials.

1.04 SUBMITTALS

- A. See Section 01 33 00 Submittal Procedures for submittal procedures.
- B. Product Data: Provide product description, insulation properties, and preparation requirements.
- C. Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.
- D. Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than 10 years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified, with minimum five years of documented experience, and approved by manufacturer.

1.06 FIELD CONDITIONS

- A. Do not apply foam when temperature is below that specified by the manufacturer for ambient air and substrate.
- B. Do not apply foam when temperature is within 5 degrees F of dew point.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Foamed-In-Place Insulation: Medium-density, closed cell polyurethane foam; foamed on-site, using blowing agent of water or HOF non-ozone-depleting gas.
 - 1. Aged Thermal Resistance (R-Value): R-value of 6.9, minimum, per 1 inch thickness in accordance with ASTM C518 after aging 180 days at 41 degrees F.
 - 2. Water Vapor Permeance: Vapor retarder; 1 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.
 - 3. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
 - 4. Air Permeance: 0.04 cfm per square foot, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
 - 5. Closed Cell Content: At least 90 percent.
 - 6. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
 - 7. Manufacturers:
 - a. BASF Corporation: www.spf.basf.com/#sle.
 - b. Carlisle Spray Foam Insulation: www.carlislesfi.com/#sle.
 - c. Gaco Western: www.gaco.com/#sle.
 - d. Henry Company: www.henry.com/#sle.
 - e. Icynene-Lapolla: www.icynene.com/#sle.

2.02 ACCESSORIES

A. Primer: As required by insulation manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify work within construction spaces or crevices is complete prior to insulation application.
- B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation adhesion.

3.02 PREPARATION

A. Mask and protect adjacent surfaces from over spray or dusting.

Ithaca Fire Station Foamed-In-Place Insulation B. Apply primer in accordance with manufacturer's instructions.

3.03 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.
- B. Apply insulation by spray method, to a uniform monolithic density without voids.
- C. Apply to a minimum cured thickness as indicated.
- D. Apply to achieve a thermal resistance R-value of indicated on drawings..
- E. Patch damaged areas.
- F. Where applied to voids and gaps assure space for expansion to avoid pressure on adjacent materials that may bind operable parts.
- G. Trim excess away for applied trim or remove as required for continuous sealant bead.

3.04 PROTECTION

A. Do not permit subsequent construction work to disturb applied insulation.

SECTION 072500 - WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Vapor Retarders: Materials to make exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls water vapor-resistant and air tight. Use on outside surface of inside wythe of masonry cavity wall.
- B. Air Barriers: Materials that form a system to stop passage of air through exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls.

1.02 DEFINITIONS

- A. Weather Barriers: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.
- B. Air Barrier: Air tight barrier made of material that is relatively air impermeable but water vapor permeable, both to the degree specified, with sealed seams and with sealed joints to adjacent surfaces. Note: For the purposes of this specification, vapor impermeable air barriers are classified as vapor retarders. Use on outside surface of sheathing of exterior walls.
- C. Vapor Retarder: Air tight barrier made of material that is relatively water vapor impermeable, to the degree specified, with sealed seams and with sealed joints to adjacent surfaces. Use on outside surface of inside wythe of masonry cavity wall.
 - 1. Water Vapor Permeance: For purposes of conversion, 57.2 ng/(Pa s sq m) = 1 perm.
- D. Material Transitions: Areas where the WRB / AB coated fiberglass-mat gypsum sheathing connects to beams, columns, slabs, parapets, foundation walls, roofing systems, and at the interface of dissimilar materials.

1.03 REFERENCE STANDARDS

- A. ASTM D5590 Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay.
- B. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.
- D. ASTM E2178 Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials.
- E. ICC-ES AC212 Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing.

1.04 SUBMITTALS

A. See Section 013300 Submittal Procedures for submittal procedures.

- B. Product Data: Provide data on material characteristics.
- C. Shop Drawings: Provide drawings of special joint conditions.
- D. Manufacturer's Installation Instructions: Indicate preparation, installation methods, and storage and handling criteria.
- 1.05 QUALITY ASSURANCE
 - A. Installers Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experince.

1.06 MOCK-UPS

A. Install air barrier and vapor retarder materials in mock-up specified in Section 042613 Masonry Veneer.

1.07 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

- A. Air Barrier:1. On outside surface of sheathing of exterior walls use air barrier.
- B. Exterior Vapor Retarder
 - 1. On outside surface of inside wythe of masonry cavity wall use vapor retarder coating.

2.02 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

- A. Air-Barrier and Water-Resistive Glass-Mat Gypsum Sheathing: ASTM C1177/C1177M, Type X, fiberglass mat gypsum sheathing with integral weather-resistant barrier and air barrier complying with ASTM E2178 and ICC-ES AC 212.
- B. Acceptable products: DensElement Barrier System as manufactured by Georgia-Pacific Gypsum, LLC.
 - 1. Sheathing: DensElement Sheathing.
- C. System Description: Weather-Resistant Barrier and Air Barrier assembly installed at exterior stud walls under exterior cladding, consisting of the following components as herein specified:
 - 1. Sheathing: WRB / AB coated fiberglass mat gypsum sheathing.
 - 2. Thickness: 5/8 inch thick.
 - 3. Board Type: Type X.
 - 4. Size: 48 by 96 inches for vertical and horizontal installation.
 - 5. Air- and Water-Resistive Flashing Thickness: Minimum 16-mil wet film thickness.
 - 6. Edges: Square.
 - 7. Flashing and Transition Strips: As acceptable to sheathing manufacturer.
- 8. Air Permeance: Maximum 0.004 cfm/sq. ft.pressure difference when tested in accordance with ASTM E2178.
- 9. Vapor Permeance: Minimum 25 perms when tested in accordance with ASTM E96/E96M, Water Method, Proceduer B.
- 10. Sheathing Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. when tested in accordance with ASTM E2357.
- 11. Fire Propagation Characteristics: Complies with NFPA 285 testing as part of an approved assembly.
- 12. Combustion Characteristics; ASTM E84: Class A.
- 13. Board Product Antifungal Properties; ASTM D3273: 10; zero defacement.
- 14. VOC Content Fluid-Applied Flashing: 50 g/L or less.
- 15. UV and Weathering Resistance: Can be exposed to sunlight and weather for 12 months in accordance with manufacturer's written instructions.
- 16. Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by sheathing manufacturer to produce a complete air-barrier assembly and that are compatible with primary air-barrier material and adjacent construction to which they may seal.
 - a. General: Provide compatible air-barrier accessory materials furnished or recommended by air-barrier manufacturer as required by Project conditions to produce a complete air-barrier assembly identical to tested assemblies meeting performance requirements.
- D. Backer rods and accessory materials.

2.03 VAPOR RETARDER MATERIALS (AIR BARRIER AND WATER-RESISTIVE)

- A. Vapor Retarder Coating: Liquid applied, resilient, UV-resistant coating and associated joint treatment.
 - 1. Water Vapor Permeance: 0.08 perm, maximum, when tested in accordance with ASTM E96/E96M.
 - 2. VOC Content: Less than 50 g per L when tested in accordance with 40 CFR 59, Subpart D (EPA Method 24).
 - 3. Resistance to Fungal Growth: Pass AATCC Test Method 30.
 - 4. Code Acceptance: Comply with applicable requirements of ICC-ES AC212.
 - 5. Suitable for use on concrete, masonry, plywood and gypsum sheathing.
 - 6. Joint Preparation Treatment: Coating manufacturer's recommended method, either tape or reinforcing mesh saturated with coating material.
 - 7. Max. UV Exposure: 90 days.
 - 8. Manufacturers:
 - a. BASF Corporation; MasterSeal AWB 660 I: www.master-builderssolutions.basf.us.
 - b. Carlisle Coatings and Waterproofing, Inc; Barriseal-R: www.carlisleccw.com.
 - c. Grace Construction Products; Perm-A-Barrier Liquid: www.graceconstruction.com.
 - d. Henry Company; Air-Bloc 32MR; www.henry.com.
 - e. Substitutions: See Section 016000 Product Requirements
 - 9. Joint Filler: As recommended by coating manufacturer and suitable to the substrate.

2.04 ACCESSORIES

Ithaca Fire Station Weather Barriers

- A. Sealants, Tapes, and Accessories Used for Sealing Water-Resistive Barrier and Adjacent Substrates: As indicated or complying with water-resistive barrier manufacturer's installation instructions.
- B. General: Weather barrier system manufacturers' recommended accessories as required for a complete weather barrier assembly, including but not limited to flashings, reinforcing strips, transition strips, substrate-patching membrane, and termination mastic.
- C. Preformed Transition Membrane: Semi-rigid silicone or polyester composition, tapered edges, and tear resistant.
- D. Liquid Flashing: One part, fast curing, nonsag, elastomeric, gun grade, trowelable liquid flashing.
 - 1. Products:
 - a. Pecora Corporation; ; R-Guard FastFlash: www.pecora.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.
- E. Thinners and Cleaners: As recommended by water-resistive barrier manufacturer.

PART 3 EXECUTION

- 3.01 EXAMINATION
 - A. Verify that surfaces and conditions comply with requirements of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

3.03 VAPOR TIGHTNESS

- A. No gaps in the vapor barrier will be allowed. Repair any gaps or punctures in vapor barriers immediately **BEFORE CONCEALMENT** by other work.
- B. Vapor barriers are to be installed over exterior face of interior wythe of masonry, uninterrupted from slab to roof deck.
- C. Holes and penetrations to the vapor barrier are unacceptable.

3.04 AIR TIGHTNESS

- A. Infiltration Barrier
 - 1. It is intended that the building be as airtight as practical.
 - 2. No gaps in the infiltration barrier will be allowed. Repair any gaps or punctures in infiltration barriers immediately **BEFORE CONCEALMENT** by other work.
 - 3. Infiltration barriers are to be installed over all exterior sheathing, uninterrupted from slab to roof deck, according to manufacturer's instructions.
 - 4. Fastener and penetration treatment: Treat all countersunk fasteners (penetrating through the fiberglass mat) with specified fluid applied flashing used for sealing joints.
 - 5. Holes and penetrations to the infiltration barrier are unacceptable.

Ithaca Fire Station Weather Barriers

3.05 INSTALLATION

- A. Install materials in accordance with manufacturer's installation instructions.
- B. Vapor Retarder Coatings:
 - 1. Prepare substrate in accordance with coating manufacturer's installation instructions; treat joints in substrate and between dissimilar materials as indicated.
 - 2. Where exterior masonry veneer is being applied, install masonry anchors prior to placement of water-resistive barrier over masonry substrate; seal airtight around anchors.
 - 3. Apply flashing to seal with adjacent construction and to bridge joints in coating substrate.
- C. Sealing Air Infiltration Barrier Joints using specified Fluid Applied Flashing:
 - 1. Apply fluid applied flashing over the joint in a zig-zag or ribbon pattern dispensed from a tube type container. Cover a minimum of 1" on both sides of the joint.
 - 2. With a 4 or 6" straight edge knife or trowel, spread evenly over the sheathing joint.
 - 3. Apply at a rate to achieve a wet mil thickness of 16 mils over the entire joint area.
- D. Sealing Air Infiltration Barrier Vertical Corners using specified Fluid Applied Flashing
 - 1. Prime exposed gypsum edges with specified primer.
 - 2. Apply fluid applied flashing over the inside and/or outside corner in a zig-zag or ribbon pattern dispensed from either a tube type container. Cover a minimum of 2" on both sides pattern dispensed from either a tube type container. Cover a minimum of 2" on both sides.
 - 3. With a 4 or 6" straight edge knife or trowel, spread evenly over the sheathing corner.
 - 4. Apply at a rate to achieve a wet mil thickness of 16 mils over the corner area.
- E. Sealing Air Infiltration Barrier Fasteners using specified Fluid Applied Flashing: Apply the fluid applied flashing material to fasteners, and wipe down with a straight edge tool; provide a minimum 16 mil thick coating over the fastener
- F. Sealing Air Infiltration Barrier Rough Openings using specified Fluid Applied Flashing
 - 1. Prime exposed gypsum edges with specified primer
 - 2. Apply a bead of fluid applied flashing into the entire width of the inside corners of the opening dispensed from a tube type container.
 - 3. Apply fluid applied flashing onto:
 - a. Sills of openings
 - b. Jambs of openings
 - c. Headers of openings
 - 4. Apply fluid applied flashing 2" over the entire width of the opening sill, jamb, and header on exterior set windows and doors. Apply fluid applied flashing over the entire width of the opening sill, jamb, and header on interior set windows and doors. Apply in a zig-zag or ribbon pattern dispensed from a tube type container.
 - 5. Apply fluid applied flashing over the sheathing adjacent to the opening sill, jamb, and header in a zig-zag or ribbon pattern dispensed from a tube type container. Cover a minimum of 2" of the sheathing surface adjacent to the opening.S
 - 6. With a 4 or 6" straight edge knife or trowel, spread fluid applied flashing over entire width of the sill, jamb, header, and sheathing surface adjacent to the opening.
 - 7. Apply at a rate to achieve a wet mil thickness of 16 mils over the opening area.
- G. Sealing Air Infiltration Barrier material transitions using specified Fluid Applied Flashing
 - 1. Sheathing joint and transition gaps to receive fluid-applied flashing shall be less than 1/4".

Ithaca Fire Station Weather Barriers

- 2. For gaps larger than 1/4" use shall be sealed with fluid-applied flashing as approved by Georgia-Pacific Gypsum, LLC.
- 3. Gaps that are more than 1/8" and less than ¹/4" shall be filled with a backer rod to support the fluid applied flashing at the transition joint.
- 4. If necessary, prime the adjacent material with primer per the manufacturer'recommendations.
- 5. Apply fluid applied flashing over the sheathing and adjacent material in a zig-zag or ribbon pattern dispensed from a tube type container. Ensure the flashing is a minimum of 2" on each substrate material surface.
- 6. With a 4 or 6" straight edge knife or trowel, spread fluid applied flashing over material transition joint.
- 7. Apply at a rate to achieve a wet mil thickness of 16 mils.

3.06 FIELD QUALITY CONTROL

- A. See Section 014000 Quality Requirements for additional requirements.
- B. Owner's Inspection and Testing: Cooperate with Owner's testing agency.
 - 1. Allow access to work areas and staging.
 - 2. Notify Owner's testing agency in writing of schedule for work of this section to allow sufficient time for testing and inspection.
 - 3. Do not cover work of this section until testing and inspection is accepted.
- C. Obtain approval of installation procedures from water-resistive barrier manufacturer based on a mock-up installed in place, prior to proceeding with remainder of installation.
- D. Take digital photographs of each portion of installation prior to covering up weather barriers.

3.07 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.
- B. Protect Infiltration Barrier assembly from damage during installation and during the construction period,

END OF SECTION 072500

SECTION 073113 - ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Asphalt shingle roofing.
- B. Flexible sheet membranes for entire roof system..
- C. Associated metal flashings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Roof sheathing.
- B. Section 077123 Manufactured Gutters and Downspouts.
- C. Section 077200 Roof Accessories: Snow guards.

1.03 REFERENCE STANDARDS

- A. ASTM D1970/D1970M Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- B. ASTM D3161/D3161M Standard Test Method for Wind Resistance of Steep Slope Roofing Products (Fan-Induced Method).
- C. ASTM D3462/D3462M Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules.
- D. ASTM D4586/D4586M Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- E. ASTM E108 Standard Test Methods for Fire Tests of Roof Coverings.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedured for submittal procedures.
- B. Product Data: Provide data indicating material characteristics.
- C. Shop Drawings: For metal flashings, indicate specially configured metal flashings.

1.05 QUALITY ASSURANCE

- A. Products are Required to Comply with Fire Resistance Criteria: UL (DIR) listed and labeled.
- B. Installer: Certified by manufacturer.
- 1.06 FIELD CONDITIONS

Ithaca Fire Station Asphalt Shingles A. Do not install shingles or underlayment when surface temperatures are below 45 degrees F.

1.07 WARRANTY

- A. Provide roofing Special Warranty on installed work, agreeing to pay for repair or replacement of defective materials, including labor, as necessary to eliminate leaks. Period of Special Warranty: ten (10) years from Date of Substantial Completion.
- B. Provide Special Warranty to include all flashing systems, underlayment systems, and shingle systems.
- C. Provide shingle manufacturer's standard Lifetime limited warranty, with a 20 year non-prorated limited warranty.
- D. Correct defective work within a ten -year period after Date of Substantial Completion.
- E. Provide lifetime manufacturer's warranty for coverage against black streaks caused by algae.
- F. Provide 15 -year manufacturer's warranty for wind damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Asphalt Shingles:
 - 1. Certainteed; Grand Manor: www.certainteed.com
 - 2. Owens Corning Corp: www.owenscorning.com/#sle.
 - 3. Substitutions: See Section 016000 Product Requirements.

2.02 ASPHALT SHINGLES

- A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M.
 - 1. Fire Resistance: Class A, complying with ASTM E108.
 - 2. Wind Resistance: Class F, when tested in accordance with ASTM D3161/D3161M.
 - 3. Warranted Wind Speed: Not greater than 110 mph.
 - 4. Algae Resistant.
 - 5. Weight: 425 lb/100 sq ft.
 - 6. Self-sealing type.
 - 7. Style: Two (2) layer laminated four tab..
 - 8. Weather Exposure: 8 inches.
 - 9. Color: As selected by Architect.

2.03 SHEET MATERIALS

- A. Self-Adhering Sheet Underlayment: Self-adhering rubber-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with strippable release film and woven polypropylene sheet top surface.
 - 1. Self Sealability: Passing nail sealability test specified in ASTM D1970/D1970M.
 - 2. Low Temperature Flexibility: Passing test specified in ASTM D1970/D1970M.

- 3. Water Vapor Permeance: 0.05 perms max., when tested in accordance with ASTM E96/E96M, Procedure A (desiccant method).
- 4. Basis-of-Design Product:
 - a. GCP; Grace Ice and Water Shield.
 - b. Substitutions: See Section 016000 Product Requirements.
- B. Self-Adhering Sheet Underlayment, High Temperature: Minimum of 40-mil thick; with slipresisting, polymer-film-reinforced or glass-reinforced top surface laminated to layer of butyl or SBS-modified asphalt adhesive; with release backing; cold applied; and evaluated and documented to be suitable for use for intended purpose under applicable codes by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Thermal Stability: Stable after testing at 240 deg F (116 deg C) according to ASTM D1970/D1970M.
 - 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C) according to ASTM D1970/D1970M.

2.04 ACCESSORIES

- A. Roofing Nails: Standard round wire shingle type, galvanized steel, minimum 3/8-inch head diameter, 12-gauge, 0.109-inch nail shank diameter, 1-1/2 inches long and complying with ASTM F1667.
- B. Asphalt Roof Cement: ASTM D4586/D4586M, asbestos-free.
- C. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, and free of toxic solvents.
- D. Plastic Ridge Vents: Extruded plastic with vent openings that do not permit direct water or weather entry; flanged to receive shingles.

2.05 METAL FLASHINGS

- A. Metal Flashings: Provide sheet metal eave edge, gable edge, open valley flashing, rain water diverter, and other flashing indicated.
 - 1. Form flashings to protect roofing materials from physical damage and shed water.
 - 2. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
 - 3. Hem exposed edges of flashings minimum 1/4 inch on underside.
 - 4. Coat concealed surfaces of flashings with bituminous paint.
- B. Open Valley Flashing: Stainless Steel Sheet; ASTM A240/A240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
 - 1. Finish: ASTM A480/A480M, No. 2D (dull, cold rolled.
- C. Aluminum Sheet Metal: Prefinished aluminum, 26-gauge, 0.017-inch minimum thickness; PVC coating, color as selected.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions prior to beginning work.

Ithaca Fire Station Asphalt Shingles

- B. Verify that roof deck is of sufficient thickness to accept fasteners.
- C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.
- D. Verify roof openings are correctly framed.
- E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

A. Seal roof deck joints wider than 1/16 inch as recommended by shingle manufacturer.

3.03 INSTALLATION - UNDERLAYMENT

- A. Underlayment at Roof Slopes Greater than 4:12: Install underlayment parallel to slope of roof, with ends and edges weather lapped minimum 4 inches; stagger end laps of each consecutive layer, nail in place, and weather lap minimum 4 inches over eave protection.
- B. Weather lap and seal watertight with roof cement any items projecting through or mounted on roof.

3.04 INSTALLATION - VALLEY PROTECTION

- A. Install one ply of self-adhering high temperature underlayment, minimum 48 inches wide, centered over valleys.
- B. Weather lap joints minimum 2 inches.
- C. Nail in place minimum 18 inches on center, 1 inch from edges.
- D. At Exposed Valleys: Install one layer of stainless steel metal flashing, minimum 24 inches wide, centered over open valley and crimped to guide water flow; weather lap joints minimum 2-inch wide band of lap cement along each edge of first layer, press roll roofing into cement, and nail in place minimum 18 inches on center and 1 inch from edges.

3.05 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Install flashings in accordance with manufacturer's instructions, NRCA (RM) applicable requirements, and SMACNA Architectural Sheet Metal Manual requirements.
- B. Weather lap metal flashing joints at least 2 inches and seal joints weathertight.
- C. Secure metal flashing in place with nails at 12 inches on center, and conceal fasteners.
- D. Items Projecting Through or Mounted on Roofing: Flash and seal weathertight with roof cement.
- 3.06 INSTALLATION SHINGLES
 - A. Install shingles in accordance with manufacturer's instructions manufacturer's instructions and NRCA (RM) applicable requirements.
 - 1. Fasten strip shingles using four nails per strip, or as required by manufacturer and local building code, whichever is greater.

- B. Place shingles in straight coursing pattern with 5-inch weather exposure to produce double thickness over full roof area, and provide double course of shingles at eaves.
- C. Project first course of shingles 3/4 inch beyond fascia boards.
- D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.
- E. Coordinate installation of roof-mounted components or work projecting through roof with weathertight placement of counterflashing.
- F. Complete installation to provide weathertight benefits.

3.07 PROTECTION

A. Do not permit traffic over finished roof surface.

END OF SECTION 073113

SECTION 075300 - ELASTOMERIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Elastomeric roofing membrane application.
- B. Insulation, flat and tapered.
- C. Vapor retarder.
- D. Substrate boards.
- E. Cover boards.
- F. Flashings.
- G. Roofing stack boots and walkway pads.
- H. Disposal of construction waste is responsibility of Contractor. Perform disposal in manner complying with applicable federal, state, and local regulations.
- I. Commencement of work by Contractor constitutes acknowledgement by Contractor that this specification can be satisfactorily executed, under project conditions and with necessary prerequisites for warranty acceptance by roofing membrane manufacturer. No modification of Contract Sum will be made for failure to adequately examine Contract Documents or project conditions.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Wood nailers.
- B. Section 076200 Sheet Metal Flashing and Trim: Counterflashings, reglets.
- C. Section 077200 Roof Accessories: Roof-mounted units; prefabricated curbs.
- D. Section 221006 Plumbing Piping Specialties: Roof drains.

1.03 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in section.

1.04 REFERENCE STANDARDS

- A. ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- B. ASTM C1325 Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units.

Ithaca Fire Station Elastomeric Membrane Roofing

- C. ASTM D4637/D4637M Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane.
- D. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - 1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
 - 2. Notify Architect well in advance of meeting.
 - 3. Meeting to coincide with bi-weekly construction meeting date and shall occur one hour prior or one hour after the scheduled progress bi-weekly construction meeting.

1.06 SUBMITTALS

- A. See Section Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data:
 - 1. Provide membrane manufacturer's printed data sufficient to show that components of roofing system, including insulation and fasteners, comply with specified requirements and with membrane manufacturer's requirements and recommendations for system type specified; include data for each product used in conjunction with roofing membrane.
- C. Samples: Submit two (2) samples of each product to be used.
- D. Shop Drawings: Provide:
 - 1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
 - 2. For tapered insulation, provide project-specific layout and dimensions for each board.
- E. Specimen Warranty: Submit prior to starting work.
- F. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.
- G. Pre-Installation Notice: Copy to show that manufacturer's required Pre-Installation Notice (PIN) has been accepted and approved by the manufacturer.
- H. Executed Warranty.

1.07 QUALITY ASSURANCE

- A. Installer Qualifications: Roofing installer shall have the following:
 - 1. Current approval, license, or authorization as applicator by the manufacturer.
 - 2. At least five years' experience in installing specified system.
 - 3. Inspection by Manufacturer: Provide a final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer.
 - a. Technical representative shall not perform any sales functions.
 - b. Contractor shall complete any necessary repairs required for issuance of warranty.

Ithaca Fire Station Elastomeric Membrane Roofing

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- 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.

1.09 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- D. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.10 WARRANTY

- A. See Section 017800 Closeout Submittals for additional warranty requirements.
- B. Manufacturer's Roofing Warranty: Submit a written warranty, signed by the roofing system manufacturer agreeing to promptly repair leaks in the roof membrane system resulting from defects in materials or workmanship including all components of roofing system such as roofing membrane and adhesives, flashings, insulation, cover board, subsrate baord, insulation adhesive, fasteners, and perimeter metal flashing components for the indicated warranty period.
 - 1. Manufacturer's 30-Year System Warranty.
 - 2. Limit of Liability: No dollar limitation.
 - 3. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect.
 - c. Defective workmanship used to install these materials.
 - 4. Not Covered:
 - a. Damage due to winds in excess of 110 mph.
 - b. Damage due hurricanes or tornadoes.
 - c. Hail.
 - d. Intentional damage.
 - e. Unintentional damage due to normal rooftop inspections, maintenance, or service.
 - 5. Indicate a wind speed warranty of up to 110 M.P.H., as reported by the certified weather reporting station nearest to the site.
 - 6. Provide a sample copy of manufacturer's warranty written as specified, stating obligations, remedies, limitations, and exclusions of warranty with bid.
 - 7. Warranty will not be accepted that contains any requirement(s) for Owner to renew the warranty at any time during the 30-year period.

- 8. In year(s) number 2, 5, 10, 15, and 20 of this warranty, manufacturer shall provide roof inspections, and provide Owner with warranty maintenance requirements, at no additional charge.
- C. Installer/Roofing Contractor Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of roofing system such as roofing base ply and adhesives, fluid-applied roofing and flashings, insulation, cover board, insulation adhesive, fasteners, and metal roof components.
 - 1. The warranty shall guarantee material and workmanship for watertightness, weathertightness, and against all leaks for a period of two (2) years. During the two-year period, the contractor shall respond and fix all reported leaks within 24 hours from time of notification and fix all leaks without any cost to the Owner.
 - 2. Warranty Period: Two years from date of Substantial Completion.

1.11 RESTRICTED WORK PERIOD

A. Do not perform the roofing and related Work between December 1st and April 1st unless approved otherwise, in writing, by the Architect. During this period, clear the roof of materials, equipment, and debris. Maintain the roof in a watertight condition.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. EPDM Membrane Roofing:
 1. Basis-of-Design Manufacturer: Firestone Building Products: www.firestonebpco.com
- B. Roofing systems manufactured by others are acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
 - 1. Specializing in manufacturing the roofing system to be provided.
 - 2. Minimum ten years of experience manufacturing the roofing system to be provided.
 - 3. Able to provide a no dollar limit, single source roof system warranty.
 - 4. Other Acceptable Manufacturers:
 - a. Carlisle Roofing Systems, Inc: www.carlisle-syntec.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.

2.02 ROOFING SYSTEM DESCRIPTION

- A. Roofing System: Ethylene-propylene-diene-monomer (EPDM) single-ply membrane.
 - 1. Membrane Attachment: Fully adhered.
 - 2. Warranty: Full system warranty; covering all components of the roof system.
- B. Deck is sloped, provide constant thickness of insulation with crickets by means of tapered insulation.
 - 1. Comply with applicable local building code requirements.
 - 2. Provide assembly complying with Factory Mutual Corporation (FM) Roof Assembly Classification, FM DS 1-28 and FM DS 1-29, and meeting minimum requirements of FM 1-120 wind uplift rating.
- C. Roofing System Components: Listed in order from the top of the roof down:
 - 1. Roof Membrane: Thickness 90 mil (0.090")

- 2. Insulation Cover Board: High density polyisocyanurate; cold adhesive attached
- 3. Insulation:
- 4. Maximum Board Thickness: 3 inches; use as many layers as necessary; stagger joints in adjacent layers.
 - a. Minimum Thickness: As required to maintain a MINIMUM R-38 throughout entire roof surface.
 - b. Crickets/Saddles: Provide crickets and saddles as indicated on the Roof Plan. Following all guidelines from the NCRA including but not limited to the following:
 - 1) Location: Provide all crickets as noted on the plans and for any additional areas where width of the related roof penetration/curb is at or greater than 24 inches.
 - 2) Slope: All crickets and saddles will be **2 times** the main slope of the roof surface.
 - 3) Height: As determined by the L-W Ratio noted below and shall in no instance provide less than 6 inches from t/cricket to top of roof curb.
 - 4) L-W Ratio: All crickets and saddles shall follow the recommended maximum L:W Ratios for saddles and crickets per the NCRA.
 - c. Top Layer: Polyisocyanurate foam board, non-composite; mechanically fastened.
 - d. Intermediate Layer(s), If Any: Polyisocyanurate foam board, non-composite; mechanically fastened.
 - e. Bottom Layer: Polyisocyanurate foam board, non-composite; mechanically fastened.
- 5. Vapor Retarder: Self-adhering polyethylene film.
- 6. Substrate Board: Fiber-mat reinforced cement roofing board.

2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS

- A. Roofing Membrane: Ethylene-propylene-diene-monomer (EPDM); non-reinforced; complying with minimum properties of ASTM D4637/D4637M, Type 1.
 - 1. Thickness: 90 mil, 0.090 inch.
 - 2. Nominal Thickness Tolerance: Plus/minus 10 percent.
 - 3. Acceptable Product: RubberGard Platinum EPDM Membrane by Firestone.
 - 4. Color: Black.
- B. Flashing Membrane: Self-curing, non-reinforced membrane composed of nonvulcanized EPDM rubber, complying with ASTM D4811/D4811M Type II, and with the following properties:
 - 1. Thickness: 0.055 inch.
 - 2. Color: Black.
 - 3. Acceptable Product: RubberGard EPDM FormFlash by Firestone.
- C. Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil EPDM tape adhesive; QuickSeam Flashing by Firestone.
- D. Pre-Molded Pipe Flashings: EPDM, molded for quick adaptation to different sized pipes; Firestone EPDM Pipe Flashing.
- E. Self-Adhesive Lap Splice Tape: 35 mil EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer; QuickSeam Splice Tape by Firestone.
- F. Splice Adhesive: Synthetic polymer-based, formulated for compatibility with EPDM membrane and metal surfaces; SA-1065 Splice Adhesive by Firestone.

- G. Bonding Adhesive: Neoprene-based, formulated for compatibility with EPDM membrane and wide variety of substrate materials, including masonry, wood, and insulation facings; Bonding Adhesive BA-2004 by Firestone.
 - 1. Adhesive Primer: Synthetic rubber based primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal; QuickPrime Plus LVOC by Firestone.
- H. Seam Edge Treatment: EPDM rubber-based sealant, formulated for sealing exposed edges of membrane at seams; Lap Sealant HS by Firestone.
 - 1. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Firestone Pourable Sealer S-10.
- I. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; Water Block Seal by Firestone.
- J. Metal Plates and Strips Used for Fastening Membrane and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
- K. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick; Firestone Termination Bar by Firestone.
- L. Roof Walkway Pads: EPDM, 0.30 inch thick by 30 by 30 inches with EPDM tape adhesive strips laminated to the bottom; QuickSeam Walkway Pads by Firestone.
 1. Color: Black.
- M. Seaming Materials: As recommended by membrane manufacturer.Min. 3 inches wide and .030 inches thick.
- N. Vapor Retarder: Self-Adhering-Sheet Vapor Retarder: ASTM D1970/D1970M, polyethylene film laminated to layer of rubberized asphalt adhesive, minimum 40-mil total thickness; cold applied, with slip-resisting surface and release paper backing. Provide primer when recommended by vapor retarder manufacturer; compatible with roofing and insulation materials.
 - 1. Fire-retardant adhesive.
 - 2. Vapor Permeability: 0.1 perm inch max, measured in accordance with ASTM E96/E96M.

2.04 SUBSTRATE BOARD

- A. Substrate Board: Fiber-mat reinforced cement roofing boards, ASTM C1325, fire-resistant type, mold-resistant, 1/2 inch thick.
 - Basis-of-Design Products:
 - a. USG Corporation; Securock Cement Roof Board.

2.05 COVER BOARD

1.

- A. Cover Boards: Faced, and with high compressive strength polyisocyanurate (ISO) insulation complying with ASTM C1289, and the following characteristics:
 - 1. Classification: Type II, Class 4 Faced with coated or uncoated polymer-bonded glass fiber mat facers on both major surfaces of the core foam. Glass facers bonded to non-halogenated isocyanurate foam.
 - 2. Grade and Compressive Strength: Grade 2, 120 psi.

- 3. Board Size: 48 by 96 inches.
- 4. Board Thickness: 1/2 inch.
- 5. Insulation Thermal Resistance, Min. R-value: 2.4, nominal, at 1/2 inch thick.
- 6. Surface Water Absorption: 3 percent, maximum, when tested in accordance with ASTM C209.
- 7. Density: 5 pcf, when tested in accordance with ASTM D1622.
- 8. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
- 9. Mold Growth Resistance: Passing ASTM D3273.
- 10. Acceptable Product: ISOGARD HD Cover Board by Firestone.

2.06 INSULATION

- A. Polyisocyanurate (ISO) Board Insulation: Closed cell rigid cellular foam, complying with ASTM C1289.
 - 1. Classifications:
 - a. Type II:
 - 1) Class 1 Faced with glass fiber reinforced cellulosic felt facers on both major surfaces of core foam.
 - 2) Compressive Strength: Classes 1-2-3, Grade 2 20 psi (138 kPa), minimum.
 - 3) Thermal Resistance, R-value: At 1 inche thick; Min. 5.7 at 75 degrees F.a) Total R-value: Min. R-38.0.
 - 2. Board Size: 48 by 96 inches.
 - 3. Board Thickness: 1.5 inch.
 - 4. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.
 - 5. Board Edges: Square.
 - 6. UL-Classified and FM-approved for direct to steel deck applications.
 - 7. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
 - 8. Acceptable Product: ISO 95+ GL Polyisocyanurate Insulation by Firestone.
- B. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- C. Adhesive for Insulation Attachment: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesives furnished by roof membrane manufacturer.

2.07 ACCESSORIES

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits for authorities having jurisdiction.
- B. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.
- C. Sealants: As recommended by membrane manufacturer.

D. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, band clamp, expansion joint compressible tubes and other accessories.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

3.02 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease, and other materials that may damage the membrane.
- C. Fill surface voids in immediate substrate that are greater than 1/4 inch wide with fill material acceptable to insulation and membrane manufacturers.
- D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.
- E. Wood Nailers: Provide wood nailers at all perimeters and other locations where indicated on the drawings, of total height matching the total thickness of insulation being used.

3.03 INSTALLATION - SUBSTRATE BOARD

- A. Install deck sheathing on metal deck.
 - 1. Lay with long side at right angle to flutes; stagger end joints; provide support at ends.
 - 2. Cut sheathing cleanly and accurately at roof breaks and protrusions to provide smooth surface.
 - 3. Tape joints.
- B. Fasten sheathing to roof deck with continuous mopping of adhesive on each flute.

3.04 INSTALLATION - VAPOR RETARDER

A. Install vapor retarder to deck surface in accordance with manufacturer's instructions.
1. Extend vapor retarder under blocking to deck edge.

Ithaca Fire Station Elastomeric Membrane Roofing

- 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. Ensure that all penetrations and edge conditions are sealed to prevent moisture and air drive into the roofing system.

3.05 INSTALLATION - INSULATION AND COVER BOARD

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- B. Install insulation in a manner that will not compromise the vapor retarder integrity.
- C. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- D. Lay roof insulation in courses parallel to roof edges.
- E. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch. Fill gaps greater than 1/4 inch with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch.
- F. Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by Factory Mutual for FM Class specified in PART 2 and membrane manufacturer, whichever is more stringent.
- G. Cold Adhesive Attachment: Apply in accordance with membrane manufacturer's instructions and recommendations; "walk-in" individual roof insulation boards to obtain maximum adhesive contact.
- H. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 24 inches.
- I. Do not apply more insulation than can be covered with membrane in same day.

3.06 INSTALLATION - MEMBRANE

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing

manufacturer.

- 1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches wide.
- 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.
- G. Coordinate installation of roof drains and sumps and related flashings.

3.07 INSTALLATION - FLASHING AND ACCESSORIES

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 - 1. Follow roofing manufacturer's instructions.
 - 2. Remove protective plastic surface film immediately before installation.
 - 3. Install water block sealant under the membrane anchorage leg.
 - 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
 - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- C. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches high above membrane surface.
 - 1. Use the longest practical flashing pieces.
 - 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 - 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - 4. Provide termination directly to the vertical substrate as shown on roof drawings.
- D. Roof Drains:
 - 1. Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.
 - 2. Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch of membrane to extend inside clamping ring past drain bolts.
 - 3. Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
 - 4. Apply sealant on top of drain bowl where clamping ring seats below the membrane
 - 5. Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.
- E. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.

Ithaca Fire Station Elastomeric Membrane Roofing

- 1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
- 2. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches deep, with at least 1 inch clearance from penetration, sloped to shed water.
- 3. Structural Steel Tubing: If corner radii are greater than 1/4 inch and longest side of tube does not exceed 12 inches, flash as for pipes; otherwise, provide a standard curb with flashing.

3.08 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.
 - 1. Use specified walkway pads unless otherwise indicated.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1 inch and maximum of 3 inches from each other to allow for drainage.
 - 1. If installation of walkway pads over field fabricated splices or within 6 inches of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches on either side.
 - 2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.
 - 3. Provide walkway pads as detailed and depicted on the plans.

3.09 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.10 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas

3.11 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 075300

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including, flashings, counterflashings, exterior penetrations, and other items indicated in Schedule.

1.02 RELATED REQUIREMENTS

- A. Section 040523 Masonry Accessories: Metal flashings embedded in masonry.
- B. Section 061000 Rough Carpentry: Wood nailers for sheet metal work.
- C. Section 075300 Elastomeric Membrane roofing: Roofing system.
- D. Section 077100 Roof Specialties: Manufactured copings and flashings.
- E. Section 077123 Manufactured Gutters and Downspouts.
- F. Section 079200 Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
- B. AAMA 2603 Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).
- C. ASTM B209/B209M Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- D. ASTM D4479/D4479M Standard Specification for Asphalt Roof Coatings Asbestos-Free.
- E. SMACNA (ASMM) Architectural Sheet Metal Manual.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples, 6 by 6 inches in size, illustrating material and finish of typical exposed to view items.
- 1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of document on site.
- C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with five years of documented experience.
- 1.06 DELIVERY, STORAGE, AND HANDLING
 - A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
 - B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Anodized Aluminum: ASTM B209/B209M; 20 gauge, 0.032 inch thick; clear anodized finish.
 1. Clear Anodized Finish: AAMA 611, AA-M12C22A41, Class I, clear anodic coating not
 - less than 0.7 mil, 0.0007 inch thick.
 Color Anodized Finish: AAMA 611, AA-M12C22A42/44, Class I, integrally or electrolytically colored anodic coating not less than 0.7 mil, 0.0007 inch thick.
- B. Pre-Finished Aluminum: ASTM B209/B209M; 20 gauge, 0.032 inch thick; plain finish shop pre-coated with silicone modified polyester coating.
 - 1. Silicone Modified Polyester Coating: Pigmented organic powder coating, AAMA 2603; baked enamel finish system.
 - 2. Color: As selected by Architect from manufacturer's standard colors.

2.02 FABRICATION

- A. Shop fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices.
- B. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.
- G. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

2.03 ACCESSORIES

Ithaca Fire Station Sheet Metal Flashing and Trim

- A. Fasteners: As recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Asphaltic mastic, ASTM D4479 Type I.
- D. Concealed Sealants: Non-curing butyl sealant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.03 INSTALLATION

- A. Seams: Fabricate nonmoving seams in sheet metal with flat lock seams. For metal other than aluminum, tin edges to be seamed, form seams, and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.
- B. Expansion Provisions: Where lapped or bayonet type expansion provisions in work cannot be used or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- C. Comply with drawing details.
- D. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..
- E. Apply plastic cement compound between metal flashings and felt flashings.
- F. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- G. Seal metal joints watertight.
- H. Sealant Joints: Where movable, nonexpansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured roof specialties, including copings and fascia extender.

1.02 RELATED REQUIREMENTS

A. Section 077200 - Roof Accessories: Manufactured curbs, roof hatches, and snow guards.

1.03 REFERENCE STANDARDS

- A. AAMA 2604 Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).
- B. ANSI/SPRI/FM 4435/ES-1 Test Standard for Edge Systems Used with Low Slope Roofing Systems.
- C. NRCA (RM) The NRCA Roofing Manual.

1.04 SUBMITTALS

- A. See Section Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.
- C. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.
- D. Samples: Submit two appropriately sized samples of coping and fascia extender..

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Roof Edge Flashings and Copings:
 - 1. Metal-Era Inc: www.metalera.com/#sle.
 - 2. OMG Roofing Products: www.omgroofing.com/#sle.

2.02 COMPONENTS

- A. Coping: Factory fabricated to sizes required; corners mitered; concealed fasteners.
 - 1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.

Ithaca Fire Station Roof Specialties 618601 077100- 1

- 2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
- 3. Wall Width: As indicated on drawings.
- 4. Outside Face Height: 7 inches.
- 5. Inside Face Height: 4 inches.
- 6. Material: Formed steel sheet, galvanized, 24 gauge, 0.024 inch thick, minimum.
- 7. Finish: Hylar 5000/ Kynar 500
- 8. Color: To be selected by Architect from manufacturer's full range.
- B. Fascia Extender: Factory fabricated to sizes required; corners mitered; concealed fasteners.
 - 1. Configuration: Concealed continuous hold down cleat at leg; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.
 - 2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
 - 3. Outside Face Height: 7 inch exposure
 - 4. Material: Formed steel sheet, galvanized, 24 gauge, 0.024 inch thick, minimum.
 - 5. Finish: Hylar 5000/ Kynar 500
 - 6. Color: To be selected by Architect from manufacturer's full range.

2.03 FINISHES

- A. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
- 2.04 ACCESSORIES
 - A. Sealant for Joints in Linear Components: As recommended by component manufacturer.
 - B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.

3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
- B. Seal joints within components when required by component manufacturer.
- C. Anchor components securely.
- D. Comply with NRCA (RM) drawing details.

- E. Coordinate installation of components of this section with installation of roofing membrane and base flashings.
- F. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

END OF SECTION 077100

SECTION 077123 - MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum gutters and downspouts.
- B. Precast concrete splash pads.

1.02 RELATED REQUIREMENTS

- A. Section 055000 Metal Fabrications: Downspout boots.
- B. Section 076200 Sheet Metal Flashing and Trim.

1.03 REFERENCE STANDARDS

A. SMACNA (ASMM) - Architectural Sheet Metal Manual.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Comply with SMACNA (ASMM) for sizing components for rainfall intensity determined by a storm occurrence of 1 in 5 years.
- B. Comply with applicable code for size and method of rain water discharge.

1.05 SUBMITTALS

- A. See Section Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on prefabricated components.
- C. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gutters and Downspouts Basis-of-Design:

Ithaca Fire Station Manufactured Gutters and Downspouts

- 1. SAF Perimeter Systems, a division of Southern Aluminum Finishing Company, Inc: www.saf.com/persys/#sle.
- B. Other Acceptable Manufacturers:
 - 1. Cheney Flashing Company: www.cheneyflashing.com/#sle.
 - 2. OMG Roofing Products: www.omgroofing.com/#sle.
 - 3. Substitutions: See Section 016000 Product Requirements.

2.02 MATERIALS

- A. Pre-Finished Aluminum Sheet: ASTM B209 (ASTM B209M); 0.040 inch thick.
 - 1. Finish: Plain, shop pre-coated with 70% PVDF (polyvinylidene fluoride) coating.
 - 2. Color: As selected from manufacturer's standard colors.
- B. Protective Backing Paint: Zinc molybdate alkyd.

2.03 COMPONENTS

A. Basis-of-Design Product: SAF Perimeter Systems; Designer Series Gutter Sytem - Traditional Collection; Batten Profile gutter and DS-EX downspout:

B. Gutters:

- 1. Liner: 0.040" mill finished aluminum sheet; manufactured in 10'-0" lengths; tapered and notched to provide a one inch telescoping lap joint; prepunched at 12 inches o.c.; provide for thermal movement after installation; provided with alternating bracket slots to interconnect associated brackets.
- 2. Snap-Over Fascia: 0.040" aluminum, 10'-0" lengths. Fascias shall be press formed with radius dies on a CNC Press to provide repeated true and accurate profiles.
 - a. Fascia Splices shall be manufactured from 0.040" aluminum, 6" lengths, formed to fit the inside of the snap-on fascia.
- 3. Provide factory mitered corners for both fascia and liner.
- 4. Provide factory mitered sculptured end caps for fascias.
- 5. Provide indicated profile cornice returns at gutter terminations.
- 6. Liner Expansion Joint: Provide manufacturer's elastomeric expansion joints at 40' intervals
- 7. Sealant: Shall be polyurethane or silicon based water-proofing type, compatible with aluminum gutter, downspout, and abutting dissimilar materials for intended application.
- C. Downspouts: Profile as indicated.
 - 1. 0.125" thickness, in sizes and locations as indicated on plans. Downspouts shall be manufactured from extruded aluminum, alloy 6063-T5 finished to match gutter fascia mouldings. Downspout elbows shall have heliarc welded joints.
 - 2. Outlets: At all downspout locations provide aluminum outlets to connect liner to downspout.
- D. Anchors and Supports: Profiled to suit gutters and downspouts.
 - 1. Anchoring Devices: Type recommended by fabricator.
 - 2. Gutter Support Brackets: 0.125" x 1.00" aluminum, heliarc welded construction, factory punched for fasteners.
 - 3. Downspout Support Brackets: Provide Style 1 Wall brackets at 60" maximum spacing (minimum 2 brackets). Brackets shall be manufactured from 0.125" x 1.00" aluminum, finished to match downspout.

2.04 ACCESSORIES

- A. Splash Pads: Precast concrete type, size and profiles indicated; minimum 3000 psi at 28 days, with minimum 5 percent air entrainment.
- B. Downspout Boots: Cast aluminum.
 - 1. Manufacturer: Barry Pattern & Foundary: www.barrycraft.com.
 - 2. Model No. B25A.
 - 3. Painted in field.
 - a. Color: Black.
- C. Gutter Accessories:
 - 1. 0,040 inch aluminum with 3/16 inch holes at 1/4 inch staggered centers to provide minumum 50% open area.
 - a. Attachment: Manufacturers standard clips at 30 inches on center.
 - b. Finsh: Painted to match gutter.

2.05 FABRICATION

- A. Form gutters and downspouts of profiles and size indicated.
- B. Fabricate with required connection pieces.
- C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- D. Hem exposed edges of metal.
- E. Fabricate gutter and downspout accessories; seal watertight.

2.06 FINISHES

A. Fluoropolymer Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that surfaces are ready to receive work.

3.02 PREPARATION

A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

Ithaca Fire Station Manufactured Gutters and Downspouts

- A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.
- C. Slope gutters 1/16 inch per foot .
- D. Connect downspouts to downspout boots at 8 inches above grade. Grout connection watertight.
- E. Set splash pads under downspouts.

END OF SECTION 077123

SECTION 077200 - ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Roof hatches.
- B. Non-penetrating pedestals.
- C. Snow guards.

1.02 RELATED REQUIREMENTS

- A. Section 073113 Asphalt Shingles.
- B. Section 076200 Sheet Metal Flashing and Trim: Roof accessory items fabricated from sheet metal.
- C. Section 077100 Roof Specialties: Other manufactured roof items.
- D. Section 077123 Manufactured Gutters and Downspouts.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1910.23 Ladders.
- B. 29 CFR 1910.29 Fall Protection Systems and Falling Object Protection Criteria and Practices.
- C. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- 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).
- G. MSS SP-58 Pipe Hangers and Supports Materials, Design, Manufacture, Selection, Application, and Installation.

1.04 SUBMITTALS

- A. See Section Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used.
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.

Ithaca Fire Station Roof Accessories

- 3. Installation methods.
- 4. Maintenance requirements.
- C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.
 - 1. Non-penetrating Rooftop Supports: Submit design calculations for loadings and spacings.
 - 2. Snow Guards: Submit design calculations for loadings and spacings based on manufacturer testing.
 - 3. Submit shop drawings sealed and signed by a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products under cover and elevated above grade.

PART 2 PRODUCTS

2.01 ROOF HATCHES AND VENTS

- A. Roof Hatch Manufacturers:
 - 1. Bilco Company; Type TB (various types and special size): www.bilco.com/#sle.
 - 2. LMCurbs: www.lmcurbs.com/#sle.
 - 3. Nystrom, Inc: www.nystrom.com/#sle.
- B. Roof Hatches and Smoke Vents: Factory-assembled aluminum frame and cover, complete with operating and release hardware.
 - 1. Style: Provide flat metal covers unless otherwise indicated.
 - 2. Mounting: Provide frames and curbs suitable for mounting conditions as indicated on drawings.
 - 3. Thermally Broken Hatches: Added insulation to frame and cover; available in each manufacturer's standard, single leaf sizes; special sizes available upon request
 - 4. For Ladder Access: Single leaf; 30 by 36 inches.
- C. Frames and Curbs: Thermall broken curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
 - 1. Material: Mill finished aluminum, 11 gauge, 0.0907 inch thick.
 - 2. Insulation: Manufacturer's standard; 1 inch rigid glass fiber, located on outside face of curb.
 - 3. Curb Height: As indicated on drawings.
- D. Metal Covers: Flush, insulated, thermally broken construction.
 - 1. Capable of supporting 40 psf live load.
 - 2. Material: Mill finished aluminum; outer cover 11 gauge thick.
 - 3. Cover liner: Mill finshed aluminum, liner 18 gauge.
 - 4. Insulation: Manufacturer's standard 3 inch rigid polyisocyanurate.
 - 5. Gasket: Neoprene, continuous around cover perimeter.
- E. Safety Railing System: Roof hatch manufacturer's standard accessory safety rail system mounted directly to curb.
- 1. Railing: Comply with 29 CFR 1910.23 for ladder safety, with a safety factor of two.
- 2. Self-Closing Gate: Comply with 29 CFR 1910.29 for safe egress and fall protection through hatch opening.
- 3. Posts and Rails: Galvanized steel tubing.
- 4. Gate: Same material as railing; automatic closing with latch.
- 5. Finish: Manufacturer's standard, factory applied finish.
- 6. Gate Hinges and Post Guides: ASTM B221 (ASTM B221M), 6063 alloy, T5 temper aluminum.
- 7. Mounting Brackets: Hot dipped galvanized steel, 1/4 inch thick, minimum.
- 8. Fasteners: Stainless steel, Type 316.
- F. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.
 - 1. Operation: Post locks in place on full extension; release mechanism returns post to closed position. Pull up loop, balancing spring, adjustable mounting channel, clamp bracket and stainless steel mounting bolts.
 - 2. Height: 42 inches above finished roof deck.
 - 3. Material: Steel tube.
 - 4. Post: Sqaure tube.
 - Finish: Manufacturers standard powder coat.
 a. Color: Yellow.
 - 6. Basis-of-Design: Bilco Company; LU-1.
- G. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
 - 1. Lifting Mechanisms: Compression spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
 - 2. Hinges: Heavy duty pintle type. Stainless steel.
 - 3. Hold open arm with vinyl-coated handle for manual release.
 - 4. Latch: Upon closing, engage latch automatically and reset manual release.
 - 5. Manual Release: Pull handle on interior.
 - 6. Locking: Padlock hasp on interior.

2.02 NON-PENETRATING ROOFTOP SUPPORTS/ASSEMBLIES

- A. Non-Penetrating Rooftop Support/Assemblies: Manufacturer-engineered and factoryfabricated, with pedestal bases that rest on top of roofing membrane, and not requiring any attachment to roof structure and not penetrating roofing assembly.
 - 1. Design Loadings and Configurations: As required by applicable codes.
 - 2. Height: Provide minimum clearance of 6 inches under supported items to top of roofing.
 - 3. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
 - 4. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
 - 5. Hardware, Bolts, Nuts, and Washers: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A153/A153M.
- B. Pipe Supports: Provide attachment fixtures complying with MSS SP-58 and as indicated.
- C. Non-Penetrating Pedestals: Steel pedestals with square, round, or rectangular bases.1. Bases: High density polypropylene.

- 2. Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
- 3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.

2.03 SNOW GUARDS

- A. Fence Type Snow Guard: Continuous snow guard; manufacturer's standard triple pipe, bar, channel, or solid rod, set in brackets or posts, with optional plates and metal trim to match roof.
 - 1. Brackets: Aluminum.
 - 2. Base Plate: 11 guage (1/8" nominal) 304 stainless steel with two 3/8" threaded stainless steel studs welded to the base plate and 4 tapered 3/8" holes for screw attachment.
 - 3. Pipe or Square Tube: Aluminum, powder coated..
 - a. Outside Diameter, Round: 1 inch, nominal.
 - b. Pipe or Tube Wall Thickness: .125 inch.
 - c. Threaded Couplings: Match pipe or tube, manufacturers standard.
 - d. End Collars and Caps: Metal to match tube.
 - 4. Basis-of-Design Product:
 - a. Rocky Mountain Snow Guards, Inc; No-Flash III: www.rockymountainsnowguards.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Engineer of Record of unsatisfactory preparation before proceeding.
- 3.02 PREPARATION
 - A. Clean surfaces thoroughly prior to installation.
 - B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.
- 3.04 CLEANING
 - A. Clean installed work to like-new condition.

3.05 PROTECTION

A. Protect installed products until completion of project.

Ithaca Fire Station Roof Accessories B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION 077200

SECTION 078400 - FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Firestopping systems.
- B. Firestopping of joints and penetrations in fire-resistance-rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 RELATED REQUIREMENTS

A. Section 092116 - Gypsum Board Assemblies: Gypsum wallboard fireproofing.

1.03 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. ITS (DIR) Directory of Listed Products.
- D. FM 4991 Approval Standard of Firestop Contractors.
- E. SCAQMD 1168 Adhesive and Sealant Applications.
- F. UL (FRD) Fire Resistance Directory.

1.04 SUBMITTALS

- A. See Section 01 33 00 Submittal Procedures 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. Sustainable Design Submittal: Submit VOC content documentation for nonpreformed materials.
- E. Manufacturer's qualification statement.
- F. Installer's qualification statement.

1.05 QUALITY ASSURANCE

- A. Fire Testing: Provide firestopping assemblies of designs that provide the specified fire ratings when tested in accordance with methods indicated.
 - 1. Listing in UL (FRD) will be considered as constituting an acceptable test report.

- 2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icces.org will be considered as constituting an acceptable test report.
- 3. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.
- 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 five years documented experience installing work of this type.

1.06 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.

PART 2 PRODUCTS

2.01 FIRESTOPPING SYSTEMS

- A. Firestopping: Any material meeting requirements.
 - 1. Fire Ratings: Use any system listed by UL or tested in accordance with ASTM E814 that has F Rating equal to fire rating of penetrated assembly and T Rating Equal to F Rating and that meets all other specified requirements.

2.02 MATERIALS

- A. Volatile Organic Compound (VOC) Content: Provide products having VOC content lower than that required by SCAQMD 1168.
- B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.
- C. Firestopping Sealants: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.
- D. Elastomeric Silicone Firestopping: Single component silicone elastomeric compound and compatible silicone sealant; conforming to the following
 - 1. Durability and Longevity: Permanent.
 - 2. Color: Red.
 - 3. Manufacturers:
 - a. A/D Fire Protection Systems Inc: www.adfire.com.
 - b. 3M Fire Protection Products: www.3m.com/firestop.
 - c. Hilti, Inc: www.us.hilti.com.
 - d. Specified Technologies, Inc: www.stifirestop.com.
- E. Foam Firestoppping: Single component silicone foam compound; conforming to the following:
 - 1. Durability and Longevity: Permanent.
 - 2. Color: Dark grey.
 - 3. Manufacturers:
 - a. 3M Fire Protection Products: www.3m.com/firestop.

- b. Hilti, Inc: www.us.hilti.com.
- c. Specified Technologies, Inc: www.stifirestop.com.
- F. Intumescent Putty: Compound that expands on exposure to surface heat gain; conforming to the following:
 - 1. Potential Expansion: Minimum 1000 percent.
 - 2. Durability and Longevity: Permanent.
 - 3. Color: Black, dark gray, or red.
 - 4. Manufacturers:
 - a. RectorSeal: www.rectorseal.com.
 - b. 3M Fire Protection Products: www.3m.com/firestop.
 - c. Hilti, Inc: www.us.hilti.com.
 - d. Specified Technologies, Inc: www.stifirestop.com.
- G. Fire Ratings: Refer to drawings for required systems and ratings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.02 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.

3.03 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 Owner's Independent Testing Agency.
- C. Install labeling required by code, including manufacturer's labels at each penetration location and complete data in permanent medium identifying materials, fire rating, smoke rating, and date installed.
- 3.04 CLEANING
 - A. Clean adjacent surfaces of firestopping materials.

3.05 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION 078400

Ithaca Fire Station Firestopping

SECTION 079200 - JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 072500 Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders.
- B. Section 078400 Firestopping: Firestopping sealants.
- C. Section 088000 Glazing: Glazing sealants and accessories.

1.03 REFERENCE STANDARDS

- A. ASTM C661 Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer.
- B. ASTM C834 Standard Specification for Latex Sealants.
- C. ASTM C919 Standard Practice for Use of Sealants in Acoustical Applications.
- D. ASTM C920 Standard Specification for Elastomeric Joint Sealants.
- E. ASTM C1193 Standard Guide for Use of Joint Sealants.
- F. ASTM C1248 Standard Test Method for Staining of Porous Substrate by Joint Sealants.
- G. ASTM C1330 Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
- H. SCAQMD 1168 Adhesive and Sealant Applications.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.

- 4. Substrates the product should not be used on.
- 5. Substrates for which use of primer is required.
- 6. Substrates for which laboratory adhesion and/or compatibility testing is required.
- 7. Sample product warranty.
- 8. Certification by manufacturer indicating that product complies with specification requirements.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Manufacturer's Qualification Statement.
- E. Installer's Qualification Statement.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.07 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer.
 - 2. When joint substrates are wet due to rain, frost, condensation or other causes.
- B. Joint Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than allowed by joint sealant manufacturer for application indicated.
- C. Joint Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.08 WARRANTY

- A. Correct defective work within a five year period after Date of Substantial Completion.
- B. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

Ithaca Fire Station Joint Sealants

PART 2 PRODUCTS

2.01 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C1248 and have not stained porous joint substrates indicated for Project.
- C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C1247 and qualify for the length of exposure indicated by reference to ASTM C920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - 2. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Wall expansion and control joints.
 - b. Joints between door, window, and other frames and adjacent construction.
 - c. Joints between different exposed materials.
 - d. Openings below ledge angles in masonry.
 - e. Other joints indicated below.
 - 3. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
 - 1) Exception: Through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
 - Other joints indicated below.
 - 4. Do not seal the following types of joints.
 - a. Intentional weepholes in masonry.
 - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.

c.

- c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
- d. Joints where installation of sealant is specified in another section.
- e. Joints between suspended panel ceilings/grid and walls.
- B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
- C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
 - 1. Type _____- Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; color as selected by Architect from Manufacturer's standard colors..
 - 2. Type ____ In Sound-Rated Assemblies: acoustical sealant.
 - 3. Type _____ Other Floor Joints: Self-leveling polyurethane "traffic-grade" sealant.
- D. Interior Wet Areas: Bathrooms, restrooms, kitchens, food service areas, food processing areas, and locker rooms; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.
- E. Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".
- 2.03 JOINT SEALANTS GENERAL
 - A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

- A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Class 50, Uses NT, M, G, O and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 50 percent, minimum.
 - 2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
 - 3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
 - 4. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
 - 5. Color: To be selected by Architect from manufacturer's standard range.
 - 6. Cure Type: Single-component, neutral moisture curing.
 - 7. Service Temperature Range: Minus 20 to 180 degrees F.
 - 8. Use: Entrances, Storefronts, Windows, Flashing and other exterior locations.
 - 9. Manufacturers:
 - a. ADFAST Corporation; ADSEAL DWS 4580 Series: www.adfastcorp.com/#sle.
 - b. Dow Chemical Company; DOWSIL 791 Silicone Weatherproofing Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - c. GE Construction Sealants; SCS2000 SilPruf; <u>www.siliconeforbuilding.com.</u>
 - d. Substitutions: See Section 016000 Product Requirements.
- B. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Class 100/50, Uses NT, M, G, O and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus 100 percent and minus 50 percent, minimum.
 - 2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
 - 3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.

- 4. Hardness Range: 20 to 30, Shore A, when tested in accordance with ASTM C661.
- 5. Color: To be selected by Architect from manufacturer's standard range.
- 6. Cure Type: Single-component, neutral moisture curing.
- 7. Service Temperature Range: Minus 20 to 180 degrees F.
- 8. Use: Masonry and other exterior locations.
- 9. Manufacturers:
 - a. ADFAST Corporation; ADSEAL LM 4600 Series: www.adfastcorp.com/#sle.
 - b. Dow Chemical Company; DOWSIL 795 Silicone Building Sealant:
 - consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.
- C. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: White.
 - 2. Manufacturers:
 - a. ADFAST Corporation; ADSEAL KB 4800 Series: www.adfastcorp.com/#sle.
 - b. BASF Building Systems; Omniplus; <u>www.master-builders-solutions.basf.us.</u>
 - c. Dow Corning Corporation; 786 Mildew Resistant; <u>www.dow.com/en-us.</u>
 - d. GE Silicones; Sanitary SCS1700; <u>www.siliconeforbuilding.com.</u>
 - e. Substitutions: See Section 016000 Product Requirements.
- D. Polyurethane Sealant: ASTM C920, Grade NS, Class 35, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's standard range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Master Builders Solutions by BASF; MasterSeal NP1: www.master-builderssolutions.basf.us/en-us/#sle.
 - b. Pecora Corporation; Dynatrol I-XL: www.pecora.com/#sle.
 - c. Tremco Commercial Sealants & Waterproofing; Dymonic FC: www.tremcosealants.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
- E. Type ____ Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, non-bleeding, non-sagging; paintable not intended for exterior use.
 - 1. Color: To be selected by Architect from manufacturer's standard range.
 - 2. Grade: ASTM C834; Grade NF.
 - 3. Use: Interior Material and Non-Moving Joints
 - 4. Manufacturers:
 - a. Master Builders Solutions by BASF; Sonolac: www.master-builderssolutions.basf.us/en-us/#sle.
 - b. Pecora Corporation; AC-20 +Silicone: www.pecora.com/#sle.
 - c. Tremco Commercial Sealants & Waterproofing; Tremflex 834: www.tremcosealants.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
- F. Acoustical Sealant for Exposed and Concealed Joints: nonsag, paintable, nonstaining latex sealant.
 - 1. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies

according to ASTM E90.

- 2. Standard: ASTM C834.
- 3. Color:
 - a. To be selected by Architect from manufacturer's full range of actual material samples of colors.
- 4. Manufacturers:
 - a. Pecora Corporation; BA-98.
 - b. Tremco; Acoustical Sealant.
 - c. Substitutions: See Section 016000 Product Requirements.

2.05 SELF-LEVELING SEALANTS

- A. Self-Leveling Silicone Sealant: ASTM C920, Grade P, Uses M and A; multicomponent, explicitly approved by manufacturer for traffic exposure when recessed below traffic surface; not expected to withstand continuous water immersion.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Hardness Range: 35 to 55, Shore A, when tested in accordance with ASTM C661.
 - 3. Color: To be selected by Architect from manufacturer's standard range.
 - 4. Service Temperature Range: Minus 40 to 180 degrees F.
 - 5. Manufacturers:
 - a. Pecora Corporation; Dynatrol II-SG: <u>www.pecora.com.</u>
 - b. BASF Building Systems; MasterSeal SL 2: www.master-builderssolutions.basf.us/en-us.
 - c. Tremco; THC-900: <u>www.tremcosealants.com</u>
 - d. Substitutions: See Section 016000 Product Requirements.

2.06 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 - 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type C Closed Cell Polyethylene.
 - 2. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
 - 3. Manufacturers:
 - a. ADFAST Corporation; ADSEAL BR-2600 (Backer Rod): www.adfastcorp.com/#sle.
 - b. Nomaco, Inc; HBR: www.nomaco.com/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Perform acoustical sealant application work in accordance with ASTM C919.
- D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- E. Install bond breaker backing tape where backer rod cannot be used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.
- I. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- J. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.

- 2. Do not stretch, twist, puncture, or tear sealant backings.
- 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- K. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- L. Avoid 3-sided joints. Use backer rod or bond breaker tape to create 2-sided joints pursuant to sealant manufacturer's published instructions.
- M. Avoid vee shaped joints. Use backer rod to bring width of joint back closer to width of joint front.
- N. Apply to achieve a solid bond to both joint bond surfaces. Tool sealant surface concave.
- O. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.
- 3.04 FIELD QUALITY CONTROL
 - A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
 - B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-fire-rated hollow metal doors and frames.
- B. Hollow metal frames for wood doors.
- C. Fire-rated hollow metal frames.
- D. Thermally insulated hollow metal doors with frames.
- E. Hollow metal borrowed lites glazing frames.
- F. Accessories, including glazing, louvers, and matching panels.

1.02 RELATED REQUIREMENTS

- A. Section 081416 Flush Wood Doors.
- B. Section 087100 Door Hardware.
- C. Section 088000 Glazing: Glass for doors and borrowed lites.
- D. Section 099113 Exterior Painting: Field painting.
- E. Section 099123 Interior Painting: Field painting.
- F. Section 281000 Access Control.
- 1.03 ABBREVIATIONS AND ACRONYMS
 - A. ANSI: American National Standards Institute.

1.04 REFERENCE STANDARDS

- A. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design.
- B. ANSI/SDI A250.8 Specifications for Standard Steel Doors and Frames (SDI-100).
- C. ANSI/SDI A250.10 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
- D. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- E. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- F. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability,

Required Hardness, Solution Hardened, and Bake Hardenable.

- G. ASTM A1011/A1011M Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- H. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- I. BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames.
- J. NAAMM HMMA 830 Hardware Selection for Hollow Metal Doors and Frames.
- K. NAAMM HMMA 831 Hardware Locations for Hollow Metal Doors and Frames.
- L. NAAMM HMMA 840 Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames.
- M. NAAMM HMMA 861 Guide Specifications for Commercial Hollow Metal Doors and Frames.
- N. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
- O. SDI 117 Manufacturing Tolerances for Standard Steel Doors and Frames.

1.05 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Doors and Frames:
 - 1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. Curries, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 3. Mesker, dormakaba Group; FDJ Series Drywall Frames: www.meskeropeningsgroup.com/#sle.
 - 4. Pioneer Industries: www.pioneerspares.com
 - 5. Republic Doors, an Allegion brand: www.republicdoor.com/#sle.
 - 6. Steelcraft, an Allegion brand: www.allegion.com/#sle.

7. Substitutions: See Section 016000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. Requirements for Hollow Metal Doors and Frames:
 - Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
 - 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
 - 4. Door Edge Profile: Manufacturers standard for application indicated.
 - 5. Typical Door Face Sheets: Flush.
 - 6. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.
 - 7. Hardware Preparations, Selections and Locations:Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
 - 8. Finish: Factory primed, for field finishing.
 - 9. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
 - a. Based on NAAMM HMMA Custom Guidelines: Provide at least A25/ZF75 (galvannealed) for interior applications, and at least A60/ZF180 (galvannealed) or G60/Z180 (galvanized) in masonry locations.
- B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

- A. Exterior Doors: Thermally insulated.
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 3 Extra Heavy-duty.
 - b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 2 Seamless.
 - d. Door Face Metal Thickness: 16 gauge, 0.053 inch, minimum.
 - e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
 - 2. Door Core Material: Polystyrene, 1 lbs/cu ft minimum density.
 - a. Foam Plastic Insulation: Manufacturer's standard board insulation with maximum flame spread index (FSI) of 75, and maximum smoke developed index (SDI) of 450 in accordance with ASTM E84, and completely enclosed within interior of door.
 - 3. Door Thermal Resistance: U-Value of 0.050, when tested in accordacne with ASTM C1363
 - 4. Door Thickness: 1-3/4 inches, nominal, unless otherwise noted.

- 5. Top Closures for Outswinging Doors: Flush with top of faces and edges.
- 6. Door Face Sheets: Flush.
- 7. Door Finish: Factory primed and field finished.
- B. Interior Doors, Non-Fire-Rated:
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 Heavy-duty.
 - b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 Full Flush.
 - d. Door Face Metal Thickness: 18 gauge, 0.042 inch, minimum.
 - 2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
 - 3. Door Thickness: 1-3/4 inches, nominal, unless otherwise noted.
 - 4. Door Face Sheets: Flush.
 - 5. Door Finish: Factory primed and field finished.

2.04 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. Frame Finish: Factory primed and field finished.
- C. Exterior Door Frames: Thermally broken, Full profile/continuously welded type.
 - 1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
 - 2. Frame Metal Thickness: 14 gauge, 0.067 inch, minimum.
 - 3. Frame Finish: Factory primed and field finished.
 - 4. Weatherstripping: Separate, see Section 087100.
- D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
 - 1. Frame Metal Thickness:
 - a. Masonry Openings: Level 3, 14 gauge (0.067 inch.
 - b. Stud Openings: Level 3, 16 gauge (0.053 inch).
 - 2. Frame Finish: Factory primed and field finished.
- E. Door Frames, Fire-Rated: Full profile/continuously welded type.
 - 1. Frame Metal Thickness:
 - a. Masonry Openings: Level 3, 14 gauge (0.067 inch.
 - b. Stud Openings: Level 3, 16 gauge (0.053 inch).
 - 2. Fire Rating: Same as door, labeled.
 - 3. Frame Finish: Factory primed and field finished.
- F. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.
- G. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.
- H. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

- I. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
- J. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units.
- K. Frames Wider than 48 inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

2.05 LIGHT OPENINGS AND GLAZING

- A. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.
- B. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator's shop. Fixed and removable stops to allow multiple glazed lites each to be removed independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.
- C. Moldings for Glazed Lites in Doors and Loose Stops for Glazed Lites in Frames: Minimum 20 gauge thick, fabricated from same material as door face sheet in which they are installed.
- D. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames.
- E. Preformed Metal Frames for Light Openings: Manufacturer's standard frame formed of 0.048inch-thick, cold rolled steel sheet; with baked enamel or powder coated finish; and approved for use in doors of fire protection rating indicated. Match pre-finished door paint color where applicable.

2.06 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
 1. Primer is to be applied in the factory by the frame manufacturer.
- B. Bituminous Coating: Cold-applied asphalt mastic, emulsion or other high-build, waterresistant, non-fibered, resilient coating with a minimum 15-mil dry film thickness, tested in accordance with UL 10C. Provide in all frames where frames are fully grouted with an approved Portland Cement based grout or mortar.
 - 1. Bitiminous coating is to be applied in the factory by the frame manufacturer.
 - 2. Provide on all frames that are fully grouted with an approved portland cemnt based grout or mortar.
 - 3. Man:
 - a. Henry 107 Asphalt Emulsion sealer and damproofer; <u>www.us.henry.com</u>
 - b. Wohl Coatings BB-99 Bituminous Black Pipe Coating; <u>www.wohlcoatings.com</u>
 - c. Substitutions: See Section 016000 Product Requirements .

2.07 FRAME ANCHORS

A. Jamb Anchors:

Ithaca Fire Station Hollow Metal Doors and Frames

- 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
- 2. Masonry Type: Provide expansion bolt anchors where indicated on the drawings. Provide dimple in frame at each bolt location.
- 3. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
- B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
- C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.08 ACCESSORIES

- A. Louvers: Roll formed steel with overlapping frame; finish same as door components ; factoryinstalled.
- B. Glazing: As specified in Section 088000, factory installed.
- C. Removable Stops: Rolled steel bar, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.
- D. Astragals for Double Doors: Specified in Section 08 7100.
- E. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
- F. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.
- G. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.
- H. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
- I. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.09 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.
- C.
- 1. Glazed Lites: Factory cut openings in doors with applied trim or kits to fit. Factory install glazing where indicated.
- 2. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
- 3. Electrical Raceways: Provide hollow metal doors to receive electrified hardware with concealed wiring harness and standardized MolexTM plug connectors on both ends to

accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the through-wire transfer hardware or wiring harness specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware". Wire nut connections are not acceptable.

- D. Hollow Metal Frames:
 - 1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 2. Welded Frames: At all Exterior locations and Interior Construction: Weld joints continuously through full throat width of frames, including rabbets, soffits, and stops; grind, fill, dress, and make smooth, flush, and invisible.
 - a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.
 - 3. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 - 4. Equal Rabbet Frames: Provide frames with equal rabbet dimensions unless glazing and removable stops require wider dimensions on glass side of frame.
 - 5. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
 - 6. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
 - 7. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
 - 8. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
 - 9. Electrical Knock Out Boxes: Factory weld 18 gauge electrical knock out boxes to frame for electrical hardware preps; including but not limited to, electric through wire transfer hardware, electrical raceways and wiring harnesses, door position switches, electric strikes, magnetic locks, and jamb mounted card readers as specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware".
 - a. Provide electrical knock out boxes with a dual 1/2-inch and 3/4-inch knockouts.
 - b. Conduit to be coordinated and installed in the field (Division 26) from middle hinge box and strike box to door position box.
 - c. Electrical knock out boxes to comply with NFPA requirements and fit electrical door hardware as specified in hardware sets in Division 08 Section "Door Hardware".
 - d. Electrical knock out boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb.
 - 10. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
 - 11. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Two anchors per jamb up to 60 inches high
 - 2) Three anchors per jamb from 60 to 90 inches high.
 - 3) Four anchors per jamb from 90 to 120 inches high.
 - 4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

- b. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
 - 5) Two anchors per head for frames above 42 inches wide and mounted in metal stud partitions.
- 12. Door Silencers: Except on weatherstripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
- E. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware
 - 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 - 2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
 - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 - 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.
- D. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.
- B. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- C. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.

Ithaca Fire Station Hollow Metal Doors and Frames

- D. Immediately after erection, sand smooth any rusted or damaged areas of factory prime coat. Apply touch-up of compatible air-drying primer, providing for a continuous unbroken primer coating.
- E. Prior to installation, paint hidden surfaces of frames installed in interior walls in rooms where there might be water on the floor, such as bathrooms and kitchens, with an additional primer coat from floor level to 48-inches above finish floor.

3.03 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated and NAAMM HMMA 840.
- B. Install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
- E. Fill shim space at perimeter with foam sealant
- F. Install door hardware as specified in Section 087100.
 - 1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.
- G. Erect frames plumb, level, and square; free of racking, warping, or bowing; for effort free door operation and without gravity imposed movement upon door anywhere within door swing.
- H. Except for frames located at existing concrete, masonry or drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
- I. In masonry construction, locate three (3) wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb.
- J. In metal stud partitions, install at least three (3) wall anchors per jamb at hinge and strike levels. In closed steel stud partitions, attach wall anchors to studs with screws.
- K. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
- L. Cover exposed fastener heads with epoxy metal filler. Finish smooth and level with frame.
- M. Comply with glazing installation requirements of Section 088000.
- N. Coordinate installation of electrical connections to electrical hardware items.
- O. Touch up damaged factory finishes.
- P. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Non-Fire-Rated Standard Steel Doors:

- a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
- b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
- c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
- d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch
- Q. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

3.04 TOLERANCES

- A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.
- B. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.05 ADJUSTING

- A. Adjust for smooth and balanced door movement.
- B. Remove grout and other bonding material from hollow metal work immediately after installation.
- C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

3.06 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush and flush glazed configuration; fire-rated and non-rated.

1.02 RELATED REQUIREMENTS

- A. Section 081113 Hollow Metal Doors and Frames.
- B. Section 087100 Door Hardware.
- C. Section 088000 Glazing.
- D. Section 090613 Materials Legend.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) Architectural Woodwork Standards, 2nd Edition.
- B. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
- C. UL 10C Standard for Positive Pressure Fire Tests of Door Assemblies.
- D. WDMA I.S. 1A Interior Architectural Wood Flush Doors.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
- D. Samples: Submit two samples of door veneer, 8 by 10 inches in size illustrating wood grain, stain color, and sheen.
- E. Manufacturer's qualification statement.
- F. Installer's qualification statement.
- G. Specimen warranty.
- H. Warranty, executed in Owner's name.
- 1.05 QUALITY ASSURANCE

Ithaca Fire Station Flush Wood Doors

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

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 PROJECT CONDITIONS

- A. Coordinate the work with door opening construction, door frame and door hardware installation.
- B. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

1.08 WARRANTY

- A. Interior Doors: Provide manufacturer's warranty for the life of the installation.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. Basis-of-Design Product: Refer to Section 090613 "Materials Legend".
 - 2. Other Acceptable Manufacturers:
 - a. Algoma Hardwoods: www.algomahardwoods.com
 - b. Marshfield Door Systems, Inc.: www.marshfielddoors.com
 - c. VT Industries, Inc: www.vtindustries.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.

2.02 DOORS

- A. Doors: See drawings for locations and additional requirements.
 - 1. Quality Standard: Premium Grade, Extra Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
 - 2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

Ithaca Fire Station Flush Wood Doors

- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at each location.
 - 2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C Positive Pressure; Underwriters Laboratories Inc (UL) labeled without any visible seals when door is open.
 - 3. Wood veneer facing with factory transparent finish.

2.03 DOOR AND PANEL CORES

- A. Non-Rated Solid Core Doors: Type particleboard core (PC), plies and faces as indicated.
 1. Grade: LD-2.
- B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Species and cut as indicated in Section 090613 "Materials Legend", veneer grade in accordance with quality standard indicated, with book match between leaves of veneer, balance match of spliced veneer leaves assembled on door or panel face.
 - 1. Vertical Edges: Same species as face veneer.
 - 2. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet of each other when doors are closed.
- B. Facing Adhesive: Type II water resistant.

2.05 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
 - 1. Provide solid blocks at lock edge and top of door closer for hardware reinforcement.
 - 2. Provide solid blocking for other throughbolted hardware.
- C. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.
- D. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
- E. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- F. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- G. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

- A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 Finishing for grade specified and as follows:
 - 1. Transparent:
 - a. System 9, UV Curable, Acrylated Epoxy, Polyester or Urethane.
 - b. Stain: As indicated in Section 090613 "Materials Legend".
 - c. Sheen: As indicated in Section 090613 "Materials Legend"..
- B. Factory finish doors in accordance with approved sample.
- C. Seal door top edge with color sealer to match door facing.

2.07 ACCESSORIES

- A. Hollow Metal Door Frames: See Section 081113.
- B. Wood Louvers:
 - 1. Material and Finish: Match door species.
 - 2. Louver Blade: Flush louver.
 - 3. Size: Refer to drawings,
- C. Glazing: See Section 088000.
- D. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.
- E. Gazing Sops at Fire Rated Doors:
 - 1. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips as required and approved for such use.
 - 2. Veneer Wrap Bead for Light Openings in Fire-Rated Doors: Manufacturer's standard veneer wrap bead matching veneer specie of door face and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.
- F. Door Hardware: See Section 087100.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
 1. Install fire-rated doors in accordance with NFPA 80 requirements.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

Ithaca Fire Station Flush Wood Doors

- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.
- E. Coordinate installation of glazing.

3.03 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

END OF SECTION 081416

SECTION 083100 - ACCESS DOORS AND PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wall mounted access units.
- B. Ceiling mounted access units.

1.02 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Field paint finish.

1.03 REFERENCE STANDARDS

A. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.

1.04 SUBMITTALS

- A. See Section 0133000 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.
- C. Shop Drawings: Indicate exact position of each access door and/or panel unit.

PART 2 PRODUCTS

2.01 ACCESS DOORS AND PANELS ASSEMBLIES

- A. Wall-Mounted Units:
 - 1. Location: As indicated on Mechanical, Plumbing, Fire Protection and Electrical drawings.
 - 2. Panel Material: Steel.
 - 3. Size: 12 by 12 inches.
 - 4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
 - 5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.
 - 6. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
 - 7. Masonry Mounting Criteria: Provide surface-mounted frame with door surface flush with frame surface.
- B. Wall-Mounted Units in Wet Areas:
 - 1. Location: As indicated on Mechanical, Plumbing, Fire Protection and Electrical drawings.

- 2. Panel Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
- 3. Size: 12 by 12 inches.
- 4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
- 5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.
- 6. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
- 7. Masonry Mounting Criteria: Provide surface-mounted frame with door surface flush with frame surface.
- C. Fire-Rated Wall-Mounted Units:
 - 1. Location: As indicated on Mechanical, Plumbing, Fire Protection and Electrical.
 - 2. Wall Fire-Rating: As indicated on drawings.
 - 3. Panel Material: Steel.
 - 4. Size: 12 by 12 inches.
 - 5. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle.
- D. Ceiling-Mounted Units:
 - 1. Location: As indicated on Mechanical, Plumbing, Fire Protection and Electrical.
 - 2. Panel Material: Steel.
 - 3. Size Lay-In Grid Ceilings: To match module of ceiling grid.
 - 4. Size Other Ceilings: 12 by 12 inches.
 - 5. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
- E. Fire-Rated Attic Access Units:
 - 1. Location, Type and Product: As indicated on drawings.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that rough openings are correctly sized and located.
- B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to proceeding with this work.
- B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.03 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Install frames plumb and level in openings, and secure units rigidly in place.
- C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION 083100
SECTION 083613 - SECTIONAL DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. New overhead sectional doors, electrically operated, including operators, controls, and wiring.
- B. Operating hardware and supports.
- C. Electrical controls.
- D. See Part 2 "Performance Criteria" for specific work performance criteria required for this contract and other Prime Contracts as part of the Work of this section.

1.02 RELATED REQUIREMENTS

- A. Section 055000 Metal Fabrications: Steel plate opening frame.
- B. Section 088000 Glazing: Glazing for door lights.
- C. Section 099123 Interior Painting: Finish painting.
- D. Section 260010 Electrical Work General

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- B. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen 2004 (Reapproved 2012).
- C. ASTM E330/E330M Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference 2014 (Reapproved 2021).
- D. DASMA 102 American National Standard Specifications for Sectional Overhead Type Doors 2011.
- E. ITS (DIR) Directory of Listed Products Current Edition.
- F. NEMA ICS 2 Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts 2000, with Errata (2008).
- G. NEMA MG 1 Motors and Generators 2018.
- H. NEMA 250 Enclosures for Electrical Equipment (1000 Volts Maximum) 2018.
- I. NFPA 70 National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. UL (DIR) Online Certifications Directory Current Edition.

Ithaca Fire Station Sectional Doors

- K. NFPA 80 Standard for Fire Doors and Other Opening Protectives; 2013.
- L. UL 325 Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, installation details, and **confirmation of project minimum 45 psf wind-load rating**.
- C. Product Data: Show component construction, anchorage method, and hardware.
- D. Selection Samples: Submit a complete set of color chips representing manufacturer's full range of available prefinished colors for *ColorWave* finish.
- E. Qualification Statements:
 - 1. Manufacturer 's certificate that products meet or exceed specified requirements.
 - 2. Installer's qualifications.
- F. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.
- G. Operation Data: Include normal operation, troubleshooting, and adjusting.
- H. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.
- I. Delegated Design Data: As required to show compliance with performance and design requirements.
- J. Provide complete wiring schematics for Electrical Contractor tie-ins to necessary building systems
- K. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section approved by manufacturer, and an authorized distributor of the manufacturer to ensure accessibility to parts, updated product changes, recalls, and warranty claims.
- C. Comply with applicable code for motor and motor control requirements.
- D. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction, as suitable for purpose specified.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Pursuant to manufacturer's published instructions.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Protect against moisture exposure and damage.

1.07 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results.
- B. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.08 WARRANTY

- A. See Section 017800 Closeout Submittals for warranty requirements.
- B. Warranty: Include coverage for electric motor and transmission.
 - 1. Electrical operator and component parts to be free from defects in material and workmanship for a period of three (3) years from installation date.
 - 2. Manufacturer warrants the door sections against defects in material and workmanship, and deterioration due to rust-through for ten (10) years from date of delivery to the original purchaser.
 - 3. Door shall be free from delamination for ten (10) years from date of delivery of original purchaser.
 - 4. Window components are warranted against defects in material and workmanship for one (1) year from date of delivery to the original purchaser.
 - 5. Insulation shall maintain its R-Value for twenty (20) years from installation date.

PART 2 PRODUCTS

2.01 PERFORMANCE CRITERIA

- A. Provide labor and materials necessary to provide a complete system.
- B. Perform all work of this section with experienced workmen familiar with the work, and in accordance with industry standards and manufacturer's recommendations.
- C. Provide wiring and controls between individual door control stations and door electric operators.
- D. Electrical Contractor is responsible for the following:
 - 1. Electrical wiring, controls, and connections from door to Radio Room or other remote location to each door operator.
 - 2. Electrical wiring, controls, and connections to other building systems.

E. General Performance: Sectional doors shall meet performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction and without requiring temporary installation of reinforcing components.

2.02 MANUFACTURERS

- A. Basis of Design: Raynor of Dixon, Illinois ThermaSeal Series TM320: www.raynor.com
- B. Substitutions: See Section 016000 Product Requirements.

2.03 DOOR COMPONENTS

- A. Steel Doors: Flush steel, insulated; high lift operating style, as shown on drawings, with track and hardware; complying with DASMA 102, Commercial application.
 - 1. Structural Performance Requirements: Withstand effects of gravity loads and withstand positive and negative wind loads as calculated in accordance with New York Building code without damage or permanent set, when tested in accordance with ASTM E330, using 10 second duration of maximum load.
 - a. Deflection Limits: Withstand design wind loads without evidencing permanent deformation or disengagement of door components. Deflection of door in horizontal position (open) shall not exceed 1/120 of the door width.
 - b. Required Wind Loading: Provide doors capable to withstand a **minimum 45 psf** wind-load rating. Wind Loading Value will be required to be labelled on submitted Shop Drawings.
 - c. Provide U-bars on all doors 14'-0" or wider.
 - 2. Air Infiltration (ASTM E283): Maximum rate per foot of door perimeter (floor, jamb, and header) of 0.4 cfm/sf. No air leakage shall be detected between section joints when tested in accordance with ASTM E283.
 - 3. Door Nominal Thickness: 3 inches thick.
 - a. R-Value of 24.54 minimum.
 - 4. Exterior Finish:
 - a. Three (3) doors: Pre-finished with the ColorWave finish system of color as selected from manufacturer's full range.
 - 1) Color: RAL 3003.
 - 5. Interior Finish: Pre-finished prior to roll forming with polyester paint finish of White color.
 - 6. Glazed Lights: Provide glazed lights as indicated in the construction documents. The project may contain glazed lights of each type.
 - a. Full View Aluminum (square-edge) lights of maximum allowable width and <u>all</u> of equal width; set in place in extruded aluminum stile and rail framing and 5/8" insulated Low-E glass, sized according to door widths; **CUSTOM** configurations as shown on drawings regardless if conditions represent a custom application.

- 7. Electric Operation: Electric control station.
- B. Door Panels: Doors consisting of sections to be 3" thick roll formed from commercial quality hot dipped galvanized steel per ASTM A924 and A653. Door sections constructed of 20 gauge (ext.) and 26 gauge (int.) (exclusive of finish), stucco embossed interior and exterior skins.
 - 1. Sections shall be pressure bonded to injected polyurethane foam insulated core. Hinge reinforcement strips shall be 20-gauge galvanized steel, located within section interior. End stiles to be 16-gauge galvanized steel.
 - 2. Interior and exterior skins to be separated by a continuous dual durometer vinyl extrusion to form an effective thermal break and a complete weather-tight seal along section joint.
 - 3. Thermal break extrusion to be held in place by means of mechanical interlock.
 - 4. End stiles to be minimum 16 gauge separated from exterior skin with vinyl thermal break.

2.04 COMPONENTS

- A. Track: Rolled galvanized steel, 0.109 inch thick; 3 inch wide, continuous one piece per side, fully adjustable for adequate sealing of door to jamb or weatherseal; floor-to-header angle mount galvanized steel mounting brackets not less than 1/8 inch thick and minimum 3-1/2 x 5 inch size.
 - 1. Configuration Type: As indicated on drawings.
 - Tracks to be continuous angle mounted and fully adjustable for sealing door to jamb. Continuous angle mount to be not less than 11-gauge steel angle, 2-5/16" x 4" for 3-inch track. Horizontal track to be adequately reinforced with continuous angle.
 - 3. Doors over 12 ft. high must be center hung by using 2 x 2 galvanized hanger angle.
 - 4. Ensure that transitions between adjacent sections of track are smooth and without gaps.
 - 5. Provide graduated seal for weathertight closing.
 - 6. Provide center hanger on tracks for door over 12'-0" high: 2" x 2" galvanized hanger angles.
 - 7. Provide continuous angle reinforcement for horizontal tracks.
 - 8. Provide manufacturer's standard stop at the end of the track.
 - 9. Ensure that transitions between adjacent sections of track are smooth and without gaps.
- B. Hinges, Brackets, and Roller Assemblies: Full heavy-duty hinges, brackets, and adjustable roller holders of galvanized steel; 3" diameter heavy duty, floating hardened steel bearing rollers with minimum ten (10) ball bearings, located at top and bottom of each panel, each side.

- C. Lift Mechanism: Heavy-duty, oil-tempered wire torsion springs on a continuous ballbearing cross head shaft, with heavy-duty oil-tempered braided galvanized, aircraft type steel lifting cables with a minimum safety factor of 5.
 - 1. Spring Requirements: 50,000 cycles.
- D. Emergency Manual Operation
 - 1. Emergency Operation Disconnect Device Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.
- E. Sill Weatherstripping: Resilient flexible U-shaped vinyl, one piece, encased in extruded aluminum retainer to conform to floor irregularities; fitted to bottom of door panel, full length contact.

1. A bottom seal screwed to the bottom door panel is not allowed.

- F. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with EPDM rubber blade type weatherstripping, attached to track angle mounting with rigid vinyl snap-on extrusion.
- G. Head Weatherstripping: EPDM rubber seal, one-piece full length.
- H. Panel Joint Weatherstripping: Dual durometer vinyl extrusion, one-piece full length to form an effective thermal break and a complete weather-tight seal along section joint.
- I. Weatherstripping shall be replaceable without removal of track, angle mounting, or door hardware.

2.05 MATERIALS

- A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface; 20-gauge exterior and 26-gauge interior.
- B. Insulation: Rigid polyurethane, manufactured with a non-CFC blowing agent, bonded to facing.
 - 1. 3" thick.

2.06 ELECTRIC OPERATION

- A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
 - 1. Provide interlock switches on motor operated units.
- B. Electric Operators:
 - 1. Mounting: Side mounted on cross head shaft.
 - 2. Motor Enclosure:

- 3. Continuous Duty Industrial 1/2 hp; manually operable in case of power failure, belt-drive, jackshaft with transit speed of 6 to 12 inches per second.
- 4. 115/230V, single phase, 60 Hz.
- 5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
- 6. Controller Enclosure: NEMA 250, Type 1.
- 7. Opening Speed: 12 inches per second.
- 8. Brake: Adjustable friction clutch type, activated by motor controller.
- 9. Manual override in case of power failure.
- 10. Refer to Section Division 26 for electrical connections.
- 11. Duty Cycle: 30 cycles/hour.
- C. Motor: NEMA MG1, Type 1; separate from reduction mechanism for ease of maintenance.
- D. Motor Removal: Design operator so motor may be removed without disturbing limitswitch adjustment and without affecting emergency manual operation.
- E. Roller Chain Drive door shall be driven by roller chain at 6" to 12" per second.
- F. Reduction Mechanism: V-belt drive from motor to full ball bearing power train with additional reduction by chain and sprockets. All power train shafts shall be minimum 3/4" diameter.
- G. Adjustable Friction Clutch shall be provided to protect door and operator if door movement is obstructed.
- Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.
- I. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
 - 1. 24-volt circuit.
 - 2. Surface mounted, at interior door jamb.
 - 3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
 - a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.
- J. Electric Operator: Jackshaft or jackshaft trolley as indicated on the drawings; adjustable safety friction clutch; electro-mechanical type brake system actuated by solenoid motor starter; enclosed, positive chain drive screw type limit switch, enclosed in electrical control box, easily accessible for precision setting; heavy duty, enclosed magnetic cross

line reversing starter with mechanical interlock; auxiliary contact type SR2 wiring; mounting brackets and hardware; with hoist.

- 1. Product: 1/2 hp "ControlHoist 2.0 Standard, model number CSH 223" as manufactured by Raynor.
- 2. Substitutions Not Permitted.
- K. Obstruction Detection Devices:
 - 1. Equip motorized door with indicated external automatic safety sensors capable of protecting full width of door opening. Activation of either device immediately stops and reverses downward door travel.
 - 2. Safety Edge: Located at bottom of sectional door panel, full width; electromechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.
 - a. Self-Monitoring Type: Four-wire configured device designed to interface with door-operator control circuit to detect damage to or disconnection of safety edge.
 - b. Locate within astragal or weather stripping mounted to bottom bar. Contact with sensor activates the device. Connect to control circuit using manufacturer's standard taker-up reel or self-coiling cable.
 - 3. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.
 - a. Self-Monitoring Type: Designed to interface with door operator control circuit to detect damage to or disconnection of sensor device. When self-monitoring feature is activated, door closes only with sustained pressure on close button.
 - b. Provide one sensor at 6" to 12" above finish floor.
 - c. Activation of device immediately stops and reverses downward door travel.
- L. Control Station: Three button (open-close-stop) SR5 momentary contact type control for each electric operator.
 - 1. 24-volt circuit
 - 2. Recess mounted.
 - a. Basis-of-Design: CUSTOM Configuration for Operator PushbuttonsFlush Mounted as detailed on the Drawings.
 - 3. Locate at inside door jamb or as indicated on the Drawings.
 - 4. Open override feature. Open button, and pneumatic safety edge will reverse door to open position when door is closing.
 - 5. Configure and provide wiring to open door closest to Radio Room one foot when emergency carbon monoxide gas exhaust fan system is activated.

Emergency exhaust fan system is independent of vehicle exhaust fan system. Coordinate this action with Mechanical and Electrical Contractors.

- 6. Provide an additional override to allow the door to be closed completely at end of carbon monoxide exhaust operation.
- 7. Configure and provide wiring to start vehicle exhaust fan system when door is being opened and then shut the fan(s) off when the doors are fully closed with an override control.
- 8. Provide recessed mounted control stations at 1 location(s) in Radio Room walls per Architect's direction. Control stations shall operate all doors with open-close-stop from Radio Room. Provide individual switches with pilot lights for each door. Pilot lights to show door closed and door open. Provide Long Wiring Kit to ensure proper voltage for multiple push button stations. Provide a brushed stainless steel bezel with finished edges for installation of the switches. See Drawings for all remaining information.
 - a. Product: Raynor Model PBS-3, 3-button push button switch assembly, No Substitutions.
- M. Overload Protection: Provide manual reset for overload protection. All electrical components shall be in NEMA 1 enclosures.
- N. Stop-Go Light: Red and green, stop-go lights at each door that indicate fully open-fully closed; Model RGL24LY (Safety Yellow Housing) as manufactured by *Lift Master*, No Substitutions.
- O. Receivers And Transmitters
 - 1. Receivers: Provide a receiver to operate each overhead door.
 - 2. Handheld Transmitter: Digital control, resettable; four channel, four button; two (2) required

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits. In the Record Documents, list unsatisfactory conditions and steps taken to correct them.
- B. Verify that electric power is available and of the correct characteristics.
- C. Correct unsatisfactory conditions before installing doors. Beginning installation shall constitute acceptance of related work and corrected existing conditions by Installer and Contractor.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit to steel jamb plates.

3.03 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions and NFPA 80.
- B. Tracks:
 - 1. Fasten vertical track assembly to opening jambs and framing, spaced not more than 24 inches apart.
 - 2. Hang horizontal track assembly from structural overhead framing with angles or channel hangers attached to framing by welding or bolting, or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door operating equipment.
 - 3. Repair galvanized coating on tracks according to ASTM A780.
- C. Anchor assembly to wall construction and building framing without distortion or stress.
- D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
- E. Fit and align door assembly including hardware.
- F. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.
- G. Complete door control, operating device, and unit component connections to other building systems.
- H. Select, identify, and locate controls so safety of users and protection of property and vehicles is ensured.
- I. Provide inserts, anchors, hangers, brackets, moldings, seal strips, and welding as needed to make door assembly secure against air pressure, operating loads, and intrusion, and so that air infiltration is held to minimum.
- J. Conceal bolt heads so that access cannot be made from outside.
- K. Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces. Repair galvanizing to comply with ASTM A780.

3.04 TOLERANCES

- A. Maximum Variation from Plumb: 1/16 inch.
- B. Maximum Variation from Level: 1/16 inch.
- C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.
- D. Maintain dimensional tolerances and alignment with adjacent work.

3.05 SYSTEM STARTUP

A. Engage a factory-authorized service representative to perform system startup after door assemblies are complete and connected to other building systems.

Ithaca Fire Station Sectional Doors

- 1. Complete installation and startup checks according to manufacturer's written instructions.
- 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment. Follow manufacturer's written instructions.

3.06 ADJUSTING

- A. Adjust door assembly for smooth operation and full contact with weatherstripping, maintaining airtightness and watertightness around the entire perimeter, under all conditions of normal and emergency use. Contractor will perform this task as needed until Final Completion of the project.
- B. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.
- C. Lubricate bearings and sliding parts as recommended by manufacturer.
- D. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.07 CLEANING

- A. Comply with manufacturer's written recommendations for final cleaning and maintenance.
- B. Clean doors and frames and glazing immediately after installation. Avoid damaging protective coatings and finishes.
- C. Remove excess sealants, glazing materials, dirt, and other substances.
- D. Remove temporary labels and visible markings. Clean away residue from tags and stickers.
- E. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

3.08 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.
- B. Replace door panels and accessories that may have been damaged during construction period.
- C. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

3.09 DEMONSTRATION

A. Engage a factory-authorized service representative to train owner's maintenance personnel to adjust, operate, and maintain sectional doors.

THIS PAGE LEFT BLANK INTENTIONALLY

END OF SECTION

SECTION 084313 - ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum-framed storefront.
- B. Aluminum doors and frames.
- C. Weatherstripping.
- D. Door hardware.

1.02 RELATED REQUIREMENTS

- A. Section 072119 Foamed-In-Place Insulation: Insulating perimeter shim space.
- B. Section 079200 Joint Sealants: Sealing joints between frames and adjacent construction.
- C. Section 085113 Aluminum Windows: Operable sash within glazing system.
- D. Section 087100 Door Hardware: Hardware items other than specified in this section.
- E. Section 087113 Automatic Door Operators.
- F. Section 088000 Glazing: Glass and glazing accessories.

1.03 REFERENCE STANDARDS

- A. AAMA CW-10 Care and Handling of Architectural Aluminum from Shop to Site.
- B. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
- C. ASTM B209/B209M Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- D. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- E. ASTM B221M Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
- F. ASTM E283/E283M Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- G. ASTM E330/E330M Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- H. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with installation of other components that comprise the exterior enclosure.

1.05 SUBMITTALS

- A. See Section 01 33 00 Submittal Procedures for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.
- D. Manufacturer's Certificate: Certify that the products supplied meet or exceed the specified requirements.
- E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- F. Manufacturer's Qualification Statement.
- G. Installer's Qualification Statement.
- H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.08 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.09 WARRANTY

A. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

Ithaca Fire Station Aluminum-Framed Storefronts B. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design Exterior Entrances, Storefronts and Windows: Kawneer North America; Trifab VersGlaze, 601T.
- B. Basis-of-Design Interior Entrances, Storefronts and Windows: Kawneer North America; Trifab 400.
- C. Other Acceptable Aluminum-Framed Storefronts Manufacturers:
 - 1. Manko Window Systems, Inc: www.mankowindows.com/#sle.
 - 2. Oldcastle BuildingEnvelope: www.oldcastlebe.com/#sle.
 - 3. YKK AP America.Inc.; www.ykkap.com
 - 4. Substitutions: See Section 016000 Product Requirements.

2.02 ALUMINUM-FRAMED STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
 - 1. Glazing Rabbet: For 1 inch insulating glazing.
 - 2. Glazing Rabbet: For 1/4 inch monolithic glazing.
 - 3. Glazing Position: Centered (front to back).
 - 4. Vertical Mullion Dimensions:
 - a. Exterior: 2 inches wide by 6 inches deep.
 - b. Interior: 1 3/4 inches wide by 4 inches deep.
 - 5. Finish: As indicated below.
 - a. Factory finish all surfaces that will be exposed in completed assemblies.
 - b. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
 - 6. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
 - 7. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
 - 8. 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.
 - 9. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
 - 10. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
 - 11. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
- B. Performance Requirements

- 1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
 - a. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
 - b. Design system with paramters indicated on structural drawings.
- 2. Water Penetration Resistance on Manufactured Assembly: No uncontrolled water on interior face, when tested in accordance with ASTM E331 at pressure differential of 8 psf.
- 3. Air Leakage: 0.06 cfm/sq ft maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 6.27 psf pressure difference.
- 4. Overall U-value Including Glazing: .40 Btu/(hr sq ft deg F), maximum.

2.03 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
 - 1. Framing members for interior applications need not be thermally broken.
 - 2. Glazing Stops: Flush.
 - 3. Structurally Reinforced Members: Extruded aluminum with internal reinforcement of structural steel member.
- B. Glazing: See Section 088000.
- C. Swing Doors: Glazed aluminum.
 - 1. Thickness: 1-3/4 inches.
 - 2. Top Rail: Refer to drawings.
 - 3. Vertical Stiles: Refer to drawings.
 - 4. Bottom Rail: Refer to drawings.
 - 5. Glazing Stops: Square.
 - 6. Finish: Same as storefront.

2.04 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Sheet Aluminum: ASTM B209/B209M.
- C. Fasteners: Stainless steel.
- D. Exposed Flashings: Aluminum sheet, 20 gauge, 0.032 inch minimum thickness; finish to match framing members.
- E. Concealed Flashings: Galvanized steel, 26 gauge, 0.0179 inch minimum base metal thickness.
- F. Sealant for Setting Thresholds: Non-curing butyl type.
- G. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.
- H. Glazing Accessories: See Section 088000.

2.05 FINISHES

Ithaca Fire Station Aluminum-Framed Storefronts A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A44 Electrolytically deposited colored anodic coating not less than 0.7 mils thick.

2.06 HARDWARE

- A. Other Door Hardware: See Section 087100.
- B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

2.07 FABRICATION

- A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- C. Prepare components to receive anchor devices. Fabricate anchors.
- D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
- E. Arrange fasteners and attachments to conceal from view.
- F. Reinforce components internally for door hardware
- G. Reinforce framing members for imposed loads.
- H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
 1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier seal materials are ready to receive work of this section.

3.02 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Provide thermal isolation where components penetrate or disrupt building insulation.

Ithaca Fire Station Aluminum-Framed Storefronts

- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- H. Coordinate attachment and seal of perimeter air and vapor barrier materials.
- I. Provide low-rise spray foam.in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- J. Set thresholds in bed of sealant and secure.
- K. Install hardware using templates provided.1. See Section 087100 for hardware installation requirements.
- L. Install glass using glazing method required to achieve performance criteria; see Section 088000.
- M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
- N. Touch-up minor damages to factory aookied finish; replace components that cannot be satisfactorily repaired.
- 3.03 TOLERANCES
 - A. Maximum Variation from Plumb: 0.06 inch per 3 feet non-cumulative or 0.06 inch per 10 feet, whichever is less.
 - B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.
- 3.04 ADJUSTING
 - A. Adjust operating hardware and sash for smooth operation.

3.05 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.

3.06 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION 084313

SECTION 085200 - WOOD WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Factory-fabricated wood windows.
- B. Glazing.
- C. Operating hardware.
- D. Insect screens.
- E. Wood trim for exterior finishing.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Rough opening framing.
- B. Section 072500 Weather Barriers: Sealing frames to water-resistive barrier installed on adjacent construction.
- C. Section 079200 Joint Sealants: Sealing joints between frames and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA/WDMA/CSA 101/I.S.2/A440 North American Fenestration Standard/Specification for Windows, Doors, and Skylights.
- B. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
- C. ASTM F588 Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

- A. See Section 0133000 Submittal Procedures for submittal procedures.
- B. Product Data: Show component dimensions, anchorage and fasteners, glass, and internal drainage details.
- C. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, and installation requirements.
- D. Samples: Two samples illustrating window frame section.
- E. Operating Hardware: Two samples of each type of operating hardware.

Ithaca Fire Station Wood Windows

- F. 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; label or other documentation.
 - 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.
- G. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.
- H. Manufacturer's qualification statement.
- I. Installer's qualification statement.
- J. Specimen warranty.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than ten 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.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect factory finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.08 FIELD CONDITIONS

- A. Do not install sealants when ambient temperature is less than 40 degrees F.
- B. Maintain this minimum temperature during and after installation of sealants.

1.09 WARRANTY

- A. Manufacturer Warranty: Provide 20 year manufacturer warranty for insulated glass units against seal failure, interpane dusting or misting, and replacement of same. Complete forms in Owner's name and register with manufacturer.
- B. Manufacturer Warranty: Provide 20 year workmanship and materials. Complete forms in Owner's name and register with manufacturer or warrantor.
 - 1. Degradation of color finish.
 - 2. Delamination or separation of finish cladding from window member.

PART 2 PRODUCTS

2.01 MANUFACTURERS

Ithaca Fire Station Wood Windows

- A. Aluminum Clad Wood Windows:
 - 1. Basis-of-Design Producct: Weather Shield Manufacturing, Inc.; Premium Series Double Hung Windows.
 - 2. Substitutions: See Section 016000 Product Requirements.

2.02 WOOD WINDOWS

- A. Wood Windows: Wood frame and sash, factory fabricated and assembled.
 - 1. Exterior Finish: Metal clad, painted.
 - 2. Interior Finish: Wood, prefinished...
 - 3. Color: As selected by Architect from manufacturer's full range.
 - 4. Configuration: Fixed, non-operable and Double hung.
 - 5. Factory glazed; wet-dry glazing method.
 - 6. Wood Species: Clear pine, preservative treated using treatment type suitable for required finish.
 - 7. Frame and Sash Members:
 - a. Frame: Square cut, rabbeted at head, dadoed at sill, chemically and mechanically fastened.
 - b. Sash: Mortised, tenoned and mechanically fastened.
 - 8. Metal Cladding: Extruded aluminum, factory finished, factory fit to profile of wood members.
 - 9. Clearances and Shim Spacing: Minimum required for installation and dynamic movement of perimeter seal.
 - 10. Fasteners: Interior installation clips.
 - 11. Internal Drainage of Glazing Spaces to Exterior: Weep holes.
 - 12. Insect Screen: Locate on inside of windows.
 - 13. Operable Units: Double weatherstripped.

2.03 COMPONENTS

- A. Glazing: Double glazed, clear, Low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions, complying with ASTM C1036, IGCC certified to performance level CBA when tested in accordance with ASTM E2190.
 - 1. Provide frosted glass where indicated.
 - 2. U-value total, NFRC 100:
 - a. Fixed Fenestation: Max. 0.38
 - b. Operable Fenestarion: Max. 0.45
 - 3. Solar Heat Gain Coefficient (SHGC), NFRC 200: Max. 0.38
 - 4. Insulated glass shall be sealed with a black spacer system to meet thermal performance.
 - 5. Glass shall be silicone glazed at exterior to allow reglazing from the interior with colonial glazing bead. Back side of glazing bead to be finished black.

B. Frame:

- 1. Exterior Frame Members: Milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
- 2. Frame Corners: Suare cut, rabbeted at head, dadoed at sill, chemically and mechanically fastened.
- 3. Frame Cladding: .050" extruded aluminum.
- 4. Frame Corners: Top corners mitered, with internal aluminum corner keys, chemically and mechanically fastened.

- 5. Frame Sill: Vinyl thermal break sill riser that interlocks into extruded aluminum sill cover.
- 6. Overall Frame Depth: 5-13/16".
- C. Sash:
 - 1. Sash:
 - a. Exterior: Extruded aluminum, 050" thickness, butt joined at corners, chemically and mechanically bonded to the interior wood substrate.
 - b. Interior Sash Corners: Mortised, tenoned and mechanically fastened.
 - 2. Interior Sash Materials: Milled pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
 - 3. Bottom Rail: 3-1/2" tall.
 - 4. Top Sash Top Rail: 2-3/4" tall.
 - 5. Stiles for both sash shall be 1-1/2" wide.
 - 6. Both top and bottom sash shall interlock together using extruded aluminum interlocking cladding at the meeting rail.
 - 7. Top and bottom sash must tilt in from the inside for cleaning purposes without removal of screens.
- D. Insect Screens: Formed 0.019 "aluminum frame with mitered and reinforced corners; screen mesh taut and secure to frame; secured to window with adjustable supports allowing screen removal without use of tools.
 - 1. Supports: Spring-loaded steel pins; four per screen unit.
 - 2. Screen Mesh: Vinyl-coated fiberglass, window manufacturer's standard mesh.
 - 3. Frame Finish: Baked enamel, color to match window interior color.
- E. Operable Sash Weatherstripping: vinyl; permanently resilient, profiled to effect weather seal.
- F. Fasteners: Stainless steel.
- G. Sealant and Backing Materials: See Section 079200 of types as indicated.
- H. Flashing: Provide related flashings, with necessary anchors and attachment devices.
- I. Sealant for Setting Sills, Stools, Aprons, and Sill Flashing: Non-curing butyl type.
- J. Installtion Clips: Factory applied. Custom size required to match wall thickness.

2.04 PERFORMANCE REQUIREMENTS

- A. Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements for the specific window type in accordance with the following:
 - 1. Performance Class (PC): LC.
 - 2. Performance Grade (PG): 50, with minimum design pressure (DP) of 50.13 psf.
 - 3. Air infiltration shall not exceed 0.30 cfm/ft2 when tested at 6.24 psf according to AAMA/WDMA/CSA 101/I.S.2/A440.
 - No water penetration when tested at the following pressure according to ASTM E547:
 a. LC-PG50-H 7.50 psf
 - 5. Double-hung tilt windows must withstand the following positive/negative structural test pressure without damage when tested according to ASTM E330:
 - a. LC-PG50-H +/-75.0 psf

B. Forced Entry Resistance: Tested to comply with ASTM F588 requirements for performance level of Grade 10 for specific window style required.

2.05 HARDWARE

- A. Double Hung Sash: Counterbalances, each sash, each jamb.
- B. Locking Mechanism: Concealed tilt-release latch hardware with nylon tilt pins. Upper sash has two tan zinc die-cast flush-mounted tilt latches factory applied.
- C. Sash Lock: Sash locks contemporary shall be zinc die cast, recessed mounted at bottom sash check rail and factory applied. Sash lock/keeper finishes as selected by Architect.
- D. Pulls: Manufacturer's standard type.
- E. Weatherstripping: Flexible vinyl weather strip shall have contact to the frame around each sash.

2.06 ALUMINUM FINISHES

- A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A44, electrolytically deposited colored anodic coating not less than 0.7 mils thick.
- B. Color: To be selected by Architect from manufacturer's full range.
- C. Touch-Up Materials: As recommended by coating manufacturer for field application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify wall openings and adjoining water-resistive barrier materials are ready to receive wood windows; see Section 072500.

3.02 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 sills, stools, aprons, and extension jambs if required.
- E. Set sill members and sill flashing in continuous bead of sealant.
- F. 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.
- G. Install operating hardware.

3.03 TOLERANCES

A. Maximum Variation from Level or Plumb: 1/16 inch per 3 ft non-cumulative or 1/8 inch per 10 ft, whichever is less.

3.04 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.05 CLEANING

- A. Remove protective material from factory finished surfaces.
- B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

END OF SECTION 085200

SECTION 087100- DOOR HARDWARE

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes furnishing, installation, and commissioning of mechanical and electromechanical door hardware for doors specified in "Hardware Sets" and required by actual conditions: including screws, bolts, expansion shields, electrified door hardware, and other devices including access and security requirements for proper application of hardware.
- B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

C. Related Divisions:

- 1. Division 03 Concrete
- 2. Division 06 Rough & Finish Carpentry
- 3. Division 07 Joint Sealants
- 4. Division 08 Openings
- 5. Division 09 Finishes
- 6. Division 26 Electrical
- 7. Division 28 Electronic Safety And Security

1.02 REFERENCES

- A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI):
 - 1. ANSI/BHMA A156.1 Butts & Hinges (2016)
 - 2. ANSI/BHMA A156.2 Bored & Preassembled Locks & Latches (2011)
 - 3. ANSI/BHMA A156.3 Exit Devices (2014)
 - 4. ANSI/BHMA A156.4 Door Controls Closers (2013)
 - 5. ANSI/BHMA A156.5 Cylinders and Input Devices for Locks (2014)
 - 6. ANSI/BHMA A156.6 Architectural Door Trim (2015)
 - 7. ANSI/BHMA A156.7 Template Hinge Dimensions (2016)
 - 8. ANSI/BHMA A156.8 Door Controls Overhead Stops and Holders (2015)
 - 9. ANSI/BHMA A156.13 Mortise Locks & Latches (2012)
 - 10. ANSI/BHMA A156.16 Auxiliary Hardware (2013)
 - 11. ANSI/BHMA A156.18 Materials & Finishes (2016)
 - 12. ANSI/BHMA A156.19 Power Assist & Low Energy Power Operated Doors (2013)
 - 13. ANSI/BHMA A156.21 Thresholds (2014)
 - 14. ANSI/BHMA A156.22 Door Gasketing Systems (2012)
 - 15. ANSI/BHMA A156.25 Electrified Locks (2013)
 - 16. ANSI/BHMA A156.26 Continuous Hinges (2012)
 - 17. ANSI/BHMA A156.28 Keying Systems (2013)

Ithaca Fire Station

Door Hardware

- 18. ANSI/BHMA A156.31 Electric Strikes (2013)
- B. International Code Council/American National Standards Institute (ICC/ANSI)/ADA:
 1. ICC/ANSI A117.1 Standards for Accessible and Usable Buildings and Facilities
- C. Underwriters Laboratories, Inc. (UL):
 - 1. UL 10C Positive Pressure Fire Test of Door Assemblies.
 - 2. UL 1784 Air Leakage Test of Door Assemblies.
 - 3. UL 294 Access Control System Units
- D. Door and Hardware Institute (DHI):
 - 1. DHI Publications Keying Systems and Nomenclature (1989).
 - 2. DHI Publication Abbreviations and Symbols.
 - 3. DHI Publication Installation Guide for Doors and Hardware.
 - 4. DHI Publication Sequence and Format of Hardware Schedule (1996).
- E. National Fire Protection Agency (NFPA):
 - 1. NFPA 70 National Electrical Code
 - 2. NFPA 80 Standard for Fire Doors and Other Opening Protectives
 - 3. NFPA 101 Life Safety Code
 - 4. NFPA 105 Standard for the Installation of Smoke Door Assemblies

1.03 SUBMITTALS

- A. Submit in accordance with Conditions of the Contract and Division 1 Administrative Requirements and Submittal Procedures Section.
- B. Shop Drawings:
 - 1. Organize hardware schedule in vertical format as illustrated in DHI Publications Sequence and Formatting for the Hardware Schedule. Include abbreviations and symbols page according to DHI Publications Abbreviations and Symbols. Complete nomenclature of items required for each door opening as indicated.
 - 2. Coordinate final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of hardware.
 - 3. Architectural Hardware Consultant (AHC), as certified by DHI, who will affix seal attesting to completeness and correctness, including the review of the hardware schedule prior to submittal.
- C. Submit manufacturer's catalog sheet on design, grade, and function of items listed in hardware schedule. Identify specific hardware item per sheet, provide an index, and cover sheet.
- D. Templates:
 - 1. Upon final approval of the architectural hardware schedules, submit one set of complete templates for each hardware item to the door manufacturers, frame

Ithaca Fire Station	618601
Door Hardware	087100-2

manufacturers, and the installers. Date and index these 8-1/2 inch x 11 inch papers in a three ring binder, including detailed lists of the hardware location requirements for mortised and surface applied hardware within fourteen days of receiving approved door hardware submittals.

- E. Electrified Hardware: Provide electrical information to include voltage and amperage requirements for electrified door hardware and description of operation.
 - 1. Description of operation for each electrified opening to include description of component functions including location, sequence of operation and interface with other building control systems.
 - 2. Wiring Diagrams: Detail wiring for power, signal, and control system and differentiate between manufacturers installed and field-installed wiring. Include the following:
 - a. System schematic.
 - b. Point to point wiring diagram.
 - c. Riser diagram.
 - d. Elevation of each door.
 - 3. Detail interface between electrified door hardware and fire alarm, access control, security, and building control systems.
 - 4. Provide junction boxes, relays and terminal blocks as needed for proper door operations and connections.
 - 5. Network IP and/or MAC addresses of field device.
- F. Upon door hardware submittal approval, furnish for each electrified opening, three copies of point to point diagrams.
- G. Closeout Submittals: Submit to Owner in a three-ring binder or CD if requested.
 - 1. Warranties.
 - 2. Maintenance and operating manual.
 - 3. Maintenance service agreement.
 - 4. Record documents.
 - 5. Copy of approved hardware schedule.
 - 6. Copy of approved keying schedule with bitting list.
 - 7. Door hardware supplier name, phone number, and fax number.

1.04 QUALITY ASSURANCE

- A. Listed and Labeled electrified door hardware as defined in NFPA 70, Article 100, by a testing agency acceptable to authority having jurisdiction.
- B. Hardware supplier will employ an Architectural Hardware Consultant (AHC) as certified by DHI and a member of the seal program who will be available at reasonable times during course of work for Project hardware consultation.
 - 1. Electrified Door Hardware Supplier Qualifications: Experienced door hardware supplier who has completed projects with electrified door hardware similar in

Ithaca Fire Station	618601
Door Hardware	087100-3

material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- 2. Access and Electrified Security Supplier Qualifications: Experienced supplier who has completed projects with access and electrified security door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance and be a factory authorized distributor.
- C. Door hardware conforming to ICC/ANSI A117.1: Handles pulls, latches locks and operating devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
- D. Fire Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and/or labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL 10C, unless otherwise indicated.
- E. Fire Door Inspection: Prior to receiving certificate of occupancy have fire rated doors inspected by an independent Certified Fire and Egress Door Assembly Inspector (FDAI), as certified by Intertek (ITS), a written report be submitted to Owner and Contractor. Doors failing inspection must be adjusted, replaced or modified to be within appropriate code requirements.
- F. Smoke and Draft Control Door Assemblies: Where smoke and draft control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
- G. Door hardware certified to ANSI/BHMA standards as noted, participate and be listed in BHMA Certified Products Directory.
- H. Substitution request: create a comparison chart that includes the testing information as well as the warranty for both the specified product and the proposed substitution. Include the reason for requesting the substitution, clear catalog copy highlighting the proposed product and options, compliance statement, technical data, product warranty and lead time, to show how the proposed can meet or exceed established level of design, function, and quality. Approval of request is at the discretion of the owner, architect, and their designated consultants and will be addressed via addendum prior to bid date.
 - 1. Items listed with no substitute manufacturers have been requested by the Owner to meet existing standard and will not be reviewed for substitution, unless the product is no longer available.
- I. Meetings: Comply with requirements in Division 1 Section "Project Meetings."
 - 1. Low-voltage Coordination Meeting

Ithaca Fire Station	618601
Door Hardware	087100- 4

- a. Prior to furnishing door hardware submittals, convene a low-voltage coordination meeting. Participants required to attend: Contractor, installer, material supplier, manufacturer representatives, electrical contractor, security consultant.
- b. Review sequence of operation for each opening with electrified hardware to ensure that every opening functions in the proper manner for the Owner's use.
- c. Discuss the types of electrified door hardware, inspection, and electrical roughing-in and other preparatory work performed by other trades.
- d. Verify wire quantities, wire types, wire sizes, conduit sizes, and locations including if the power supplies will be centrally located or if they will be located near each opening.
- e. Coordinate the door hardware, power supplies, back-up power requirements, access control components, fire alarm interfaces, elevator controls, and related building systems have all proper and necessary components to interface and operate correctly.
- 2. Keying Meeting
 - a. Within fourteen days of receipt of approved door hardware submittals, contact Owner with representative from hardware supplier to establish a keying conference. Verify keyway, visual key identification, number of master keys and keys per lock. Provide keying system per Owner's instructions.
- 3. Pre-installation Meeting
 - a. Convene meeting within fourteen days of receipt of approved door hardware submittals. Participants required to attend: Contractor, installer, material supplier, manufacturer representatives, electrical contractor, and security consultant.
 - b. Include in-conference decisions regarding proper installation methods and procedures for receiving and handling hardware.
 - c. Review all system, elevation, and point-to-point drawings to ensure that all necessary components are provided and detailed.
 - d. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
- J. Installer Qualifications: Specialized in performing installation of this Section and have five years minimum documented experience.
 - 1. Electrified Door Hardware Supplier Qualifications: Experienced door hardware installer who has installed projects with electrified door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
 - 2. Access and Electrified Security Supplier Qualifications: Experienced installer who has completed projects with access and electrified security door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance and be a factory authorized to install and commission the system.

Ithaca Fire Station618601Door Hardware087100- 5

K. Hardware listed in 3.07 – Hardware Schedule is intended to establish minimum level of design, type, function and grade of hardware to be used.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Provide clean, dry and secure room for hardware delivered to Project but not yet installed. Shelve hardware off of the floor and with larger items of hardware being stored on wooden pallets. Arrange locksets and keyed cylinders by opening number. Organize the balance of hardware by brand, model of hardware, and hardware set number. Leave the door markings of the hardware visible for installers.
- B. Furnish hardware that is not bulk packed with each unit marked and numbered in accordance with approved finish hardware schedule. Include architect's opening number, hardware set number, and item number for each type of hardware. Include keyset symbols and corresponding hardware component for keyed products.
- C. Pack each item complete with necessary parts and fasteners in manufacturer's original packaging.
- D. Deliver architectural hardware to the job site according to the phasing agreed upon in the pre-installation meeting. Inventory the delivery with the supplier's assistance. Immediately note shortages and damages on the shipping receipts and bill of ladings. Coordinate replacement or repair with the supplier.
- E. Deliver permanent keys, cores, access control credentials, software, and related accessories directly to Owner via registered mail or overnight package service. Establish the instructions for delivery to Owner at "Keying Conference."
- F. Waste Management and Disposal: Separate waste materials for use or recycling in accordance with Division 1.

1.06 WARRANTY

- A. General Warranty: Owner may have under provisions of the Contract Documents and be an addition and run concurrently with other warranties made by Contractor under requirements of the Contract documents.
- B. Special Warranty: Warranties specified in this article will not deprive Owner of other rights.
 - 1. Ten years for manual door closers.
 - 2. Five years for mortise, auxiliary and bored locks.
 - 3. Five years for exit devices.
 - 4. One year for electromechanical door hardware.
 - 5. All access and electrified security equipment and systems will be warranted for a period of one (1) years commencing with the filing date of the Notice of Completion,

Ithaca Fire Station

Door Hardware

618601 087100- 6 provided the system has been inspected and signed off by a factory authorized installer and the factory authorized commissioning agent.

- C. Replace or repair defective products during warranty period in accordance with manufacturer's warranty at no cost to Owner. There is no warranty against defects due to improper installation, abuse, and failure to exercise normal maintenance.
- D. Maintenance Tool and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, removal and replacement of door hardware.

1.07 MAINTENANCE

- A. Furnish a contract for service that will cover the period starting with the first expected activation of each system for installation and test that will continue for an initial period of two (2) years. A partial-year extension will be acquired to cover the period to the end of the two year warranty and will be handled such that a smooth transition to a customer maintenance agreement can be achieved with no lapse in coverage.
- B. Service response time is required to be within 2 hours of the initial request for service; the response may be by phone or remote VPN access into the system. This service should be provided during the warranty period at no added cost. This will be a 24 hour per day, 7 days per week, and inclusive of all holidays.
- C. Service requests will be reported via phone call to a designated service number provided in service contract, or via a service web site or e-mail account as designated by the service contract.

PART 2 – PRODUCTS

2.01 HINGES

- A. Hinges and electric hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by the following:
 - 1. Butts and Hinges: ANSI/BHMA A156.1.
 - 2. Template Hinge Dimensions: ANSI/BHMA A156.7.

C. Butt Hinges:

- 1. Hinge weight and size unless otherwise indicated in hardware sets:
 - a. Doors up to 36" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .134" and a minimum of 4-1/2" in height.
 - b. Doors from 36" wide up to 42" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .145" and a minimum of 4-1/2" in height.

Ithaca Fire Station	618601
Door Hardware	087100- 7

- c. For doors from 42" wide up to 48" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .180" and a minimum of 5" in height.
- d. Doors greater than 1-3/4" thick provide hinges with a minimum thickness of .180" and a minimum of 5" in height.
- e. Width of hinge is to be minimum required to clear surrounding trim.
- 2. Base material unless otherwise indicated in hardware sets:
 - a. Exterior Doors: 304 Stainless Steel, Brass or Bronze material.
 - b. Interior Doors: Steel material.
 - c. Fire Rated Doors: Steel or 304 Stainless Steel materials.
 - d. Stainless Steel ball bearing hinges to have stainless steel ball bearings. Steel ball bearings are unacceptable.
- 3. Quantity of hinges per door unless otherwise stated in hardware sets:
 - a. Doors up to 60" in height provide 2 hinges.
 - b. Doors 60" up to 90" in height provide 3 hinges.
 - c. Doors 90" up to 120" in height provide 4 hinges.
- 4. Hinge design and options unless otherwise indicated in hardware sets:
 - a. Hinges are to be of a square corner five-knuckle design, flat button tips and have ball bearings unless otherwise indicated in hardware sets.
 - b. Out-swinging exterior and out-swinging access controlled doors are required to have Non-Removable Pins (NRP) to prevent removal of pin while door is in closed position.
 - c. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
 - d. Electric Through-Wire (ETW) to have appropriate number of wires to transfer power through door frame to door for proper connection of finish hardware and certified to handle an amperage rating of 3.5AMPS/continuous duty with 16.0AMPS/intermittent duty.
 - e. Provide mortar boxes for frames that require any electrically modified hinges if not an integral part of frame.
 - f. When shims are necessary to correct frame or door irregularities, provide metal shims only.
- 5. Acceptable Manufacturers:

Hager
Bommer
McKinney

2.02 CONTINUOUS HINGES

- A. Continuous hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by ANSI/BHMA A156.26 Grade 1.

Ithaca Fire Station	618601
Door Hardware	087100- 8

- C. Continuous Geared Hinges:
 - 1. Determine model number by door and frame application, door thickness, frequency of use, and fire rating requirements according to manufacturer's recommendations.
 - a. Size length of hinge to equal the actual door height unless otherwise stated in hardware sets.
- D. Material and Design:
 - 1. Base material: Anodized aluminum manufactured from 6063-T6 material, unexposed working metal surfaces be coated with TFE dry lubricant.
 - 2. Bearings:
 - a. Vertical loads be carried on Lubriloy RL bearings for non-fire rated doors.
 - b. Continuous hinges are to have a minimum spacing between bearings of 2-9/16". Typical door from 80" to 84" in height to have a minimum of 32 bearings.
 - 3. Options:
 - a. Provide factory-cut preparations for concealed electric power transfers.
 - b. Hinges to have Rounded Back Cover Channel (RBCC).
 - c. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
 - d. At fire rated openings provide hinges that carry a UL certification, up to and including 90-minute applications for wood doors and up to 3-hour applications for metal doors.

E. Acceptable Manufacturers:

	Heavy Duty
Hager	780-111HD/780-112HD
Bommer	
Zero	

2.03 FLUSH BOLTS

- A. Flush bolts of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer to be listed by the following: Auxiliary Hardware: ANSI/BHMI A156.16.
- C. Non-Labeled openings: Provide two flush bolts for inactive leaf of pairs of doors per hardware schedule. Provide extension rods so that the center line of the top flush bolt is not more than 78" above the finish floor. Provide dust proof strike from bottom bolt.

D. Acceptable Manufacturers:

	Manual Flush Bolt	Dust Proof Strike
Hager	282D	280X
Rockwood		
Trimco		

Ithaca Fire Station

Door Hardware

2.04 ELECTRIC STRIKES

- A. Provide for use with type of locks shown on hardware schedule.
- B. Products to be certified and listed by the following:
 - 1. ANSI/BHMA A156.31 Electric Strikes and Frame Mounted Actuators Grade 1.
 - 2. UL Tested 1500 lb. static strength.
 - 3. UL listed for Fire Doors and Frames where applicable.
 - 4. UL 1034 Burglary Resistance.
 - 5. UL 10C.3H fire-rated, 4' x 8' door.

C. Material and Design:

- 1. To accept up to 3/4" latch bolt and 1" deadbolt.
- 2. Field reversible, Fail Safe or Fail Secure.
- 3. Dual voltage 12/24 VDC.
- 4. Tamper resistant, stainless steel corrosion resistance parts, and cast body and keeper.

D. Options:

- 1. Latch Bolt Monitoring (LBM) Signals the door is closed and latched or unlatched and open.
- 2. Door Secure Monitor (DSM) Door secure and unlocked monitoring.
- 3. Deadbolt Monitoring (DBM) Signals deadbolt projected or retracted.
- 4. Plug in buzzer (BUZZ) Indicates Fail Secure strike is energized and unlocked.
- 5. Rectified (RECT) Converts AC to DC.

E. Acceptable Manufacturers:

Hager	2930 Series
SDC	
RCI	

2.05 LOCKS AND LATCHES

- A. Locks and latches of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Product to be certified and listed by following:
 - 1. ANSI/BHMA A156.2 Series 4000 Certified to Grade 1.
 - 2. UL/cUL Labeled and listed for functions up to 3 hours for single doors up to 48" in width and up to 96" in height.
 - 3. UL10C/UBC 7-2 Positive Pressure Rated.
 - 4. ICC/ANSI A1117.1
- C. Lock and latch function numbers and descriptions of manufacturer's series as listed in hardware sets.

Ithaca Fire Station	618601
Door Hardware	087100- 10

D. Material and Design:

- 1. Lock and latch chassis to be zinc dichromate for corrosion resistance.
- 2. Keyed functions to be of a freewheeling design to help resist against vandalism.
- 3. Non-handed, field reversible.
- 4. Thru-bolt mounting with no exposed screws.
- 5. Levers, zinc cast and plated to match finished designation in hardware sets.
- 6. Roses wrought brass or stainless steel material.
- E. Latch and Strike:
 - 1. Stainless Steel latch bolt with minimum of 1/2" throw and deadlocking for keyed and exterior functions. Provide 3/4" latch bolt for pairs of fire-rated doors where required by door manufacturer. Standard backset to be 2-3/4" and adjustable faceplate to accommodate a square edge door or a standard 1/8" beveled edge door.
 - 2. Strike is to fit a standard ANSI A115 prep measuring 1-1/4" x 4-7/8" with proper lip length to protect surrounding trim.
- F. Options:
 - 1. Provide knurled levers on entry side of doors that are potentially dangerous to visually impaired persons.
- G. Electric Locks:
 - 1. Fail-Safe (power locks lever) outside trim is locked when power is applied and unlocked when power is removed. Lockset will unlock in the event of a power failure (EL).
 - 2. Fail-Secure (power unlocks lever) outside trim is locked when there is no power and unlocked when power is applied. Lockset will be locked in the event of a power failure (EU).

H. Acceptable manufacturers:

Hager	3400 Series
Schlage	
Best	

2.06 LOCKS AND LATCHES

- A. Locks and latches of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Product to be certified and listed by following:
 - 1. ANSI/BHMA A156.13 Series 1000 Certified to Grade 1 for Operational and Security.
 - 2. UL/cUL Labeled and listed up to 3 hours for single doors up to 48" in width and up to 96" in height.
 - 3. UL10C/UBC 7-2 Positive Pressure Rated.
 - 4. ICC/ANSI A117.1.

Ithaca Fire Station

Door Hardware

- C. Lock and latch function numbers and descriptions of manufacturer's series as listed in hardware sets.
- D. Material and Design:
 - 1. Lock cases from fully wrapped, 12 gauge steel, zinc dichromate for corrosion resistance.
 - 2. Non-handed, field reversible without opening lock case.
 - 3. Break-away spindles to prevent unlocking during forced entry or vandalism.
 - 4. Levers, zinc cast, forged brass or stainless steel and plated to match finish designation in hardware sets.
 - 5. Sectional Roses, solid brass or stainless steel material and have a minimum diameter of 2-7/16".
 - 6. Armor fronts, self-adjusting to accommodate a square edge door or a standard 1/8" beveled edge door.
- E. Latch and Strike:
 - 1. Stainless steel latch bolt with minimum of 3/4" throw and deadlocking for keyed and exterior functions.
 - 2. Strike is to fit a standard ANSI A115 prep measuring 1-1/4" x 4-7/8" with proper lip length to protect surrounding trim.
 - 3. Deadbolts to be 1-3/4" total length with a minimum of a 1" throw and 3/4" internal engagement when fully extended and made of stainless steel material.
- F. Options:
 - 1. Provide knurled levers on entry side of doors that are potentially dangerous to visually impaired persons.
- G. Acceptable Manufacturers:

Hager	3800 Series
Best	
Sargent	

2.07 EXIT DEVICES

- A. Exit Devices of one manufacturer as listed for continuity of design and consideration of warranty. Touchpad type, finish to match balance of door hardware.
- B. Standards: Manufacturer to be certified and/or listed by the following:
 - 1. BHMA Certified ANSI A156.3 Grade 1.
 - 2. UL/cUL Listed for up to 3 hours for "A" labeled doors.
 - 3. UL10C/UBC 7-2 Positive Pressure Rated.
 - 4. UL10B Neutral Pressure Rated.
 - 5. UL 305 Listed for Panic Hardware.

Ithaca Fire Station

Door Hardware
- C. Material and Design:
 - 1. Provide exit devices with actuators that extend a minimum of one-half of door width.
 - 2. Where trim is indicated in hardware sets provide the lever design to match design of lock levers.
 - 3. Exit device to mount flush with door.
 - 4. Latchbolts:
 - a. Rim device -3/4" throw, Pullman type with automatic dead-latching, stainless steel
 - 5. Fasteners: Wood screws, machine screws, and thru-bolts.
- D. Lock and Latch Functions: Function numbers and descriptions of manufacturer's series and lever styles indicated in door hardware sets.
- E. Acceptable Manufactures:

Hager	4500 Series
Von Duprin	
Sargent	

- F. Electric Modifications:
 - 1. Motorized Latch Retraction (MLR): An electric motor retracts the latch bolt for momentary or maintained periods of time.

2.08 CYLINDERS AND KEYING

- A. Cylinders of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
 - 1. Auxiliary Locks: ANSI/BHMA A156.5
- C. Cylinders:
 - 1. Provide cylinders matched to the types required for hardware that has a locking function and for keyed electronic functions. Furnish with appropriate collars, cams, and tailpieces to fit and operate associated hardware. Stacking collars is not acceptable, a single collar of proper size is required.
 - 2. Manufacturer's small format interchangeable core (SFIC).
 - 3. Provide concealed key control (CKC) at cylinder by stamping or permanently marking the keyset symbol in a location on the cylinder that is concealed when installed.

D. Keying:

- 1. Key into Owner's existing key system.
- 2. Provide a bitting list to Owner of combinations as established, and expand to twentyfive percent for future use or as directed by Owner.

Ithaca Fire Station	618601
Door Hardware	087100- 13

- a. Include all of the keysets and bittings of the original key system creating one clean version of the entire key system.
- 3. Keys to be shipped directly to the Owner's Representative as established during the keying conference.
 - a. Package the keys in individual envelopes, grouped by keyset symbol, and label envelopes with project name, factory registry number, and keyset symbol.
- 4. Stamp large bow key blanks with visual key control (keyset symbol) and "Do Not Duplicate".
- 5. Provide interchangeable cores with construction cores as required per the keying meeting.

E. Acceptable Manufacturers:

lager	
chlage	
lest	

2.09 PUSH/PULL PLATES AND BARS

- A. Push/Pull plates and bars of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer to be certified by the following:
 - 1. Architectural Door Trim: ANSI/BHMA A156.6.
 - 2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
- C. Push plates: .050" thick, square corner and beveled edges with countersunk screw holes. Width and height as stated in hardware sets.

D. Acceptable Manufacturers:

Hager	30S
Rockwood	
Trimco	

E. Pull Plates: .050" thick, square corner and beveled edges. Width and height as stated in hardware sets, 1" diameter pull, with clearance of 2-1/2" from face of door.

F. Acceptable Manufacturers:

Hager	H34J
Rockwood	
Trimco	

G. Pull Bar: 1" round bar stock with 2 - 1/2" clearances from face of door.

Ithaca Fire Station	618601
Door Hardware	087100- 14

H. Acceptable Manufacturers:

Hager	Н12Ј
Rockwood	
Trimco	

2.10 CLOSERS

A. Closers of one manufacturer as listed for continuity of design and consideration of warranty. Unless otherwise indicated on hardware schedule, comply with manufacturer's recommendations for size of closer, depending on width of door, frequency of use, atmospheric pressure, ADAAG requirements, and fire rating.

B. Standards: Manufacturer to be certified by the following:

- 1. BHMA Certified ANSI A156.4 Grade 1.
- 2. ADA Complaint ANSI A117.1.
- 3. UL/cUL Listed up to 3 hours.
- 4. UL10C Positive Pressure Rated.
- 5. UL10B Neutral Pressure Rated.
- C. Material and Design:
 - 1. Provide aluminum non-handed bodies with full plastic covers.
 - 2. Closers will have separate staked adjustable valve screws for latch speed, sweep speed, and backcheck.
 - 3. Provide Tri-Pack arms and brackets for regular arm, top jamb, and parallel arm mounting.
 - 4. Double heat-treated steel, tempered springs.
 - 5. Precision machined heat-treated steel piston.
 - 6. Triple heat-treated steel spindle.
 - 7. Full rack and pinion operation.

D. Mounting:

- 1. Out-swing doors surface parallel arm mount closers except where noted on hardware schedule.
- 2. In-swing doors surface regular arm mount closers except where noted on hardware schedule.
- 3. Provide brackets and shoe supports for aluminum doors and frames to mount fifth screw.
- 4. Furnish drop plates where top rail conditions on door do not allow for mounting of closer and where backside of closer is exposed through glass.
- E. Size closers in compliance with requirements for accessibility (ADAAG). Comply with following maximum opening force requirements.
 - 1. Interior hinged openings: 5.0 lbs.
 - 2. Fire-rated and exterior openings are to be adjusted to have minimum opening force allowable by authority having jurisdiction.

Ithaca Fire Station

Door Hardware

- F. Fasteners: Provide self-reaming, self-tapping wood and machine screws, and sex nuts and bolts for each closer.
- G. Acceptable manufacturers:

Hager	5200 Series
Norton	
Sargent	

2.11 LOW ENERGY POWER OPERATORS

- A. Low energy power operators of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
 - 1. Power Assist and Low Energy Power Operated Doors: ANSI/BHMA A156.19.
 - 2. ADA Complaint ANSI A117.1.
- C. Materials and Design:
 - 1. Self-contained electrical control unit, including necessary transformers, relays, rectifiers, and other electronic components for proper operation, switching and control of door up to 350 lbs. and also include time delay for normal cycle.
 - 2. On pairs of doors, either door to be opened manually without the other door opening.
 - 3. Operates as a mechanical closer if power is disconnected. Forces consistent with ANSI A117.1 and ANSI A156.19.
 - 4. Provide delay switches for motor activation, exit device latch retraction interfacing and hold open times. Hold open times to be adjustable from 1 second to continuous seconds.
 - 5. Adjustable vestibule sequencing input for operation of two or more units. Specify 2-659-0240.
 - 6. Adjustable powered swing degree from 80 degrees to 110 degrees.
 - 7. Integral obstruction detection for closing and opening cycle.
 - 8. Adjustable built-in stop, set from 80 degrees maximum to 180 degrees manual swing.
 - 9. When in "blow open" operation for smoke ventilation, operator will stay in the open position when loss of power.
 - 10. Boost to close selectable on/off switch.
- D. Signage: Provide signage in according to the requirements of ANSI/BHMA A156.19.

E. Acceptable Manufacturers:

Hager	8300 Series
LCN	
Norton	

F. Actuators:

Ithaca	Fire	Station

- 1. Opening cycle activated by pressing switches with international symbol of accessibility and "PUSH TO OPEN" engraved on faceplate.
- 2. Switches installed in standard 2-gang electrical wall box and placed in a location in compliance with ANSI A117.1.
- 3. Wireless actuators optional.
- 4. Provide bollards as required where a suitable wall mount is not possible.

G. Acceptable Manufacturers:

Hager	
MS Sedco	
SDC	

2.12 PROTECTIVE TRIM

- A. Protective trim of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Size of protection plate: single doors, size two inches less door width (LDW) on push side of door, and one inch less door width on pull side of door. For pairs of doors, size one inch less door width (LDW) on push side of door, and 1/2 inch on pull side of door. Adjust sizes to accommodate accompanying hardware, such as, edge guards, astragals and others.
 - 1. Kick Plates 10" high or sized to door bottom rail height.
 - 2. Mop Plates 4" high.
- C. Products to be certified and listed by the following:
 - 1. Architectural Door Trim: ANSI/BHMA A156.6.
 - 2. UL.
- D. Material and Design:
 - 1. 0.050" gage stainless steel.
 - 2. Corners square, polishing lines or dominant direction of surface pattern so they run across door width of plate.
 - 3. Bevel top, bottom, and sides uniformly leaving no sharp edges.
 - 4. Countersink holes for screws. Space screw holes so they are no more than eight inches CTC, along a centerline not over 1/2" in from edge around plate. End screws maximum of 0.53" from corners.
- E. UL label stamp required on protection plates when top of plate is more than 16 inches above bottom of door on fire rated openings. Verify door manufacturer's UL listing for maximum height and width of protection plate to be used.

F. Acceptable Manufacturers:

Hager	190S
Trimco	

Ithaca Fire Station

Door Hardware

618601

	Burns	
--	-------	--

2.13 STOPS

- A. Stops of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Wall Stops: Provide door stops wherever necessary to prevent door or hardware from striking an adjacent partition or obstruction. Provide wall stops when possible. Door stops and holders mounted in concrete floor or masonry walls have stainless steel machine screws and lead expansion shields.
- C. Products to be certified and listed by the following: 1. Auxiliary Hardware: ANSI/BHMA A156.16.

D. Acceptable Manufacturers:

	Convex	Concave
Hager	232W	236W
Rockwood		
Burns		

- E. Overhead Stops and Holders: Provide overhead stops and holders for doors that open against equipment, casework sidelights and other objects that would make wall stops/holders and floor stops/holders inappropriate. Provide sex bolt attachments for mineral core wood door applications.
- F. Products to be certified and listed by the following:
 - 1. Overhead Stops and Holders: ANSI/BHMA A156.8 Grade 1.
- G. Acceptable Manufacturers:

	Heavy Duty Surface
Hager	7000 SRF Series
Glynn Johnson	
Sargent	

2.14 POWER TRANSFER

- A. Power transfer of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
 - 1. UL Listed Miscellaneous Fire Door Accessories.
 - 2. UL 10C Listed for up to 3 hours on fire-rated doors and frames.
 - 3. Classified according to Uniform Building Code (UBC) Standard 7-2, Fire Test of Door Assemblies (1997).

Ithaca Fire Station

Door Hardware

618601

087100-18

C. Design:

- 1. Stainless steel tubular wire transfer and cast housing with steel back boxes to provide weather and tamper resistance when door is open or closed.
- 2. Mortise door and frame installation
- 3. Two 18 ga wires, 5 amps @ 12/24 VAC/DC.

D. Acceptable Manufacturers:

	10 conductor
Hager	2-679-0623 US28
SDC	

2.15 MODULAR ACCESS CONTROL POWER SUPPLIES

- A. Power supplies of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
 - 1. UL Listed.

C. Design:

- 1. Use with modular access control systems.
- 2. Field selectable filtered and regulated 12 VDC or 24 VDC constant voltage.
- 3. 1, 2, 4, and 6 AMP load capacities . Match the power supply amperage to the total load of the opening /system plus an additional thirty percent to cover line drop, as well as possible expansion.
- 4. Circuit breaker protected AC input voltage; secondary output PTC protected.
- 5. Fire alarm input provides simultaneous release of fail-safe locks and holders.
- 6. Interface relay.
- 7. LED status indicators provide information regarding AC input, DC output, and battery backup status.
- 8. Separate inputs for activation switch on entry and egress and ingress side of opening.
- 9. 5 amp hour battery backup.
- 10. Input 115 VAC (230 VAC optional).
- 11. Optional dual 12 VDC or 24 VDC output.
- 12. Optional power supply monitor module to monitor power supply status, A/C power, and D/C output and battery Status
- D. Include optional modules as required to properly interface, control, and sequence the hardware with the access control system.

E. Acceptable Manufacturer:

Hager 2908 1 Amp

2.16 THRESHOLDS

Ithaca Fire Station

Door Hardware

- A. Thresholds of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Set thresholds for exterior and acoustical openings in full bed of sealant with lead expansion shields and stainless steel machine screws complying with requirements specified in Division 7 Section "Joint Sealants: Notched in field to fit frame by hardware installer. Refer to Drawings for special details.
- C. Standards: Manufacturer to be certified by the following:
 - 1. Thresholds: ANSI/BHMA A156.21.
 - 2. American with Disabilities Act Accessibility Guidelines (ADAAG).
- D. Acceptable Manufacturers:

Hager	4128/4138/5208
K.N. Crowder	
Reese	

2.17 DOOR GASKETING AND WEATHERSTRIP

- A. Door gasketing and weatherstrip of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing where indicated on hardware schedule. Provide noncorrosive fasteners for exterior applications.
 - 1. Perimeter gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting stile gasketing: Fasten to meeting stiles, forming seal when doors are in closed position.
 - 3. Door bottoms: Apply to bottom of door, forming seal with threshold or floor when door is in closed position.
- C. Products to be certified and listed by the following:
 - 1. Door Gasketing and Edge Seal Systems: ANSI/BHMA A156.22.
 - 2. BHMA certified for door sweeps, automatic door bottoms, and adhesive applied gasketing.
- D. Smoke-Labeled Gasketing: Comply with NFPA 105 listed, labeled, and acceptable to Authorities Having Jurisdiction, for smoke control indicated.
 - 1. Provide smoke-labeled gasketing on 20 minute rated doors and on smoke rated doors.
- E. Fire-Rated Gasketing: Comply with NFPA 80 listed, labeled, and acceptable to Authorities Having Jurisdiction, for fire ratings indicated.

Ithaca Fire Station618601Door Hardware087100- 20

- F. Refer to Section 08 1416 Wood Doors for Category A or Category B. Comply with UBC 7-2 and UL10C positive pressure where frame applied intumescent seals are required.
- G. Acceptable Manufacturers:
 - 1. Perimeter Gasketing:

	Stop Applied	Adhesive Applied
Hager	881S	726
K.N. Crowder		
Reese		

2. Automatic Door Bottoms:

Hager	742S
K.N. Crowder	
Reese	

3. Meeting Stile Weatherstrip:

Hager	802SB
K.N. Crowder	
Reese	

4. Overlapping Astragal:

Hager	874SN
K.N. Crowder	
Reese	

5. Door Bottom Sweeps:

Hager	750S / 770SV/780SN
K.N. Crowder	
Reese	

2.18 SILENCERS

- A. Where smoke, light, or weather seal are not required, provide three silencers per single door frame, two per double door frame and four per Dutch door frame.
- B. Products to be certified and listed by the following:
 - 1. Auxiliary Hardware: ANSI/BHMA A156.16

C. Acceptable Manufacturers:

	Hollow Metal Frame
Hager	307D
Rockwood	
Trimco	

Ithaca Fire Station Door Hardware

2.19 KEY CABINET

- A. Provide key cabinet; surface mounted to wall.
- B. Key control system:
 - 1. Include two sets of key tags, hooks, labels, and envelopes.
 - 2. Contain system in metal cabinet with baked enamel finish.
 - 3. Capacity will be able to hold actual quantities of keys, plus 50 percent.
 - 4. Provide tools, instruction sheets, and accessories required to complete installation.

C. Acceptable Manufacturers:

Lund Equipment
Telkee Incorporated
Key Control

2.20 FINISHES

- A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if within range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved samples.
- B. Comply with base material and finish requirements indicated by ANSI/BHMA A156.18 designations in hardware schedule.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine doors and frames, with Installers present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation. Examine pathway elements intended for cables. Check raceways and other elements for compliance with space allocations, installation tolerances, hazards to cable installation, and other conditions affecting installation.
- C. Examine roughing-in for LAN and control cable conduit systems to PCs, controllers, card readers, and other cable-connected devices to verify actual locations of conduit and back boxes before device installation.
- D. Notify Architect via a prepared written report and endorsed by Installer of any discrepancies between the door schedule, door types, drawings, and scheduled hardware.

Ithaca Fire Station Door Hardware

618601 087100- 22 Report will have a list of conditions detrimental to application, to the proper and timely completion of the work and performance of the hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 INSTALLATION

- A. Install hardware using manufactures recommended fasteners and installation instructions, at height locations and clearance tolerances that comply with:
 - 1. NFPA 80
 - 2. NFPA 105
 - 3. ICC/ANSI A117.1
 - 4. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames.
 - 5. DHI Publication Installation Guide for Doors and Hardware
 - 6. Approved shop drawings
 - 7. Approved finish hardware schedule
- B. Install soffit mounted gaskets prior other soffit mounted hardware to provide a continuous seal around the perimeter of the opening without cutting or notching.
- C. Install door closers so they are on the interior of the room side of the door. Stairwell doors will have closers mounted on the stair side and exterior doors will be mounted on the interior side of the building.
- D. In drywall applications provide blocking material of sufficient type and size for hardware items that mount directly to the wall.
- E. Locate wall mounted bumper to contact the trim of the operating trim.
- F. Mount mop and kick plates flush with the bottom of the door and centered horizontally on the door.
- G. Set thresholds for exterior, and acoustical doors at sound control openings in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants" forming a tight seal between threshold and surface to which set.
- H. Anchor all components firmly into position and use anchoring devices furnished with the hardware item, unless otherwise specified.
- I. Do not install surface mounted items until finishes have been completed on substrates involved. Set unit level, plumb and true to line location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- J. Power Supplies: locate power supplies as indicated and verified in the low-voltage coordination meeting.

Ithaca Fire Station	618601
Door Hardware	087100- 23

- K. Install cables and wiring according to requirements in Division 28 Section "Conductors and Cables for Electronic Safety and Security" and with Division 26 Section "Grounding and Bonding for Electrical Systems." Cable installation shall comply with NECA 1, "Good Workmanship in Electrical Contracting" EIA/TIA-569, "Commercial Building Standard for Telecommunications Pathways and Spaces."
 - 1. Card Readers and Keypads: Install number of conductor pairs recommended by manufacturer for the functions specified.
 - 2. Electromechanical Hardware: Install appropriate number of conductor pairs, in the wire gage (AWG) recommended by manufacturer, corresponding to the electronic locking functions specified, amperage drawn and distances covered between the power supplies, transfer hinges, electrified hardware and access control equipment.
 - 3. Wiring color to be distinct and specific to the system. Coordinate cable colors with all other vendors to ensure color is not duplicated.
 - 4. Install wiring in raceway and cable tray except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method may be used. Use NRTL-listed plenum cable in environmental air spaces, including plenum ceilings. Conceal raceway and cables except in unfinished spaces.
 - 5. Install LAN cables using techniques, practices, and methods that are consistent with Category 5E rating of components and that ensure Category 5E performance of completed and linked signal paths, end to end.
 - 6. Install cables without damaging conductors, shield, or jacket.
 - 7. Boxes and enclosures containing security system components or cabling, and which are easily accessible to employees or to the public, shall be provided with a lock. Boxes above ceiling level in occupied areas of the building will not be considered to be accessible. Junction boxes and small device enclosures below ceiling level and easily accessible to employees or the public will be covered with a suitable cover plate and secured with tamperproof screws.
- L. Final connection of the system control switches (readers, keypads), monitoring, and signaling equipment to the related Controller devices at each opening to properly operate the installed electromechanical door hardware according to operational narratives.
- M. System Software: Install, and test software and databases for the complete and proper operation of systems involved. Assign software license(s) to Owner.

3.03 FIELD QUALITY CONTROL

A. Material supplier to schedule final walk through to inspect hardware installation ten (10) business days before final acceptance of Owner. Material supplier will provide a written report detailing discrepancies of each opening to General Contractor within seven (7) calendar days of walk through.

B. Engage an access and security factory-authorized representative to inspect, test, and adjust field-assembled components, system and equipment installation, including connections, and to assist in field testing. Report results in writing.

3.04 ADJUSTMENT, CLEANING, AND DEMONSTRATING

- A. Adjustment: Adjust and check each opening to ensure proper operation of each item of finish hardware. Replace items that cannot be adjusted to operate freely and smoothly or as intended for application at no cost to Owner.
- B. Cleaning: Clean adjacent surfaces soiled by hardware installation. Clean finish hardware per manufacturer's instructions after final adjustments have been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no cost to Owner.
- C. Conduct a training class for building maintenance personnel demonstrating the adjustment, operation of mechanical and electrical hardware. Special tools for finish hardware to be turned over and explained usage at the meeting. Record all training and provide to the Owner for future reference.
- D. Demonstrate the functionality of the Access and Security System upon completion of installation, documenting the result of all tests and providing these results to the Owner. The Access and Security System will be tested in accordance with the following and by a factory authorized representative:
 - 1. Test and verify operation with connected equipment and network infrastructure.
 - 2. Test all devices and all operational features of the system for witness by the Owner's representative.
 - 3. Develop training modules for: system administration personnel to manage and repair the LAN and databases and to update and maintain system and database software, computer operators who prepare and input credentials/tokens to operate workstation on the system, security personnel and safety personnel.
 - 4. Record all demonstrations and training, provide these to the Owner for future reference.

3.05 PROTECTION

A. Leave manufacturer's protective film intact and provide proper protection for all other finish hardware items that do not have protective material from the manufacture until Owner accepts project as complete.

3.06 HARDWARE SET SCHEDULE

- A. Intent of Hardware Groups
 - 1. Should items of hardware not specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.

Ithaca Fire Station618601Door Hardware087100- 25

- 2. Where items of hardware aren't correctly specified and are required for completion of the Work, a written statement of such omission, error, or other discrepancy is required to be submitted to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.
- B. Guide: Door hardware items have been placed in sets which are intended to be a guide of design, grade, quality, function, operation, performance, exposure, and like characteristics of door hardware, and may not be complete. Provide door hardware required to make each set complete and operational.
- C. Hardware schedule does not reflect handing, backset, method of fastening, and like characteristics of door hardware and door operation.
- D. Review door hardware sets with door types, frames, sizes and details on drawings. Verify suitability and adaptability of items specified in relation to details and surrounding conditions.

3.07 HARDWARE SCHEDULE

Hardware Sets

SET #1

Doors: 101-1

1 Continuous Hinge	780-112HD x LAR x EPT x RBCC	CLR	HA
1 Power Transfer	2-679-0623	ALM	HA
1 Rim Exit Device	4501 RIM MLR	US32D	HA
1 Rim Cylinder	3901SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Offset Door Pull	H 12J	US32D	HA
1 Single Operator	8318 PUSH	ALM	HA
1 Saddle Threshold	413S x LAR	MIL	HA
1 Gasketing	Perimeter gaskets by frame Mfr.		BYOT
1 Door Sweep(s)	750S N x LAR	CLR	HA
1 Card Reader	Provided by access control supplier.		BYOT
1 Actuator	2-659-0358	US32D	HA
1 Power Supply	2908		HA
1 Door Sequencer	2-659-0240		HA
1 Riser Diagram	WIRE/RISER DOCUMENTS		HA

Description of Operation:

The doors are normally closed and unlocked.

Ithaca Fire Station	618601
Door Hardware	087100- 26

Entry with valid credential, either manually or pressing actuator will open the doors. Pressing exterior actuator will open

the exterior door and after a brief delay the vestibule door will open.

Free egress always, either manually or pressing actuator will open doors.

Upon loss of power the doors will close and lock.

SET #2

Doors: 101-2

1	Continuous Hinge	780-112HD x LAR x RBCC	CLR	HA
1	Dummy Push Pad	4501 DMY	US32D	HA
1	Offset Door Pull	Н 12Ј	US32D	HA
1	Single Operator	8318 PUSH	ALM	HA
1	Gasketing	Perimeter gaskets by frame Mfr.		BYOT
1	Actuator	2-659-0242	US32D	HA
1	Actuator	2-659-0358	US32D	HA
1	Riser Diagram	WIRE/RISER DOCUMENTS		HA

Description of Operation:

The door is normally closed and unlocked.

Free entry and egress is allowed, either manually or pressing actuator will open the door.

Pressing interior actuator will

open the vestibule door and after a brief delay the exterior door will open.

Upon loss of power the operator is disabled.

SET #3

Doors: 113-2

1 C	Continuous Hinge	780-112HD x LAR x EPT x RBCC	CLR	HA
1 P	ower Transfer	2-679-0623	ALM	HA
1 R	im Exit Device	4501 RIM MLR	US32D	HA
1 E	xit Trim	45NL WTN	US26D	HA
1 R	im Cylinder	3901 SFIC	US26D	HA
1 IC	C Core	MATCH EXISTING	US26D	BE
1 C	loser	5200 HDCS	ALM	HA
1 S	addle Threshold	413S x LAR	MIL	HA
1 G	asketing	Perimeter gaskets by frame Mfr.		BYOT
1 D	Door Sweep(s)	750S N x LAR	CLR	HA
1 C	ard Reader	Provided by access control supplier.		BYOT
1 P	ower Supply	2908		HA
1 R	iser Diagram	WIRE/RISER DOCUMENTS		HA

Ithaca Fire Station	618601
Door Hardware	087100-27

SET #4

Doors: 117-1

780-111HD x LAR x EPT PREP x RBCC	CLR	HA
2-679-0623	ALM	HA
4501 RIM MLR	US32D	HA
45NL WTN	US26D	HA
3901 SFIC	US26D	HA
MATCH EXISTING	US26D	BE
5200 HDCS	ALM	HA
190S 10" x 2" LDW	US32D	HA
520S N x LAR	MIL	HA
881S N x LAR	MIL	HA
770S V x LAR	MIL	HA
Provided by access control supplier.		BYOT
2908		HA
WIRE/RISER DOCUMENTS		HA
	780-111HD x LAR x EPT PREP x RBCC 2-679-0623 4501 RIM MLR 45NL WTN 3901 SFIC MATCH EXISTING 5200 HDCS 190S 10" x 2" LDW 520S N x LAR 881S N x LAR 770S V x LAR Provided by access control supplier. 2908 WIRE/RISER DOCUMENTS	780-111HD x LAR x EPT PREP x RBCCCLR2-679-0623ALM4501 RIM MLRUS32D45NL WTNUS26D3901 SFICUS26DMATCH EXISTINGUS26D5200 HDCSALM190S 10" x 2" LDWUS32D520S N x LARMIL881S N x LARMIL770S V x LARMILProvided by access control supplier.2908WIRE/RISER DOCUMENTSUS26D

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked.

SET #5

Doors: 226-1

BB1279 5 X 4 1/2 NRP	US26D	HA
BB1279 5 X 4 1/2 ETW	US26D	HA
3480ELEU WTN SFIC	US26D	HA
MATCH EXISTING	US26D	BE
5200	ALM	HA
190S 10" x 2" LDW	US32D	HA
232W	US32D	HA
412S x LAR	MIL	HA
726 x LAR	S	HA
780S N x LAR	MIL	HA
Provided by access control supplier.		BYOT
2908		HA
	618601	
	BB1279 5 X 4 1/2 NRP BB1279 5 X 4 1/2 ETW 3480ELEU WTN SFIC MATCH EXISTING 5200 190S 10" x 2" LDW 232W 412S x LAR 726 x LAR 780S N x LAR Provided by access control supplier. 2908	$\begin{array}{llllllllllllllllllllllllllllllllllll$

- - - - -

087100-28

Door Hardware

SET #6

Doors: 201-1

5	Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1	Hinge	BB1279 4 1/2 X 4 1/2 ETW	US26D	HA
1	Set Manual Flush Bolt	282D	US26D	HA
1	Dust Proof Strike	280X	US26D	HA
1	Lockset	3480ELEU WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200 HD	ALM	HA
		*Active leaf		
2	Kick Plate	190S 10" x 2" LDW	US32D	HA
2	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA
2	Astragal	802S B x LAR	MIL	HA
1	Card Reader	Provided by access control supplier.	BYOT	
1	Power Supply	2908		HA
1	Riser Diagram	WIRE/RISER DOCUMENTS		HA

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked.

SET #7

Doors: 103-2, 111-1

3 Hinge(s)	BB1168 4 1/2 X 4 1/2 NRP	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Electric Strike	2930 CYL	US32D	HA
1 Closer	5200 HDCS	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Seal	726 x LAR	S	HA
1 Card Reader	Provided by access control supplier.		BYOT
Ithaca Fire Station		618601	
Door Hardware		087100-29	

1	Power Supply	2908
1	Riser Diagram	WIRE/RISER DOCUMENTS

SET #8

Doors: 108-1, 211-1

nge(s)	BB1168 4 1/2 X 4 1/2 NRP	US26D	HA
preroom Lock	3480 WTN SFIC	US26D	HA
Core	MATCH EXISTING	US26D	BE
ectric Strike	2930 CYL	US32D	HA
oser	5200 HD	ALM	HA
ck Plate	190S 10" x 2" LDW	US32D	HA
all Stop(s)	232W	US32D	HA
al	726 x LAR	S	HA
rd Reader	Provided by access control supplier.		BYOT
wer Supply	2908		HA
ser Diagram	WIRE/RISER DOCUMENTS		HA
	nge(s) oreroom Lock Core ectric Strike oser ck Plate all Stop(s) al rd Reader wer Supply ser Diagram	nge(s)BB1168 4 1/2 X 4 1/2 NRPbreroom Lock3480 WTN SFICCoreMATCH EXISTINGectric Strike2930 CYLbser5200 HDck Plate190S 10" x 2" LDWall Stop(s)232Wal726 x LARrd ReaderProvided by access control supplier.wer Supply2908ser DiagramWIRE/RISER DOCUMENTS	nge(s)BB1168 4 1/2 X 4 1/2 NRPUS26Doreroom Lock3480 WTN SFICUS26DCoreMATCH EXISTINGUS26Dectric Strike2930 CYLUS32Doser5200 HDALMck Plate190S 10" x 2" LDWUS32Dall Stop(s)232WUS32Dal726 x LARSrd ReaderProvided by access control supplier.wer Supply2908ser DiagramWIRE/RISER DOCUMENTS

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked. SET #9

Doors: 113-1

3 Hinge(s)	BB1168 4 1/2 X 4 1/2 NRP	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Electric Strike	2930 CYL	US32D	HA
1 Closer	5200	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA
1 Card Reader	Provided by access control supplier.		BYOT
1 Power Supply	2908		HA
1 Riser Diagram	WIRE/RISER DOCUMENTS		HA

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked.

SET #10

Doors: 104-1

3 Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Electric Strike	2930 CYL	US32D	HA
1 Closer	5200 TRK NHOTA	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Seal	726 x LAR	S	HA
1 Card Reader	Provided by access control supplier.		BYOT
1 Power Supply	2908		HA
1 Riser Diagram	WIRE/RISER DOCUMENTS		HA

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked.

SET #11

Doors: 206-1

Ithaca Fire Station

Door Hardware

3	Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1	Storeroom Lock	3480 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Electric Strike	2930 CYL	US32D	HA
1	Closer	5200 HD	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA
1	Card Reader	Provided by access control supplier.		BYOT
1	Power Supply	2908		HA
1	Riser Diagram	WIRE/RISER DOCUMENTS		HA

SET #12

Doors: 112-1, 115-1, 120-1, 126.1

3	Hinge	BB1279 5 X 4 1/2	US26D	HA
1	Storeroom Lock	3480 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #13

Doors: 118-1, 216-1

3	Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1	Storeroom Lock	3480 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200 TRK NHOTA	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Seal	726 x LAR	S	HA

SET #14

Doors: 209-1

3 Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
Ithaca Fire Station		618601	
Door Hardware		087100- 32	

1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Closer	5200	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA

SET #15

Doors: 224-1

3 Hinge(s)		BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1 Storeroor	n Lock	3480 WTN SFIC	US26D	HA
1 IC Core		MATCH EXISTING	US26D	BE
1 Closer		5200 HDCS	ALM	HA
1 Kick Plat	e	190S 10" x 2" LDW	US32D	HA
1 Seal		726 x LAR	S	HA

SET #16

Doors: 119-1

2	Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1	Storeroom Lock	3480 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Overhead Stop	7016 SRF	US32D	HA
1	Seal	726 x LAR	S	HA

SET #17

Doors: 121-1

6 Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1 Set Manual Flush Bolt	282D	US26D	HA
1 Dust Proof Strike	280X	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Closer	5200 TRK NHOTA	ALM	HA
	*Active leaf		
2 Kick Plate	190S 10" x 2" LDW	US32D	HA
2 Hinge Pin Stop	1512	CP	DJ
	*Inactive leaf		
1 Seal	726 x LAR	S	HA
2 Astragal	802S B x LAR	MIL	HA

Ithaca Fire Station	618601
Door Hardware	087100-33

Doors: 204-1

6 Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1 Set Manual Flush Bolt	282D	US26D	HA
1 Dust Proof Strike	280X	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Closer	5200 HDCS	ALM	HA
	*Active leaf		
2 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
	*Inactive leaf		
1 Seal	726 x LAR	S	HA
2 Astragal	802S B x LAR	MIL	HA

SET #19

Doors: 225-1

6 Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1 Set Manual Flush Bolt	282D	US26D	HA
1 Dust Proof Strike	280X	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
1 Closer	5200 HDCS	ALM	HA
	*Active leaf		
2 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
	*Inactive leaf		
1 Saddle Threshold	412S x LAR	MIL	HA
1 Seal	726 x LAR	S	HA
2 Door Bottom	780S N x LAR	MIL	HA
1 Astragal	874S N x LAR	MIL	HA

SET #20

Doors: 122-1

6 Hinge(s)	BB1279 4 1/2 x 4 1/2 NRP	US26D	HA
1 Set Manual Flush Bolt	282D	US26D	HA
1 Dust Proof Strike	280X	US26D	HA
1 Storeroom Lock	3480 WTN SFIC	US26D	HA
1 IC Core	MATCH EXISTING	US26D	BE
Ithaca Fire Station		618601	
Door Hardware		087100-34	

Overhead Stop	7016 SRF	US32D	HA
	*Inactive leaf		
Closer	5200 HDCS	ALM	HA
	*Active leaf		
Kick Plate	190S 10" x 2" LDW	US32D	HA
Seal	726 x LAR	S	HA
Astragal	874S N x LAR	MIL	HA
	Overhead Stop Closer Kick Plate Seal Astragal	Overhead Stop7016 SRF *Inactive leafCloser5200 HDCS *Active leafKick Plate190S 10" x 2" LDWSeal726 x LARAstragal874S N x LAR	Overhead Stop7016 SRF *Inactive leafUS32DCloser5200 HDCS *Active leafALM*Active leafUS32DKick Plate190S 10" x 2" LDWUS32DSeal726 x LARSAstragal874S N x LARMIL

SET #21

Doors: 123-1

3	Hinge(s)	BB1168 5 X 4 1/2	US26D	HA
1	Classroom Lock	3470 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #22

Doors: 110-1, 203-1

3	Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1	Classroom Lock	3470 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200 TRK NHOTA	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Seal	726 x LAR	S	HA

Doors: 103-1

3	Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1	Classroom Lock	3470 WTN SFIC	US26D	HA
1	IC Core	MATCH EXISTING	US26D	BE
1	Closer	5200	ALM	HA
1	Kick Plate(s)	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #24

Doors: 114-1, 116-1, 212-1, 213-1, 214-1

3	Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1	Privacy w/ Indicator	3896 SECT WTN ADA Turn	US26D	HA
1	Closer	5200	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Mop Plate	190S 4" x 1" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #25

Doors: 205-1

1 Privacy w/ Indicator3896 SECT WTN ADA TurnUS26D1 Closer5200 TRK NHOTAALM	HA
1 Closer 5200 TRK NHOTA ALM	HA
	HA
1 Kick Plate 190S 10" x 2" LDW US32D	HA
1 Mop Plate 190S 4" x 1" LDW US32D	HA
1 Seal 726 x LAR S	HA

SET #26

Doors: 217-1, 218-1, 219-1, 220-1, 221-1, 222-1

3 Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1 Privacy Latch	3440 WTN	US26D	HA
1 Closer	5200 HD	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA
Ithaca Fire Station		618601	
Door Hardware		087100-36	

Doors: 106-1

3 Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1 Passage Set	3410 WTN	US26D	HA
1 Closer	5200 HD	ALM	HA
1 Kick Plate(s)	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA

SET #28

Doors: 106-2, 113-3

3 Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1 Passage Set	3410 WTN	US26D	HA
1 Closer	5200	ALM	HA
1 Kick Plate(s)	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA

SET #29

Doors: 210-1

3 Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1 Passage Set	3410 WTN	US26D	HA
1 Closer	5200	ALM	HA
1 Kick Plate(s)	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA

SET #30

Doors: 206A-1, 206B-1

3 Hinge(s)	BB1279 4 1/2 X 4 1/2	US26D	HA
1 Passage Set	3410 WTN	US26D	HA
1 Overhead Stop	7016 SRF	US32D	HA
3 Silencer(s)	307D	GREY	HA

SET #31

Ithaca Fire Station	618601
Door Hardware	087100- 37

Doors: 205A-1, 205B-1

Hinge(s)	1279 4 1/2 X 4 1/2	US26D	HA
Hinge	1279 4 1/2 x 4 1/2 NRP	US26D	HA
Single Dummy	3417 WTN	US26D	HA
Roller Latch	320R	US26D	HA
Hinge Pin Stop	1512	СР	DJ
Silencer(s)	307D	GREY	HA
	Hinge(s) Hinge Single Dummy Roller Latch Hinge Pin Stop Silencer(s)	Hinge(s) 1279 4 1/2 X 4 1/2 Hinge 1279 4 1/2 x 4 1/2 NRP Single Dummy 3417 WTN Roller Latch 320R Hinge Pin Stop 1512 Silencer(s) 307D	Hinge(s)1279 4 1/2 X 4 1/2US26DHinge1279 4 1/2 x 4 1/2 NRPUS26DSingle Dummy3417 WTNUS26DRoller Latch320RUS26DHinge Pin Stop1512CPSilencer(s)307DGREY

SET #32

Doors: 108-2

3	Hinge	*WTBB1168 4 1/2 X Verify size as required	l US26D	HA
		*Verify in field.		
1	Push Plate	30S 6 X 16	US26D	HA
1	Door Pull	H 34J 4 X 16	US32D	HA
1	Closer	5200 HD	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #33

Doors: 109-1

BB1168 4 1/2 X 4 1/2	US26D	HA
30S 6 X 16	US26D	HA
H 34J 4 X 16	US32D	HA
5200	ALM	HA
190S 10" x 2" LDW	US32D	HA
232W	US32D	HA
726 x LAR	S	HA
	BB1168 4 1/2 X 4 1/2 30S 6 X 16 H 34J 4 X 16 5200 190S 10" x 2" LDW 232W 726 x LAR	BB1168 4 1/2 X 4 1/2 US26D 30S 6 X 16 US26D H 34J 4 X 16 US32D 5200 ALM 190S 10" x 2" LDW US32D 232W US32D 726 x LAR S

SET #34

Doors: 109-2

3 Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1 Push Plate	30S 6 X 16	US26D	HA
1 Door Pull	H 34J 4 X 16	US32D	HA
1 Closer	5200 HD	ALM	HA
1 Kick Plate	190S 10" x 2" LDW	US32D	HA
1 Wall Stop(s)	232W	US32D	HA
1 Seal	726 x LAR	S	HA
Ithaca Fire Station		618601	
Door Hardware		087100-38	

SET #35

Doors: 127-1, 128-1

3	Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1	Push Plate	30S 6 X 16	US26D	HA
1	Door Pull	H 34J 4 X 16	US32D	HA
1	Closer	5200	ALM	HA
1	Kick Plate	190S 10" x 2" LDW	US32D	HA
1	Mop Plate	190S 4" x 1" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA

SET #36

Doors: 117-3, 227-1, 117-2

1 Hardware	By Door MFR./Supplier	BYOT
------------	-----------------------	------

SET #37

Doors: 215-2

3 H	Hinge(s)	BB1168 4 1/2 X 4 1/2 NRP	US26D	HA
1 \$	Storeroom Lock	3480 WTN SFIC	US26D	HA
1 I	C Core	MATCH EXISTING	US26D	BE
1 E	Electric Strike	2930 CYL	US32D	HA
1 (Closer	5200	ALM	HA
1 F	Kick Plate	190S 10" x 2" LDW	US32D	HA
1 V	Wall Stop(s)	232W	US32D	HA
1 8	Seal	726 x LAR	S	HA
1 (Card Reader	Provided by access control supplier.		BYOT
1 F	Power Supply	2908		HA
1 F	Riser Diagram	WIRE/RISER DOCUMENTS		HA
1 /	Automatic Door Bottom	743S [proper width] Neoprene		
* ·				

MIL HA

The door is normally closed and locked. Entry with authorized credential. Free egress always Upon loss of power the door will remain locked.

Ithaca Fire Station	618601
Door Hardware	087100- 39

Doors: 215-1

3	Hinge(s)	BB1168 4 1/2 X 4 1/2	US26D	HA
1	Passage Set	3410 WTN	US26D	HA
1	Closer	5200	ALM	HA
1	Kick Plate(s)	190S 10" x 2" LDW	US32D	HA
1	Wall Stop(s)	232W	US32D	HA
1	Seal	726 x LAR	S	HA
1	Automatic Door Bottom	743S [proper width] Neoprene	MIL	HA

SECTION 087113 - AUTOMATIC DOOR OPERATORS

PART 1 GENERAL

1.01 SUMMARY

- A. Provide surface-mount, self-contained low energy power swing door operator and controls system.
- B. Related Sections:
 - 1. Section 084313 Aluminum-Framed Storefronts
 - 2. Section 087100 Door Hardware

1.02 REFERENCES

- A. ANSI:
 - 1. A117.1 Accessibility and Usable Buildings and Facilities
 - 2. A156.10 Power Operated Pedestrian Doors
 - 3. A156.19 Power Assist and Low Energy Operated Doors

1.03 SYSTEM DESCRIPTION

A. Design Requirements:

- 1. The automatic door system shall be a self-contained design requiring no remote pumps or compressors.
- 2. System shall open door to 90 degrees by force transmitted to drive shaft and maintain a constant engagement throughout opening cycle.
- 3. Design operator to counteract interior stack pressure without need of additional power assist mechanisms.
- 4. Function as a manual door closer if power fails.
- 5. The operator housing shall provide a seal against dust, dirt, and moisture.
- 6. Provide adjustment for opening, closing, and latch speed.
- 7. Operators to be activated or de-activated by controls as indicated.
- 8. Comply with ANSI A156.10 and A156.19.

1.04 SUBMITTALS

- A. See Section 0133000 Suubmittal Procedures for submittal procedures.
- B. Product Data: Submit manufacturer's current Product Data including specifications, handling, storage and installation instructions, and maintenance recommendations.
- C. Shop Drawings: Submit Shop Drawings showing system fabrication, installation drawings, including plans, elevations, anchorage details, adjacent construction interface, dimensions, and wiring and electrical requirements.

1.05 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide power door operator units made of components of standard construction furnished by 1 manufacturer as coordinated assemblies.
- B. Authorized service representative of the door operating equipment manufacturer must be located near enough to Site to ensure repairman would be on Site within 24 hours after receiving a request for service.
- C. Qualifications:
 - 1. Manufacturer: 5 year experience in the manufacture of power door operator.
 - 2. Contractor: 3 year experience in the installation of power door operator.
 - 3. Installer:
 - a. 3 year experience in the installation of finish door hardware.
 - b. Licensed Power Limited Technician as required by the State of New York.
- D. Regulatory Requirements: Meet ADA and ANSI A117.1 accessibility requirements.

1.06 PROJECT CONDITIONS

A. Drawings do not purport to show actual dimensions, but are intended only to establish location and scope of Work. Field-verify dimensions and assume full responsibility for their accuracy.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Standard of Quality: Design is based on Sargent MP4000 Series www.sargentlock.com
- B. Other Acceptable Manufacturers: Subject to compliance with requirements, acceptable manufacturers and products are:
 - 1. Besam: SW200i www.besam.com
 - 2. Horton Automatics: 4000LE www.hortondoors.com
 - 3. Stanley Access Technologies: Magic Swing www.stanleyaccesstechnologies.com
 - 4. Substitutions: See Section 016000 Product Requirements.

2.02 COMPONENTS

- A. Operator Housing:
 - 1. The operator shall be completely contained in an extruded aluminum housing.
 - 2. Aluminum sections: 6063-T5 alloy and minimum wall thickness of 0.156 inch.
 - 3. All exposed surfaces shall be powder coat finish.
 - a. Color: As selected by Architect from manufacturers full range.
- B. Electric Motor:
 - 1. Coordinate power requirement with electrician.
 - 2. Equip with built-in thermal overload protection.
- C. Operator Assembly:
 - 1. The power transmission server shall have only one moving part.
 - 2. Operator shall be non-handed, adapting to varying field conditions.
- D. Electronic Control:

Ithaca Fire Station Automatic Door Operators

- 1. A self-contained, solid state integrated circuit shall control the operations and switching of the swing power operator.
- 2. Interior controller shall allow for the integration of the building access control system to allow access to the facility remotely.
- 3. The electronic control shall provide low voltage power supply for all means of actuation.
- 4. The control shall include time delay (1 to 60 seconds) for normal cycle.
- E. Power Open:
 - 1. Maintain constant opening pressure at all times.
 - 2. Opening and closing speeds shall be individually adjustable.
- F. Power Failure:
 - 1. The automatic door system shall function as a manual door closer in the event of a power failure.
 - 2. Manual opening force shall be unaffected by opening speed adjustment.
- G. Spring Close:
 - 1. The automatic door operator shall be spring closed.
 - 2. The spring shall be non-handed and designed to counteract wind conditions and return the door to full close.
- H. Activating Devices:
 - 1. Actuation devices shall be remote controlled.
 - 2. Actuation and safety devices shall be stainless steel push plates mounted at wall or door jamb or aluminum posts as indicated on the Drawings.
 - 3. Push plates shall include international handicap symbol.
 - 4. Controls shall cause door to open instantly when device located on approach side of door is actuated, hold door in open position, and cause door to close-unless safety device or reactuation of opening impulse overrides such operation.
 - 5. Provide and install aluminum post as indicated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Work of Other Trades: Prior to commencing work, carefully inspect and verify that work is complete to point where this installation may properly commence.
- B. Verification of Conditions:
 - 1. Verify that power door operators may be installed in accordance with original design, pertinent codes and regulations, and pertinent portions of referenced standards.
 - 2. Verify mounting surfaces are plumb, straight, and secure.
 - 3. Verify substrates are of proper dimension and material.
- C. Discrepancies:
 - 1. Immediately notify A/E.
 - 2. Do not proceed with installation in areas of discrepancy until fully resolved.
 - 3. Commencement of installation signifies acceptance of surface conditions.

3.02 PREPARATION

A. Protection: Protect installed work and materials of other trades.

Ithaca Fire Station Automatic Door Operators B. Coordination: Coordinate installation with glass, glazing, and hardware installation.

3.03 INSTALLATION

- A. Install in accordance with templates and installation instructions provided by manufacturer.
- B. Use fasteners provided by manufacturer, anchoring components firmly and securely.
- C. Electrical Connections: Make in accordance with manufacturer's recommendations.

3.04 REPAIR/RESTORATION

A. Touch up marred finishes, but replace units that cannot be restored to factory-finished appearance. Use materials, procedures recommended or furnished by manufacturer.

3.05 ADJUSTING

A. Adjust and regulate all power door operators to operate in proper manner and easily without binding.

3.06 CLEANING

- A. Site: Do not allow accumulation of scraps, debris arising from work of this section. Maintain premises in neat, orderly condition.
- B. System: Clean exposed surfaces of power door operators using materials and methods recommended by manufacturer.

3.07 DEMONSTRATION

- A. Startup Services: Provide the services of a factory-authorized service representative to provide start-up service and to demonstrate and train Owner's representative:
 - 1. Test and adjust controls and safeties. Replace damaged or malfunctioning controls and equipment.
 - 2. Train Owner's representative on procedures and schedules related to troubleshooting, servicing, and preventative maintenance.
 - 3. Review data in the "Operating and Maintenance Manual."
- B. Maintenance Instructions: Manufacturer's representative to schedule and attend meeting with Owner's representatives to explain:
 - 1. Maintenance and Care Instructions.
 - 2. Recommended Maintenance Program.
 - 3. Warranty Requirements.

END OF SECTION 087113

SECTION 088000 - GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Single vision glazing.
- B. Insulated glass units.
- C. Glazing compounds.

1.02 RELATED REQUIREMENTS

- A. Section 079200 Joint Sealants: Sealants for other than glazing purposes.
- B. Section 081113 Hollow Metal Doors and Frames: Glazed lites in doors and borrowed lites.
- C. Section 081416 Flush Wood Doors: Glazed lites in doors.
- D. Section 083613 Sectional Doors: Glazed lites in doors.
- E. Section 084313 Aluminum-Framed Storefronts: Glazed lites in storefront assembly.
- F. Section 085113 Aluminum Windows: Glazing provided by window manufacturer.

1.03 REFERENCE STANDARDS

- A. 16 CFR 1201 Safety Standard for Architectural Glazing Materials.
- B. ANSI Z97.1 American National Standard for Safety Glazing Materials Used in Buildings -Safety Performance Specifications and Methods of Test.
- C. ASCE 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- D. ASTM C864 Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- E. ASTM C1036 Standard Specification for Flat Glass.
- F. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
- G. ASTM C1193 Standard Guide for Use of Joint Sealants.
- H. ASTM C1376 Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass.
- I. ASTM E1300 Standard Practice for Determining Load Resistance of Glass in Buildings.
- J. ASTM E2190 Standard Specification for Insulating Glass Unit Performance and Evaluation.
- K. GANA (GM) GANA Glazing Manual.
- L. GANA (SM) GANA Sealant Manual.

Ithaca Fire Station Glazing

- M. NFRC 100 Procedure for Determining Fenestration Product U-factors.
- N. NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
- O. NFRC 300 Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by each of the affected installers.

1.05 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data on Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.
- C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.
- D. Samples: Submit two samples 12 by 12 inch in size of glass units.
- E. Manufacturer's Certificate: Certify that all glass meets or exceeds product and code requirements for each application.
- F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA (GM) and GANA (SM) for glazing installation methods. Maintain one copy on site.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least 10 years documented experience.

1.07 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 50 degrees F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.08 WARRANTY

A. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Float Glass Manufacturers:
 - 1. AGC Glass North America, Inc: www.agcglass.com/#sle.
 - 2. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
 - 3. Guardian Glass, LLC: www.guardianglass.com/#sle.
 - 4. Pilkington North America Inc: www.pilkington.com/na/#sle.
 - 5. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle.
 - 6. Substitutions: See Section 016000 Product Requirements.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

- A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
 - 1. Desgin glazing set forth by parameters indicated on structural drawings.
 - 2. Design Pressure: Calculated in accordance with ASCE 7.
 - 3. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
 - 4. Seismic Loads: Design and size glazing components to withstand seismic loads and sway displacement in accordance with the requirements of ASCE 7
 - 5. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
 - 6. Glass thicknesses listed are minimum.
- B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
 - 1. In conjunction with weather barrier related materials described in other sections, as follows:
- C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
 - 1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
 - 2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
 - 3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless otherwise indicated.
 - 1. Annealed Type: ASTM C1036, Type I Transparent Flat, Class 1 Clear, Quality Q3.
 - 2. Kind HS Heat-Strengthened Type: Complies with ASTM C1048.
 - 3. Kind FT Fully Tempered Type: Complies with ASTM C1048.
 - 4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.

- 5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.
- 2.04 SINGLE VISION GLAZING
 - A. Type G-1 Cleasr Vision Glazing:
 - 1. Locations: Refer to drawings.
 - 2. Type: Annealed float glass, typical.
 - 3. Tint: Clear.
 - 4. Thickness: 1/4 inch.
 - B. Type G-2 Clear Tempered Vision Safety Glazing:
 - 1. Locations: Refer to drawings.
 - 2. Type: Fully tempered float glass at door and side lite glass and glass with-in 24 inches of floor.
 - 3. Tint: Clear.
 - 4. Thickness: 1/4 inch.

2.05 INSULATING GLASS UNITS

- A. Insulating Glass Units:
 - 1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
 - 2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
 - 3. Metal Edge Spacers: Aluminum, bent and soldered corners.
 - 4. Spacer Color: Black.
 - 5. Edge Seal:
 - a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
 - b. Color: Black.
 - 6. Purge interpane space with dry air, hermetically sealed.
- B. Type G3 1" Clear Insulated Vision Glass Units:
 - 1. Locations: Refer to drawings.
 - 2. Space between lites filled with argon.
 - 3. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
 - a. Tint: Clear.
 - b. Coating: Low-E (passive type), on #2 surface. Equal to PPG Solarban 60.
 - 4. Inboard Lite: Annealed float glass, 1/4 inch thick, minimum.
 - a. Tint: Clear.
 - 5. Total Thickness: 1 inch.
 - 6. Glazing Method: Dry glazing method, gasket glazing.
- C. Type G4 1" Clear Insulated Tempered Vision Glass Units: Safety glazing.
 - 1. Locations: Refer to drawings.
 - 2. Space between lites filled with argon.
 - 3. Glass Type: Same as Type G3 except use fully tempered float glass for both outboard and inboard lites.
 - a. Tint: Clear.
- b. Coating: Low-E (passive type), on #2 surface. Equal to PPG Solarban 60.
- 4. Total Thickness: 1 inch.
- 5. Glazing Method: Dry glazing method, gasket glazing.

2.06 GLAZING COMPOUNDS

- A. Manufacturers:
 - 1. BASFConstruction Chemicals-Building Systems: www.buildingsystems.basf.com/#sle.
 - 2. Bostik Inc: www.bostik-us.com/#sle.
 - 3. Momentive Performance Materials, Inc: www.momentive.com/#sle.
 - 4. Pecora Corporation: www.pecora.com/#sle.

2.07 ACCESSORIES

- A. Setting Blocks: Neoprene, with 80 to 90 Shore A durometer hardness; ASTM C864 Option I. Length of 0.1 inch for each square foot of glazing or minimum 4 inch by width of glazing rabbet space minus 1/16 inch by height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option I. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.
- C. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.
- C. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

- B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.
- C. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.
- D. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, etc.

3.04 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

- A. Application Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.
- C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 FIELD QUALITY CONTROL

- A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.
- B. Monitor and report installation procedures and unacceptable conditions.

3.06 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove nonpermanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.07 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION 088000

MATERIAL LEGEND								
csi	FINISH CODE	DESCRIPTION		MANUFACTURER / PATTERN - COLOR		CONTACT	TYPICAL LOCATION	NOTES
WOOD DOO	ORS							
081416	WD-1	WOOD DOORS	MFR	MASONITE ARCHITECTURAL	CONTACT	CUSTOMER SERVICE		
			Species	CLEAR		877-332-4484		
			Cut	PLAIN(FLAT) CUT				
			Finish	SATIN				
FINISH CAR	PENTRY							
062000	WD-1	WOOD TRIM, WOOD CABINETRY	SPECIES	WALNUT				
			STAIN	CLEAR				
			CUT	PLAIN (FLAT) CUT				
			FINISH	SATIN				
SOLID SUR	ACING FABRICATI	ONS			1	1		
123600	SSF-1	SOLID SURFACE	MFR	WILSONART LLC	CONTACT	LYNETTE STENDE	RESTROOM COUNTERS	
			COLOR	HOT STONE, 9208 CS		WILSONART LLC	WINDOW SILLS AND APRONS	
						612-500-6020		
TILE	DT 1	TUE	1450		CONTACT			
093000	P1-1	FLOOR FIELD THE	STYLE NAME	MYTHIOUE MARBI F	CONTACT	AMERICAN OLEAN	FIELD FLOOR TILE - LOBBT, RESTROOMS	ELEVATIONS FOR INSTALLATION
			COLOR NAME/NO	CALCATTA VENECIA, MY11		414-405-5198		
			SIZE	12" X 24" X 3/8"				
			INSTALLATION	SEE FINISH PLANS AND INTERIOR ELEVATIONS				
			GROUT MFR	CUSTOM BUILDING PRODUCTS		HOWARD JANCY		
			GROUT COLOR	183 CHATFAU		312-515-9215		
			GROUT WIDTH	1/8"				
	PT-2	TILE	MFR STVLE NAME	CERAMIC TILE WORKS	CONTACT	CERAMIC TILE WORKS		SEE FINISH PLANS AND INTERIOR
		WALL	COLOR NAME/NO	TRUE WHITE, POLISHED		507-460-2548		ELEVATIONS FOR INSTALLATION
			SIZE	12" X 24" X 9MM				
			INSTALLATION	SEE FINISH PLANS AND INTERIOR ELEVATIONS				
			GROUT MFR	CUSTOM BUILDING PRODUCTS		HOWARD JANCY		
			GROUT COLOR	381 BRIGHT WHITE		312-515-9215		
			GROUT WIDTH	1/8"				
			1.155		0.01/17.1.07			
	PT-3	TILE	MFR STVLE NAME	VIRGINIA TILE	CONTACT	SARAH O'MELIA	KITCHEN, TOILET ROOMS	SEE INTERIOR ELEVATIONS FOR
		ACCENT WALL TILE	COLOR NAME/NO	HANDMADE DECOR VINTAGE		715-490-2888		EOCATIONS AND INSTALLATION
			SIZE	3" X 12"				
			INSTALLATION	SEE INTERIOR ELEVATIONS				
			GROUT MFR	CUSTOM BUILDING PRODUCTS		HOWARD JANCY		
			GROUT TYPE	CEG-LIE, COMMERCIAL 100% EPOXY GROUT		212-515-0215		
			GROUT WIDTH	2MM		512 515 5215		
	PT-4	TILE	MFR	CERAMIC TILE WORKS	CONTACT	CERAMIC TILE WORKS	SHOWER FLOORS	SEE FINISH PLANS FOR LOCATIONS
		MOSAIC FLOOR TILE	COLOR NAME/NO	TRUE WHITE		507-460-2548		
			SIZE	2" X 2" MOSAIC ON 12" X 12" SHEET		307 400 2340		
			INSTALLATION	MOSAIC ON SHEET				
			GROUT MFR	CUSTOM BUILDING PRODUCTS		HOWARD JANCY		
			GROUT TYPE	CWEG-LIE, COMMERCIAL 100% EPOXY GROUT		CUSTOM BUILDING PRODUCTS		
			GROUT WIDTH	MATCH MESH MOUNTED SHEET WIDTH		312-313-3213		
1	PT-5	TILE	MFR	DALTILE	CONTACT	HILLARY BUSS	SHOWER WALLS	FOR ORDERING:
		PANEL IILE	COLOR NAME/NO	SLIMLITE PANELS, CLASSIC		DALIILE 317-910-2527	10-12 WEEK LEAD TIME	FIELD MEASURE SIZES AND HAVE
			SIZE	39" X 118"		51, 510 2527		SHOWER WALLS.
			INSTALLATION					
			GROUT MFR	CUSTOM BUILDING PRODUCTS		HOWARD JANCY		
			GROUT TYPE	CWEG-LTE, COMMERCIAL 100% EPOXY GROUT		CUSTOM BUILDING PRODUCTS		
			GROUT WIDTH	1/8"		312-313-3213		

CSI	FINISH CODE	DESCRIPTION		MANUFACTURER / PATTERN - COLOR		CONTACT	TYPICAL LOCATION	NOTES
TILE ACCESS	ORIES							
093000	TA-1	COVE BASE	MFR STYLE NAME PRODUCT NUMBER COLOR NAME/NO FINISH	SCHLUTER SYSTEMS SCHLUTER DILEX AHK SATIN ANODIZED ALUMINUM AE	CONTACT	DEREK BOOMER 612-719-3409	COVE BASE	
	TA-2	EDGE PROTECTION	MFR STYLE NAME PRODUCT NUMBER COLOR NAME/NO FINISH	SCHLUTER SYSTEMS SCHLUTER JOLLY A STAIN ANODIZED ALUMUNUM AE	CONTACT	DEREK BOOMER 612-719-3409	AT WALL TILE WHERE EXPOSED EDGES - FLAT PROFILE	
	TA-3	SHOWER TRANSITION	MFR STYLE NAME PRODUCT NUMBER COLOR NAME/NO FINISH	SCHLUTER SYSTEMS SHOWERPROFILE WS SATIN ANODIZED ALUMINUM AE	CONTACT	DEREK BOOMER 612-719-3409	SHOWER FLOOR TRANSITION	PROVIDE BOTH THE WCS (SEMI-CIRCULAR) AND WSL (STRAIGHT LIP) LIP INSERTS TO OWNER.
	TA-4	RESILIENT TO CARPET	MFR STYLE NAME PRODUCT NUMBER COLOR NAME/NO FINISH	SCHLUTER SYSTEMS VINPRO-S VPS ATGB BRUSHED NICKEL ANODIZED ALUMINUM ATGB	CONTACT	DEREK BOOMER 612-719-3409	RESILIENT-CARPET TO LVT TRANSITION	
ACOUSTIC	FILING THE				1			
095100	ACT-1	GENERAL CEILING TILE	MFR PRODUCT NAME/# COLOR NAME/NO SIZE /NRC COMPOSITION SURFACE TEXTURE EDGE PROFILE GRID GRID COLOR ATTIC STOCK	USG MARS, SLT 86785 WHITE 24" X 24" X 3/4" / 0.75 WET-FORMED MINERAL FIBER FINE-TEXTURE SLT-SHADOWLINE TAPERED DX/DXL 15/16" WHITE 5%	CONTACT	CHRIS ANDERSON 612.859.5533	STANDARD CEILING TILE	COMPARABLE ARMSTRONG TILE WILL BE APPROVED AS AN ALTERNATE
	ACT-2	CEILING TILE - WET LOCATIONS	MFR PRODUCT NAME/# COLOR NAME/NO SIZE /NRC COMPOSITION SURFACE TEXTURE EDGE PROFILE GRID GRID COLOR ATTIC STOCK	USG KITCHEN LAY-IN PANEL, SQ 3210 WHITE 24" X 24" X 5/8" / N/A MINERAL FIBER SMOOTH, FACTORY APPLIED, CLIMAPLUS SQ - SQUARE DX/DXL 15/16" WHITE 5%	CONTACT	CHRIS ANDERSON 612.859.5533	ALL WET LOCATIONS: TOILET ROOMS	COMPARABLE ARMSTRONG TILE WILL BE APPROVED AS AN ALTERNATE.
	ACT-3	CEILING TILE - ACCENT	MFR PRODUCT NAME/# COLOR NAME/NO SIZE /NRC COMPOSITION SURFACE TEXTURE EDGE PROFILE GRID GRID COLOR ATTIC STOCK	USG MARS HIGH NRC, 88138 SHALE 3683 24" x 24" x 1" / 0.90 WET-FORMED MINERAL FIBER FINE-TEXTURED PANEL SLT - SHADOWLINE TAPERED USGA DX SHALE 3683 TO MATCH PANELS 5%	CONTACT	CHRIS ANDERSON 612.859.5533	ACCENTS IN KITCHEN AND LIVING ROOM	COMPARABLE ARMSTRONG TILE WILL BE APPROVED AS AN ALTERNATE.

CSI	FINISH CODE	DESCRIPTION		MANUFACTURER / PATTERN - COLOR		CONTACT	TYPICAL LOCATION	NOTES
RESULENT FLOORING								
096500	LVT-1	VINYL TILE FIELD RESILIENT FLOOR	MFR PRODUCT NAME COLOR NAME/NO SIZE THICKNESS INSTALLATION ATTIC STOCK	MANNINGTON COMMERCIAL SPACIA - WOOD MAIDSON MAPLE MORGAN SS5W12236 6" X 30" 2.5MM SEE FINISH PLANS FOR INSTALLATION 5%		AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008		
	LVT-2	VINYL TILE ACCENT RESILIENT FLOOR	MFR PRODUCT NAME COLOR NAME/NO SIZE THICKNESS INSTALLATION ATTIC STOCK	MANNINGTON COMMERCIAL SPACIA - WOOD MAIDSON MAPLE CREEK SSSW12238 6" X 36" 2.5MM SEE FINISH PLANS FOR INSTALLATION 5%		AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008		
	RT-1	RUBBER TILE FIELD RESILIENT FLOOR	MFR PRODUCT NAME COLOR NAME/NO SIZE THICKNESS INSTALLATION ATTIC STOCK	MANNINGTON COMMERCIAL OPEN RANGE RODGERS 6.25" x 42" 1/8" SEE FINISH PLANS FOR INSTALLATION 5%	CONTACT	AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008		
	RT-2	RUBBER TILE FIELD RESILIENT FLOOR	MFR PRODUCT NAME COLOR NAME/NO SIZE THICKNESS INSTALLATION ATTIC STOCK	MANNINGTON COMMERCIAL OPEN RANGE COOPER 6.25" X 42" 1/8" SEE FINISH PLANS FOR INSTALLATION 5%	CONTACT	AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008		
	RT-3	RUBBER TILE STAIR LANDINGS	MFR PRODUCT NAME COLOR NAME/NO SIZE THICKNESS INSTALLATION ATTIC STOCK	MANNINGTON COMMERCIAL COLORSCAPE, ROUND PROFILE JACKALOPE 190 18.125" X 18.125" 1/8" STACKED 5%	CONTACT	AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008	STAIRWELLS	
	RTR-1	RESILIENT STAIR TREAD / RISERS	MFR PRODUCT NAME PROFILE COLOR NAME/NO ATTIC STOCK	MANNINGTON COMMERCIAL BURKE CONNECT STEP, SINGLE PIECE STAIR TREAD & RISER COMBINATION ROUND PROFILE, SQUARE NOSE JACKALOPE 190 5%	CONTACT		STAIRWELLS	TILE IN STAIRWELL TO BE RT-3 AS NOTED ABOVE
	RTS-1	RUBBER TRANSITION ADAPTOR	MFR COLOR NAME/NO	MANNINGTON BURKE 523 BLACKBROWN	CONTACT	AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008		
	RB-1	RESILIENT WALL BASE	MFR TYPE COLOR NAME/NO	MANNINGTON BURKE TP, 4" COVE BASE 523 BLACKBROWN	CONTACT	AMEE LAPKE MANNINGTON COMMERCIAL 414-254-8008	-	
	SRF-1	SPORTS RUBBER FLOORING	MFR PRODUCT SIZE THICKNESS COLOR	DINOFLEX SPORT MAT 37" X 37" INTERLOCKING TILES 100MM / 3/8" 30% GREY 5321	CONTACT	BRIAN CARLSON SHANNON SPECIALTY FLOORS 952.956.2340		

csi	FINISH CODE	DESCRIPTION		MANUFACTURER / PATTERN - COLOR		CONTACT	TYPICAL LOCATION	NOTES
CARPET TII	E				-			
096813	CPT-1	CARPET TILE	MFR STYLE NAME/NO DESIGN NAME COLOR NAME/NO FIBER INSTALLATION SIZE BACKING ATTIC STOCK	MILLIKEN TEXTURED SKY CLOUD CANOPY CLD208 - 211 - 93 HEAT WAVE UNIVERSAL FIBERS SOLUTION DYED NYLON TYPE 6,6 AND 6 BRICK ASHLAR 25CM X IM PVC-FREE COMFORTPLUS ES CUSHION 5%	CONTACT	ROXANNE CARLSON 414-418-9614		SEE FINISH PLANS
CARPET TII	E WALK OFF MAT							
096813	CPTM-1	CARPET TILE	MFR STYLE NAME/NO BAR MATERIAL BAR PLANK WIDTH TOTAL THICKNESS COLOR NAME/NO FIBER INSTALLATION	MILLIKEN OBEX BAR, CUTX EXTRUDED ALUMINUM PROFILE WITH HIGH DENISTIY POLYETHELENE CUSHION BACKING 27.6CM X 100CM 11MM DRAK GRAY 4000293782 MILIKEN-CERTIFIED WEAR-ON NYLON AND MONOFILAMENT PERPENDICULAR TO PRIMARY CIRCULATION	CONTACT	ROXANNE CARLSON 414-418-9614		
PAINT	/				0.01/01/07		T	
099000	P-1 / PE-1	PAINT - STANDARD LIGHT FIELD - CREAM	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW7516 KESTREL WHITE	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-2 / PE-2	PAINT - STANDARD DARK FIELD	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW7030 ANEW GRAY	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-3 / PE-3	PAINT - STANDARD DOORS, FRAMES, METAL HANDRAILS	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW7048 URBANE BRONZE	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-4 / PE-4	PAINT - STANDARD WHITE	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW7757 HIGH REFLECTIVE-WHITE	CONTACT	JAMES BERGEVIN 612-720-9934	CEILINGS, APPARATUS BAY, APPARATUS SUPPORT	
	P-5 / PE-5	PAINT - STANDARD ACCENT - LIGHT BLUE	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW9143 CADET	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-6 / PE-6	PAINT - STANDARD ACCENT - DARK BLUE	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW6235 FOGGY DAY	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-7 / PE-7	PAINT - STANDARD ACCENT - GREEN	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW7735 PALM LEAF	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-8 / PE-8	PAINT - STANDARD ACCENT - TEAL	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW2810 ROOKWOOD SASH GREEN	CONTACT	JAMES BERGEVIN 612-720-9934		
	P-9 / PE-9	PAINT - STANDARD ACCENT - PLUM	MFR COLOR NAME/NO	SHERWIN WILLIAMS SW0022 PATCHWORK PLUM	CONTACT	JAMES BERGEVIN 612-720-9934		
CUBICLE CI	JRTAIN							
102123	CC-1	CUBICLE CURTAIN FABRIC SHOWER CURTAIN	MFR PATTERN MESH COLOR FIBER CONTECTS FABRIC WIDTH (HEIGHT) SIZE CLEARANCE REPEAT FIRE TEST ACCESSORIES ATTIC STOCK	MOMENTUM TEXTILES, SOURCE ONE AURORA PC 20-22" INTEGRAL MESH SMOKEY TOPAZ 100% POLYESTER FR 72" W/O MESH 20% WIDER THAN TRACK LENGTH FOR FULLNESS NA RAILROAD: 90CM HORIZONTAL REPEAT, 94CM VERTICAL REPEAT WOVEN WAY: 94CM HORIZONTAL REPEAT, 94CM VERTICAL REPEAT PASSES NFPA 701 FINISH WITH GROMMETS TO HANG FROM CURTAIN ROD PROVIDE TWO CURTAINS FOR EACH SHOWER.	CONTACT	JAMIE COOPER MOMENTUM TEXTILES 262-606-9241	SHOWERS	

CSI	FINISH CODE	DESCRIPTION		MANUFACTURER / PATTERN - COLOR		CONTACT	TYPICAL LOCATION	NOTES
WALL PROT	ECTION / CORNER	(GUARDS						
102600	CG-1	CORNER GUARDS	MFR PRODUCT COLOR	INPRO SEE SPEC HAZE 0114		CHRISTOPHER ECKE INPRO 414-839-3559		
ROLLER SHA	ADES							
122400	WS-1	MANUAL ROLLER SHADES GENERAL	MFR TYPE FABRIC PATTERN COLOR NAME / NO FIRE RATING FASCIA COLOR FASCIA COLOR MOUNTING FABRIC ORIENTATION	SWF CONTRACT TRUEPERFORMANCE MANUAL SHADE WITH FASCIA DOUBLE-TAKE T300 - 3% OPEN U306 GREY / BRONZE NFPA 701 TM#1 3" FASCIA TO MATCH WINDOWS INSIDE WALL JAMB RAILROAD	CONTACT	ADAM BJORK SWF CONTRACT 952-239-4547	OFFICIES AND OTHER NON-SLEEPING QUARTERS	
	WS-2	MANUAL ROLLER SHADES BLACKOUT	MFR TYPE FABRIC PATTERN COLOR NAME / NO FIRE RATING FASCIA FASCIA COLOR MOUNTING ACCESSORIES FABRIC ORIENTATION	SWF CONTRACT TRUEPERFORMANCE MANUAL SHADE WITH FASCIA CONCEAL C2620 TERRAIN NFPA 701 TM#1 3" FASCIA TO MATCH WINDOWS INSIDE WALL JAMB PROVIDE SIDE AND SILL CHANNELS WITH SYNTHETIC PILE INSERTS RAILROAD	CONTACT	ADAM BJORK SWF CONTRACT 952-239-4547	DORMS	
PLASTIC LAP	MINATE CLAD CAS	EWORK						
064100	PL-1	PLASTIC LAMINATE VERTICAL SURFACES	MFR COLOR NAME/NO FINISH	LAMINART 3129 MILANO NOCE FINE GRAIN	CONTACT	LAURYN SCHAEFER 617-875-3197		
	PL-2	PLASTIC LAMINATE HORIZONTAL SURFACES	MFR COLOR NAME/NO FINISH	WILSONART LLC OURO BRANCO 5029K-22 ANTIQUE FINISH	CONTACT	LYNETTE STENDE 612-500-6020		
	QZ-1	QUARTZ SURFACE	MFR COLOR NAME/NO EDGE PROFILE THICKNESS FINISH	CAMBRIA HAWKSMOORE SEACLIFF (2) 2CM HIGH GLOSS	CONTACT	VICTORIA HAILEY 952-944-1676		

SECTION 092116 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Acoustic insulation.
- D. Gypsum sheathing.
- E. Cementitious backing board.
- F. Gypsum wallboard.
- G. Joint treatment and accessories.
- H. Acoustic Sound Barrier

1.02 RELATED REQUIREMENTS

- A. Section 054000 Cold-Formed Metal Framing: Exterior entrance soffit and interior vestibule ceiling steel stud framing.
- B. Section 061000 Rough Carpentry: Building framing and sheathing.
- C. Section 061000 Rough Carpentry: Wood blocking product and execution requirements.
- D. Section 072500 Weather Barriers: Water-resistive barrier over sheathing.
- E. Section 078400 Firestopping: Top-of-wall assemblies at fire-resistance-rated walls.
- F. Section 079200 Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
- G. Section 099724 Exterior Textured Finish System: Gypsum soffit board.

1.03 REFERENCE STANDARDS

- A. AISI S100 North American Specification for the Design of Cold-Formed Steel Structural Members.
- B. ANSI A108.11 American National Standard Specifications for Interior Installation of Cementitious Backer Units.
- C. ANSI A118.9 American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units.
- D. ASTM A36/A36M Standard Specification for Carbon Structural Steel.

Ithaca Fire Station	618601
Gypsum Board Assemblies	092116-1

- E. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- F. ASTM A1003/A1003M Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
- G. ASTM C475/C475M Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
- H. ASTM C645 Standard Specification for Nonstructural Steel Framing Members.
- I. ASTM C665 Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- J. ASTM C754 Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
- K. ASTM C840 Standard Specification for Application and Finishing of Gypsum Board.
- L. ASTM C954 Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
- M. ASTM C1002 Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
- N. ASTM C1047 Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- O. ASTM C1325 Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units.
- P. ASTM C1396/C1396M Standard Specification for Gypsum Board.
- Q. ASTM C1629/C1629M Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels.
- R. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- S. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- T. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- U. ASTM E413 Classification for Rating Sound Insulation.
- V. GA-216 Application and Finishing of Gypsum Panel Products.
- W. UL (FRD) Fire Resistance Directory.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

- C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- 1.05 QUALITY ASSURANCE
 - A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum five years of experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
- C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
 - 1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

- A. Manufacturers Metal Framing, Connectors, and Accessories:
 - 1. ClarkDietrich: www.clarkdietrich.com/#sle.
 - 2. Marino: www.marinoware.com/#sle.
 - 3. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
 - 4. Substitutions: See Section 016000 Product Requirements.
- B. Structural Steel Framing for exterior entrance soffit and interior vestibule ceiling. Refer to Section 054000.
- C. Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
 - 1. Studs: C-shaped with knurled or embossed faces.
 - 2. Runners: U shaped, sized to match studs.
 - 3. Furring Members: Hat-shaped sections, minimum depth as indicated on drawings.
 - 4. Furring Members: U-shaped sections, minimum depth of 3/4 inch.
 - Sill Plate Isolation Pads: Acoustical separation between sole plate and subfloor.
 a. Products:
- D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.

- 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
- 3. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
- 4. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-resistance rating of the wall assembly.
- E. Non-structural Framing Accessories:
 - Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
 - a. Materials: ASTM A36/A36M formed sheet steel support member with factorywelded ASTM A1003/A1003M steel plate base.
 - b. Products:
 - 1) ClarkDietrich; Pony Wall (PW): www.clarkdietrich.com/#sle.
 - 2) Substitutions: See Section 016000 Product Requirements.
 - 2. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
 - a. Products:
 - 1) ClarkDietrich; FastBridge Clip (FB33): www.clarkdietrich.com/#sle.
 - 2) Substitutions: See Section 016000 Product Requirements.

2.03 BOARD MATERIALS

1.

- A. Manufacturers Gypsum-Based Board:
 - 1. CertainTeed Corporation: www.certainteed.com/#sle.
 - 2. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
 - 3. National Gypsum Company: www.nationalgypsum.com/#sle.
 - 4. USG Corporation: www.usg.com/#sle.
 - 5. Substitutions: See Section 016000 Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - 2. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 3. Thickness:
 - a. Vertical Surfaces: As
 - b. Ceilings: As indicated on drawings.
 - c. Multi-Layer Assemblies: As indicated on drawings.
- C. Abuse Resistant Wallboard:
 - 1. Application:
 - a. Lobby 102, Hall 102A, Stair 106, Stair 113, Exercise 201, Hall 202, Hall 207, Hall 208, Janitor 209.
 - 2. Surface Abrasion: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
 - 3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
 - 4. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 5. Paper-Faced Type: Gypsum wallboard, as defined in ASTM C1396/C1396M.
 - 6. Type: Fire-resistance-rated Type X, UL or WH listed.
 - 7. Thickness: 5/8 inch.

- 8. Edges: Tapered.
- 9. Paper-Faced Products:
 - a. CertainTeed Corporation; Extreme Abuse Resistant Drywall with M2Tech: www.certainteed.com/#sle.
 - b. Georgia-Pacific Gypsum; ToughRock Fireguard X Mold Guard Abuse-Resistant: www.gpgypsum.com/#sle.
 - c. National Gypsum Company; Gold Bond Hi-Abuse XP Gypsum Board: www.nationalgypsum.com/#sle.
 - d. Substitutions: See Section 016000 Product Requirements.
- D. Backing Board For Wet Areas: One of the following products:
 - 1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
 - 2. Application: Horizontal surfaces behind tile in wet areas including countertops.
 - 3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 4. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - a. Thickness: 5/8 inch.
 - b. Products:
 - 1) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
 - 2) USG Corporation; Durock: www.usg.com/#sle.
 - 3) Substitutions: See Section 016000 Product Requirements.
- E. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
 - 1. Application: Vertical surfaces behind thinset tile, except in wet areas.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. Type: Regular and Type X, in locations indicated.
 - 4. Type X Thickness: 5/8 inch.
 - 5. Regular Board Thickness: 5/8 inch.
 - 6. Edges: Tapered.

2.04 GYPSUM WALLBOARD ACCESSORIES

- A. Mineral Fiber Batt Acoustic Insulation: Preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
 - 1. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.
 - 2. Thickness: As indicated on drawings.
 - 3. Density: 4 pcf (nominal) for 1" thick material
 - 4. Density: 2.5 pcf (nominal) for thicknesses greater than 1"
 - 5. Basis-of-Design Product: Subject to compliance with requirements provide SAFB; Thermafiber, Inc.
 - 6. Substitutions: See Section 016000 Product Requirements.
- B. Acoustic Sound Barrier: Engineered recycled acoustical grade polymer; ethylene vinyl accetate base; non PVC; no VOC's; mold resistant.
 - 1. Acoustic Properties: Minimum STC 26 per ASTM E 90-02
 - 2. Flammability Rating: Class A per ASTM E 84.

- 3. Mold & Mildew: No fungal or algae growth per ASTM
- 4. Fire Resistance: Rated for 1hr and 2 hr walls per ASTM E 119-08.
- 5. Thickness: 1/8 inch.
- 6. Sheet Size: 4' x 8'.
- C. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
 - 1. Products:
 - a. Franklin International, Inc; Titebond GREENchoice Professional Acoustical Smoke and Sound Sealant: www.titebond.com/#sle.
 - b. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
 - c. Substitutions: See Section 016000 Product Requirements.
- D. Finishing Accessories: ASTM C1047, galvanized steel sheet ASTM A924/A924M G90, unless noted otherwise.
 - 1. Types: As detailed or required for finished appearance.
- E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 - 1. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
 - 2. Joint Compound: Drying type, vinyl-based, ready-mixed.
- F. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.
- G. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.
- H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs as indicated.
 - 1. Extend partition framing to structure in all locations.
 - 2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
 - 3. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Blocking: Install wood blocking for support of:
 - 1. Framed openings.
 - 2. Wall-mounted cabinets.
 - 3. Plumbing fixtures.
 - 4. Toilet accessories.
 - 5. Wall-mounted door hardware.
 - 6. Owner Equipment.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
 - 1. Place one bead continuously on substrate before installation of perimeter framing members.
 - 2. Place continuous bead at perimeter of each layer of gypsum board.
 - 3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.04 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
- C. Double-Layer, Nonrated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- E. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- F. Installation on Metal Framing: Use screws for attachment of gypsum board.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.06 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with setting type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 - 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish. At bottom chord of roof assemblies RA-2 and RA-3.
 - 4. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 - 2. Taping, filling, and sanding are not required at surfaces behind fixed cabinetry.
 - 3. Taping, filling, and sanding are not required at base layer of double-layer applications.
- D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION 092116

SECTION 09 24 00- STUCCO CEMENT

PART 1 GENERAL

- 1.1 SECTION INCLUDES
 - A. Stucco and accessory products.

1.2 RELATED SECTIONS

- A. Section 033000 Cast-in-Place Concrete.
- B. Section 042200 Concrete Unit Masonry.
- C. Section 072500 Weather Barriers.
- D. Section 076200 Sheet Metal Flashing and Trim.
- E. Section 079200 Joint Sealants.
- F. Section 092116 Gypsum Board Assemblies.
- G. Section 099000 Painting and Coating.

1.3 REFERENCES

- A. ACI (American Concrete Institute).
- B. ASTM International (ASTM):
 - 1. ASTM C 91 Standard Specification for Masonry Cement.
 - 2. ASTM C 109 Standard Specification for Compressive Strength of Hydraulic Cement Mortars.
 - 3. ASTM C 144 Standard Specification for Aggregate for Masonry Mortar.
 - 4. ASTM C 348 Standard Specification for Flexural Strength of Hydraulic Cement Mortar.
 - 5. ASTM C 847 Standard Specification for Metal Lath.
 - 6. ASTM C 897 Standard Specification for Aggregate for job-mixed Portland Cement Based Plasters.
 - 7. ASTM C 920 Standard Specification for Elastomeric Joint Sealants.
 - 8. ASTM C 926 Standard Specification for Application of Portland Cement Based Plaster.
 - 9. ASTM C 979 Standard Specification for Pigments for Integrally Colored Concrete.
 - 10. ASTM C 1063 Standard Specification for Installation of Lathing and Furring for Portland Cement Plaster.
 - 11. ASTM D 226 Asphalt-Saturated organic Felt Used in Roofing and Waterproofing.
 - 12. ICC (International Code Council).
- C. NWCB (Stucco Resource Guide).
- D. PCA (Portland Cement Association).
- E. ICC ESR# 3529 Evaluation Report.
- F. NCMA TR-88 Hot & Cold Weather Masonry Construction Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300 Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Mixing and preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Test Reports:
 - 1. Submit certified test reports showing that the cementitious components of the mortar mix comply with the specified requirements.
 - 2. Submit certified test report showing that the mortar complies with the specified requirements.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors.
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long representing actual product, in color selected.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm specializing in manufacture of masonry materials with minimum 10 years' experience.
- B. Installer Qualifications: Minimum 5 year experience installing similar products.
- C. Mock-Up: Provide a 4-foot x 4-foot mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.
 - 4. Mock-up may not remain as part of the finished work.

1.6 PRE-INSTALLATION MEETINGS

- A. Pre-Installation Meeting: At least three weeks prior to commencing work conduct a meeting at the project site to discuss contract requirements and job conditions.
- B. Require the attendance of plastering contractor and installers of related materials.
- C. Notify Architect in advance of meeting.
- 1.7 DELIVERY, STORAGE, AND HANDLING
 - A. Deliver stucco mix to site in manufacturer's original unopened sealed bags with labels clearly indicating manufacturer and material.
 - B. Store materials indoors in an area protected from freezing, excessive heat and damage. Refer to "Store Materials" ASTM C 926.
 - C. Deliver all lath, trim accessories, and other specified products in original containers. Any damaged materials must be replaced.

1.8 PROJECT CONDITIONS

A. Do not apply when air or substrate temperature is below 40 degrees F (4 degrees C) or

above 90 degrees F (32 degrees C) within 48 hours after application.

- 1. 90 degrees F (32 degrees C) limitation does not apply to AMX 750 see data sheet for application instructions.
- B. Do not apply to frozen substrate or to a substrate containing frost.
- C. Application must comply with referenced standards and manufacturer's published recommendations.
- D. Do not store or apply materials when temperatures are below 40 degrees F (4 degrees C) or above 90 degrees F (32 degrees C).
- E. Protect from uneven and excessive evaporation during dry weather and from strong blasts of dry air.

1.9 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Amerimix, which is located at: 375 Northridge Rd.; Atlanta, GA 30350; Toll Free Tel: 800-334-0784; Tel: 770-804-3363 Web:<u>www.amerimix.com</u>
- B. Substitutions: See 016000.
- C. Requests for substitutions will be considered in accordance with provisions of Section 016000 Product Requirements.

2.2 MATERIALS

- A. Stucco: Portland cement stucco by Amerimix Companies comprised of the following base finish coats:
 - 1. Base Coat: Amerimix AMX 710 WMMR Water, Mold & Mildew Resistant Stucco (Scratch & Brown).
 - 2. Finish Coat: Amerimix AMX 775 C Colored Stucco.
- B. Accessory Products:
 - 1. Flashing: Corrosion resistant materials.
- C. Plaster Trim Accessories:
 - 1. Properly sized for the specified application.
 - 2. As specified or as indicated on the drawings.
 - 3. With weep holes when used at base of wall.
- D. Lath (conventional stucco systems) Installed per ASTM C 1063:
 - 1. Expanded Metal Lath ASTM C 847, galvanized steel, (2.5 pounds per square yard (1.4 kg/m2) 3.4 pounds per square yard (1.8 kg/m2) self-furring.
 - 2. Woven wire lath ASTM D 1032, galvanized steel.
 - 3. Plastic lath submit manufacturer's building code compliance report.
- E. Joint Sealants: ASTM C 920, closed cell backer rod compatible with sealants
- 2.3 MIXING

- A. Mixing Procedure: Follow product mixing instructions from technical data sheets.
- B. Re-tempering: Use cement plaster within 1 hour of initial mixing.
- C. Hot Weather: Follow National Concrete Masonry Association recommendations for hot weather construction.
- D. Cold Weather: Follow National Concrete Masonry Association recommendations for cold weather construction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until the substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation. Corrections of the substrate must be made before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces in accordance with ASTM C 926 and products published information in the technical data sheet in a total 4-coat application process. Follow ASTM C 926 Table 1 for required minimum thicknesses of all coats.
 - 1. Scratch Coat
 - 2. Scratch Coat
 - 3. Brown Coat
 - 4. Finish Coat
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions and in accordance applicable IBC, IRC, ASTM, ICC, and local requirements.

3.4 CURING

- A. Cure and provide time between coats in accordance with ASTM C 926 and manufacturer's instructions.
- B. Provide sufficient moisture in the plaster mix by curing to permit continuous hydration of the cementitious materials.
- C. Allow sufficient time between coats to permit each coat to cure and develop sufficient strength to resist cracking or other physical damage before the next coat is applied.
- D. Where allowed by local jurisdictions, the IBC ' Alternative Method' may be used as the standard for time between coats and curing.

3.5 FIELD QUALITY CONTROL

- A. Architect or qualified third party will inspect the application at the following stages to confirm the stucco is being applied and cured as specified and as indicated on the drawings.
 - 1. Completion of substrate installation, preparation, flashing and lathing

- 2. Completion of base coat application
- 3. Completion of finish coat application

3.6 CLEANING

- A. Remove and dispose of all temporary materials used to protect adjacent work and surrounding areas.
- B. Remove and clean from surfaces not intended to receive stucco.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 093000 - TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Ceramic accessories.
- D. Non-ceramic trim.
- E. Waterproofing Membrane.

1.02 RELATED REQUIREMENTS

- A. Section 090613 Materials Legend.
- B. Section 079200 Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- C. Section 092116 Gypsum Board Assemblies: Tile backer board.

1.03 REFERENCE STANDARDS

- A. ANSI A108/A118/A136 American National Standard Specifications for the Installation of Ceramic Tile (Compendium).
- B. ANSI A108.1a American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar.
- C. ANSI A108.1b American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar.
- D. ANSI A108.1c Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar.
- E. ANSI A108.2 American National Standard General Requirements: Materials, Environmental and Workmanship.
- F. ANSI A108.4 American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive.
- G. ANSI A108.5 American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
- H. ANSI A108.6 American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy.

- I. ANSI A108.8 American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout.
- J. ANSI A108.9 American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout.
- K. ANSI A108.10 American National Standard Specifications for Installation of Grout in Tilework.
- L. ANSI A108.12 American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar.
- M. ANSI A108.13 American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone.
- N. ANSI A108.19 American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar.
- O. ANSI A118.3 American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive.
- P. ANSI A118.4 American National Standard Specifications for Modified Dry-Set Cement Mortar.
- Q. ANSI A118.6 American National Standard Specifications for Standard Cement Grouts for Tile Installation.
- R. ANSI A118.10 American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone.
- S. ANSI A137.1 American National Standard Specifications for Ceramic Tile.
- T. ASTM C373 Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tiles and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products.
- U. TCNA (HB) Handbook for Ceramic, Glass, and Stone Tile Installation.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.
- 1.05 SUBMITTALS
 - A. See Section 013300 Submittal Procedures for submittal procedures.
 - B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives. Describe physical and performance characteristics, sizes, patterns, colors available and method of installation.
 - C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- 1.06 QUALITY ASSURANCE
 - A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.
- 1.07 DELIVERY, STORAGE, AND HANDLING
 - A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

PART 2 PRODUCTS

- 2.01 TILE
 - A. Basis-of-Design:
 - 1. Refef to Section 090613 "Materials Legend".
 - B. Ceramic Mosaic Tile, Type PT-4: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
 - 2. Size: Nominal size as indicated in Section 090613 "Materials Legend".
 - 3. Thickness: Match basis-of-design product.
 - 4. Shape: Square.
 - 5. Edges: Square.
 - 6. Color(s): Refer to Section 090613 Materials Legend..
 - 7. Installation Pattern: Refer to Section 090613 Materials Legend..
 - C. Ceramic Mosaic Tile, Type PT-3: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 10 percent as tested in accordance with ASTM C373.
 - 2. Size: Nominal size as indicated in Section 090613 "Materials Legend".
 - 3. Thickness: Match basis-of-design product.
 - 4. Shape: Square.
 - 5. Edges: Square.
 - 6. Color(s): Refer to Section 090613 Materials Legend..
 - 7. Installation Pattern: Refer to Section 090613 Materials Legend..
 - 8. Trim Units: Matching bead, cove, and surface bullnose shapes in sizes coordinated with field tile.
 - D. Porcelain Floor Tile, Type PT-1 and PT-5: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
 - 2. Size: Nominal size as indicated in Section 090613 Materials Legend.
 - 3. Thickness: Match basis-of-design product.
 - 4. Edges: Square.
 - 5. Color(s): Refer to Section 090613 Materials Legend.
 - 6. Installation Pattern: Refer to Section 090613 Materials Legend.
 - 7. Base: Matching tile, custom cut to size indicated.
 - E. Porcelain Wall Tile, Type PT-2: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
 - 2. Size: Nominal size as indicated in Section 090613 Materials Legend.

- 3. Thickness: Match basis-of-design product.
- 4. Edges: Square.
- 5. Surface Finish: Match basis-of-design product.
- 6. Color(s): Refer to Section 090613 Materials Legend.
- 7. Installation Pattern: Refer to Section 090613 Materials Legend.

2.02 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Refer to Section 090613 "Materials Legend".
- B. Non-Ceramic Trim Types TA-1 thru TA-4: Brushed nickel and satin anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
 - 1. Applications: Refer to Section 090613 "Materials Legend".
 - 2. Basis-of-Design:
 - a. Refer to Section 090613 "Materials Legend".

2.03 SETTING MATERIALS

- A. Floor Setting Materials:
 - 1. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02
 - 2. Latex-Portland Cement Mortar (Thinset): ANSI A118.4.
 - 3. Prepackaged, dry-mortar mix to which only water must be added.
 - 4. Prepackaged, dry-mortar mix combined with liquid-latex additive.
 - 5. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
 - a. Bostik, Inc.
 - b. Custom Building Products.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.
- B. Wall Setting Materials:
 - 1. 1. Provide nonsagging mortar
 - 2. 2. Organic Adhesive: ANSI A136.1, Type I, with a VOC content of 65g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 3. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
 - a. Bostik, Inc.
 - b. Custom Building Products.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.

2.04 GROUTS

- A. Standard Grout: ANSI A118.6 standard cement grout.
 - 1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
 - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
 - 3. Color(s): Refer to 09 06 13 Materials Legend..
 - 4. Basis-of-Design Product:
 - a. Refer to 090613 Materials Legend.

- b. Substitutions: See Section 016000 Product Requirements.
- B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
 - 1. Applications: Shower. Including opening into adjacent Toilet Room, where applicable..
 - 2. Color(s): Refer to 090613 "Materials Legend"..
 - 3. Basis-of-Design Product:
 - a. Refer to Section 090613 "Materials Legend".
 - b. Substitutions: See Section 016000 Product Requirements.

2.05 ACCESSORY MATERIALS

- A. Waterproofing Membrane at Restrooms: Specifically designed for bonding to cementitious substrate over thick mortar bed or under thin-set tile; complying with ANSI A118.10.
 - 1. Fluid or Trowel Applied Type:
 - a. Material: Liquid membrane..
 - b. Thickness: 5 mm to .8 mm minimum, dry film thickness.
 - c. Basis-of-Design Product:
 - 1) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com/#sle.
 - 2) Substitutions: See Section 016000 Product Requirements.
 - d. Apply to all floors and up walls a minimum of 6".
- B. Waterproofing Membrane at Showers: Specifically designed for bonding to cementitious substrate over thick mortar bed or under thin-set tile; complying with ANSI A118.10.
 - 1. Mortar Bonded Sheet Type:
 - a. Material: PVC sheet membrane, 40 mils, thick, minimum.
 - b. Basis-of-Design Product:
 - 1) Noble Company; NobleSeal TS: www.noblecompany.com/#sle.
 - c. At Showers: Install on entire floor and up all walls a minimum of 6'-0". Install per the manufacturer's recommendations.
 - d. At all Floor Drains: Install a minimum of 18" around the entire drain, using products recommended by this manufacturer for a complete installation.
 - e. Use all products available from Nobleseal to install a complete waterproofed system.
- C. Joint Sealer: Refer to Section 079200 Joint Sealants.
- D. Grout Sealer: As recommended by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.

- D. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
 - 1. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- 3.03 INSTALLATION GENERAL
 - A. Install tile and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19, manufacturer's instructions, and TCNA (HB) recommendations.
 - B. Lay tile to pattern indicated indicated in Section 090613 "Materials Legend". Do not interrupt tile pattern through openings.
 - C. If no pattern is indicated, lay tile to ensure pieces not less than 4". Coordinate interruptions through openings with architect if realignment is needed.
 - D. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
 - E. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
 - F. Form internal angles square and external angles bullnosed.
 - G. Install base flush.
 - H. Install ceramic accessories rigidly in prepared openings.
 - I. Install non-ceramic trim in accordance with manufacturer's instructions.
 - J. Sound tile after setting. Replace hollow sounding units.
 - K. Keep control and expansion joints free of mortar, grout, and adhesive. Apply sealants to joints.
 1. Place control joints at perimeter of floor, internal corners of walls, and over joints in substrate.
 - L. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
 - M. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
 - N. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
 - O. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

P. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.
- B. Grout Width: Refer to Section 090613 "Materials Legend".
- 3.05 INSTALLATION FLOORS MORTAR BED METHODS
 - A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F111, with cleavage membrane, unless otherwise indicated.
 - 1. Where waterproofing membrane is indicated, with standard grout or no mention of grout type, install in accordance with TCNA (HB) Method F121.
 - B. Cleavage Membrane: Lap edges and ends.
 - C. Mortar Bed Thickness: 1-1/4 inch, unless otherwise indicated.
 - D. Grout Width: Refer to Section 090613 "Materials Legend".
- 3.06 INSTALLATION WALL TILE
 - A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.
 - B. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.
 - C. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thinset with dry-set or latex-Portland cement bond coat.
 - D. Joint Width: Refer to Sction 090613 "Materials Legend".
- 3.07 CLEANING
 - A. Clean tile and grout surfaces.
- 3.08 PROTECTION
 - A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION 093000

SECTION 095100 - ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 090613 Materials Legend.

1.03 REFERENCE STANDARDS

- A. ASTM C635/C635M Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
- B. ASTM C636/C636M Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
- C. ASTM E580/E580M Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.
- D. ASTM E1264 Standard Classification for Acoustical Ceiling Products.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Provide data on suspension system components and acoustical units.
- C. Samples: Submit two samples 4 by 4 inches in size illustrating material and finish of acoustical units.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.05 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:

Ithaca Fire Station Acoustical Ceilings

- 1. Refer to Section 090613 "Materials Legend".
- 2. Substitutions: See Section 016000 Product Requirements.

2.02 ACOUSTICAL UNITS

- A. Acoustical Units General: ASTM E1264, Class A.
- B. Acoustical Panels, Type ACT-1: Wet formed mineral fiber with factory applied latex paint, with the following characteristics:
 - 1. Classification: ASTM E1264 Type IV.
 - a. Form: 1, nodular.
 - b. Pattern: "E" lightly textured.
 - 2. Size and Thickness: Refer to Section 090613 "Materials Legend".
 - 3. Thickness: Refer to Section 090613 "Materials Legend".
 - 4. Light Reflectance: .90 percent, determined in accordance with ASTM E1264.
 - 5. NRC: .75, determined in accordance with ASTM E1264.
 - 6. Ceiling Attenuation Class (CAC): 35, determined in accordance with ASTM E1264.
 - 7. Panel Edge: Refer to Section 090613 "Materials Legend"..
 - 8. Color: Refer to Section 090613 "Materials Legend"..
- C. Acoustical Panels, Type ACT-2: Mineral fiber with scrubbable finish, with the following characteristics:
 - 1. Classification: ASTM E1264 Type IX.
 - a. Form: 2, water felted.
 - b. Pattern: "G" smooth.
 - 2. Size and Thickness: Refer to Section 090613 "Materials Legend".
 - 3. Thickness: Refer to Section 090613 "Materils Legend".
 - 4. Light Reflectance: .90 percent, determined in accordance with ASTM E1264.
 - 5. Ceiling Attenuation Class (CAC): 35, determined in accordance with ASTM E1264.
 - 6. Panel Edge: Refer to Section 090613 "Materials Legend"...
 - 7. Color: Refer to Section 090613 "Materials Legend"...
- D. Acoustical Panels, Type ACT-3: Mineral fiber with factory applied latex paint, with the following characteristics:
 - 1. Classification: ASTM E1264 Type IV.
 - a. Form: 1, nodular.
 - b. Pattern: "E" lightly textured.
 - 2. Size and Thickness: Refer to Section 090613 "Materials Legend".
 - 3. Thickness: Refer to Section 090613 "Materials Legend".
 - 4. Light Reflectance: .90 percent, determined in accordance with ASTM E1264.
 - 5. NRC: .90, determined in accordance with ASTM E1264.
 - 6. Ceiling Attenuation Class (CAC): 30, determined in accordance with ASTM E1264.
 - 7. Panel Edge: Refer to Section 090613 "Materials Legend"..
 - 8. Color: Refer to Section 090613 "Materials Legend"...

2.03 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

- B. Metal Suspension Systems General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.
- C. Manufacturer and Product: Same as for acoustical units. Refer to Section 090613 "Materials Legend".
- D. Exposed Suspension System for Ceiling: Hot-dipped galvanized steel grid and cap.
 - 1. Structural Classification: Heavy-duty, when tested in accordance with ASTM C635/C635M.
 - 2. Profile: Refer to Section 090613 "Materials Legend".
 - 3. Finish: Refer to Section 090613 "Materials Legend"..
 - 4. Color: Refer to Section 090613 "Materials Legend"..

2.04 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.
- B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.
- C. Hold-Down Clips: Manufacturer's standard clips to suit application.
- D. Perimeter Moldings: Same metal and finish as grid.
- E. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 PREPARATION

- A. Install after major above-ceiling work is complete.
- B. Coordinate the location of hangers with other work.

3.03 INSTALLATION - SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

- D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Miter corners.
- E. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- F. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- G. Seismic Suspension System, Seismic Design Category C: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Maintain a 3/8 inch clearance between grid ends and wall.
- H. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- I. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- J. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- K. Do not eccentrically load system or induce rotation of runners.

3.04 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- E. Cutting Acoustical Units:
 - 1. Make field cut edges of same profile as factory edges.
 - 2. Double cut and field paint exposed reveal edges.
- F. Where round obstructions occur, provide preformed closures to match perimeter molding.
- G. Lay acoustical insulation for a distance of 48 inches either side of acoustical partitions as indicated.
- H. Install hold-down clips on each panel to retain panels tight to grid system; comply with fire rating requirements.
- I. Install hold-down clips on panels within 20 ft of an exterior door.

3.05 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

Ithaca Fire Station Acoustical Ceilings B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION 095100
SECTION 096500 - RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient tile flooring.
- B. Resilient base.
- C. Resilient stair accessories.
- D. Installation accessories.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied resilient flooring.
- B. Section 09 06 13 Materials Legend.

1.03 REFERENCE STANDARDS

- A. ASTM E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
- B. ASTM F1344 Standard Specification for Rubber Floor Tile.
- C. ASTM F1700 Standard Specification for Solid Vinyl Floor Tile.
- D. ASTM F1861 Standard Specification for Resilient Wall Base.
- E. ASTM F2169 Standard Specification for Resilient Stair Treads.
- F. NFPA 253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

1.04 SUBMITTALS

- A. See Section 01 33 00 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 1. Extra Flooring Material: Quantity equal to 2 percent of each type and color.

1.05 DELIVERY, STORAGE, AND HANDLING

Ithaca Fire Station Resilient Flooring

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Do not double stack pallets.

1.06 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 TILE FLOORING

- A. Vinyl Tile LVT-1 and LVT-2: Solid vinyl with color and pattern throughout thickness.
 1. Manufacturers:
 - a. Basis-of-Design Product: Refere to Section 090613 "Materials Legend".
 - b. Substitutions: See Section 016000 Product Requirements.
 - 2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
 - a. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - b. Plank Tile Size: Refer to Section 090613 "Materals Legend".
 - c. Wear Layer Thickness: 20 mil, minimum.
 - d. Total Thickness: Refer to Section 090613 "Materials Legend".
 - e. Color: Refer to Section 090613 "Materials Legend"..
- B. Rubber Tile Type RT-1; RT-2 and RT-3: Homogeneous, color and pattern throughout thickness.
 - 1. Manufcaturers:
 - a. Basis-of-Design Product: Refere to Section 090613 "Materials Legend".
 - b. Substitution: See Section 016000 Product Requirements.
 - 2. Minimum Requirements: Comply with ASTM F1344, of Class corresponding to type specified.
 - a. Size: Refer to Section 090613 "Marerials Legend".
 - b. Total Thickness: Refer to Section 0906134 "Materials Legend".
 - c. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - d. Thickness: Refer to Section 090613 "Materials Legend".
 - e. Color: Refer toSection 090613 "Materials Legend:.
- C. Rubber Tile: Type SRF-1 Recycled SBR (styrene butadiene rubber) and colored EPDM (ethylene propylene diene monomer) granules with urethane binder.
 - 1. Manufacturers:
 - a. Basis-of-Dexsign Product: Refer to Section 090613 "Materials Legend".
 - b. Substitutions: See Section 016000 Product Requirements.
 - 2. Minimum Requirements:

- a. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
- b. Size: Refer to Section 090613 "Materials Legend:.
- c. Thickness: Refert Section 090613 "Materials Legend".
- d. Color: Refer to Section 090613 "Materials Legend".

2.02 STAIR COVERING

- A. Stair Treads with Integral Risers (RTR-1): Rubber; full height of riser, full width and depth of tread in one piece; tapered thickness.
 - 1. Manufacturers:
 - a. Basis-of-Design Product: Refer to Section 09 06 13 Materials Legend,
 - b. Substitutions: See Section 016000 Product Requirements.
 - 2. Minimum Requirements: Comply with ASTM F2169, Type TS, rubber, vulcanized thermoset.
 - a. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - b. Nominal Thickness: .125 inch.
 - c. Nosing: Square.
 - d. Profile: Round raised discs.
 - e. Color: Refer to 090613 Materials Legend.
 - 3. Nominal Thickness: .125 inch.
 - 4. Nosing: Square.
 - 5. Tread Texture: Smooth.
 - 6. Color: Refer to Section 09 06 13 Materials Legend..

2.03 RESILIENT BASE

- A. Resilient Base Type RB-1: ASTM F1861, Type TP, rubber, thermoplastic; style as scheduled.
 1. Manifacturers:
 - a. Basis-of-Design Product: Refer to Section 090613 "Materials Legend".
 - b. Substitutions: See Section 016000 Product Requirements.
- B. Minimum Requirements:
 - 1. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - 2. Height: Refer to Section 090613 "Materials Legend".
 - 3. Thickness: 0.125 inch.
 - 4. Finish: Matte.
 - 5. Color: Refer to Section 090613 "Materials Legend".

2.04 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
- C. Moldings, Transition and Edge Strips: Refer to Section 09 06 13 Materials Legend..

PART 3 EXECUTION

Ithaca Fire Station Resilient Flooring

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
 - 1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is fully cured.
- D. Clean substrate.
- E. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.
- 3.03 INSTALLATION GENERAL
 - A. Starting installation constitutes acceptance of subfloor conditions.
 - B. Install in accordance with manufacturer's written instructions.
 - C. Adhesive-Applied Installation:
 - 1. Spread only enough adhesive to permit installation of materials before initial set.
 - 2. Fit joints and butt seams tightly.
 - 3. Set flooring in place, press with heavy roller to attain full adhesion.
 - D. Loose-Laid Installation: Set flooring in place in accordance with manufacturer's instructions.
 - E. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
 - F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
 - 1. Resilient Strips: Attach to substrate using adhesive.
 - G. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.
- B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern. Unless otehrwise indicated.
- C. Installation Patterns: Refer to Section 090613 "Materials Legend".
- D. Install loose-laid tile, fit interlocking edges tightly.
- E. Install plank tile with a random offset of at least 6 inches from adjacent rows.

3.05 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.06 INSTALLATION - STAIR COVERINGS

- A. Install stair coverings in one piece for full width and depth of tread.
- B. Adhere over entire surface. Fit accurately and securely.

3.07 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

3.08 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION 096500

SECTION 096700 - FLUID-APPLIED FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fluid-applied flooring and base.
- B. See Part 2 "Performance Criteria" for specific work performance criteria required for this contract as part of the Work of this section.

1.02 RELATED REQUIREMENTS

- A. Section 012300 Alternates: Alternative price requirements for project.
- B. Section 079200 Joint Sealants: Sealing joints between fluid-applied flooring and adjacent construction and fixtures.
- C. Section 090561 Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.03 REFERENCE STANDARDS

- A. ASTM D522 Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings; 2013.
- B. ASTM D523 Standard Test Method for Specular Gloss; 2014.
- C. ASTM D638 Standard Test Method for Tensile Properties of Plastics 2014.
- D. ASTM D695 Standard Test Method for Compressive Properties of Rigid Plastics 2015.
- E. ASTM D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials; 2010.
- F. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test; 2011.
- G. ASTM D4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser 2019.
- H. ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers; 2009.
- I. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
- J. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2011.
- K. SSPC-TU 10 Procedures for Applying Thick Film Coatings and Surfacings Over Concrete Floors; 2004.

- L. All work of this section shall conform to industry standards, such as SSPC-TU 10 of the Society for Protective Coatings, and manufacturer's recommendations.
- M. All safety precautions, as outlined or indicated by OSHA, including on-site Material Safety Data Sheets, are to be taken.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, and colors available; and testing standard compliance.
- C. Shop Drawings: Provide drawings of intended treatment of control joints and system terminations.
- D. Samples: Submit one sample, 3 x 3 inch in size illustrating color and pattern for each floor material for each color specified from manufacturer's full line.
- E. Manufacturer's written certification of Applicator.
- F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
- I. A list of five (5) installations of this type and size completed by the bidders firm. The list is to include a contact name and phone number for each installation.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the work of this section.
 - 1. Approved by manufacturer.
- C. Supervisor Qualifications: Trained by product manufacturer, under direct full-time supervision of manufacturer's own foreman.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Pursuant to manufacturer's published instructions, with clearly legible manufacturer identification and labels or other identifying devices securely attached to packaging.
- B. Protect against moisture exposure and damage.
- C. Store resin materials in a dry, secure area in manufacturer's original unopened containers.
- D. Store materials for three days prior to installation in area of installation to achieve temperature stability.

Ithaca Fire Station Fluid-Applied Flooring

1.07 FIELD CONDITIONS

- A. Maintain minimum temperature in storage area of 60 degrees F.
- B. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 72 hours after installation of materials.

1.08 WARRANTY

- A. See Section 017800 Closeout Submittals for warranty requirements.
- B. Warranty: Manufacturer's standard, including a specific claim that the system is capable of sustaining the normal operating heat and loading of the vehicle tires without physical damage. Provide two (2) copies listing the Owner as beneficiary.

PART 2 PRODUCTS

2.01 PERFORMANCE CRITERIA

- A. Provide labor and materials necessary to provide a complete system.
- B. Perform all work of this section with experienced workmen familiar with the work, and in accordance with industry standards and manufacturer's recommendations.

2.02 MANUFACTURERS

- A. Fluid-Applied Flooring:
 - 1. Dur-A-Flex, Inc.: www.dur-a-flex.com.
 - 2. Sherwin-Williams Company: General Polymers Brand: www.generalpolymers.com.
 - 3. Substitutions: See Section 016000 Product Requirements.

2.03 FLUID-APPLIED FLOORING SYSTEMS

- A. Fluid-Applied Flooring Type (FAF1): **Dur-A-Quartz**: Epoxy base coat(s) with embedded quartz aggregate.
 - 1. Locations: Firematic spaces as indicated on Drawings.
 - 2. Topcoat: Urethane.
 - 3. System Thickness: 1/8-inch, nominal, when dry.
 - 4. Texture: Slip resistant.
 - 5. Sheen: Satin.
 - 6. Color: As selected by Architect.
 - 7. Aggregate Type: "Q28 Dur-A-Quartz Aggregate" by Dur-A-Flex, Inc.
 - a. Substitutions: See Section 016000 Product Requirements.
 - 8. Aggregate Application Method: Double Broadcast.

Ithaca Fire Station Fluid-Applied Flooring

- 9. Color additives shall be supplied by the same manufacturer as the epoxy resin components.
- 10. Products:
 - a. Dur-A-Flex, Inc.; Dur-A-Quartz Epoxy Broadcast System with "ARMOR TOP" Urethane Topcoat: www.dur-a-flex.com.
 - b. Dur-A-Flex, Inc.: Dur-A-Gard, Epoxy-Based seamless flooring system with "ARMOR TOP" Urethane Topcoat: www.dur-a-flex.com.
 - c. Substitutions: See Section 016000 Product Requirements.

11. Primer; Product "Dur-A-Glaze WB":

Percent Solids	56%
VOC	2 g/L
Bond Strength to Concrete, ASTM D4541	550 psi, substrate fails
Hardness, ASTM D3363	3H
Elongation, ASTM D2370	9%
Flexibility (1/4: Cylindrical mandrel), ASTM D522	Pass
Impact Resistance, MIL D-2794	>160
Abrasion Resistance, ASTM D4060; CS 17 wheel,	30 mg loss
1,000 g load	

- a. Use water-borne system if conditions warrant.
- 12. Broadcast Coat, Grout Coat, and any intermediate coats; Product "Dur-A-Glaze #4":

Percent Solids	100%
VOC	3.8 g/L
Compressive Strength, ASTM D695	11,200 psi
Tensile Strength, ASTM D638	2,100 psi
Flexural Strength, ASTM D790	5,100 psi
Abrasion Resistance, ASTM D4060; CS 17 wheel,	29 mg loss
1,000 g load, 1,000 cycles	
Flame Spread/NFPA 101, ASTM E84	Class A
Impact Resistance, MIL D-24613	0.0007 inches, no
	cracking or
	delamination
Water Absorption, MIL D-24613	Nil
Potlife @ 70 degrees F	20 minutes

13. Topcoat; Product "Armor Top":

Percent Solids	95%
VOC	0 g/L
Tensile Strength, ASTM D2370	7,000 psi
Adhesion, ASTM 4541	Substrate Failure
Hardness, ASTM D3363	4H

60 degree Gloss, ASTMD523	70
Abrasion Resistance, ASTM D4060; CS 17 wheel,	Gloss Satin
1,000 g load, 1,000 cycles	4 8 mg loss with grit
	10 12 mg loss w/o grit
Pot Life, 70 degrees F, 50% RH	2 hours
Full Chemical Resistance	7 days

- B. Floor Accent Striping Type (FAF2): Dur-A-Gard, Epoxy-Based seamless flooring system
 - 1. Locations: In Apparatus Bay as indicated on Drawings.
 - 2. System Materials:
 - a. Primer: Dur-A-Flex, Inc., Dur-A-Glaze #4 WB resin and hardener
 - 1) Percent Solids: 56%
 - 2) Bond Strength to Concrete ASTM D 4541: 550 psi, substrate fails
 - 3) Hardness, ASTM D 3363: 3H
 - 4) Impact Resistance, MIL D-2794: >160
 - b. Base Coat: Dur-A-Flex, Inc., Dur-A-Gard resin and hardener
 - 1) Percent Solids: 100%
 - 2) Compressive Strength, ASTM D 695: 16,000 psi
 - 3) Tensile Strength, ASTM D 638: 3,800 psi
 - 4) Flexural Strength, ASTM D 790: 4,000 psi
 - 5) Abrasion Resistance, ASTM D 4060, C-10 Wheel, 1,000 gm load, 1,000 cycles: 35 mg loss
 - (a) Backroll aluminum oxide to provide slip resistance of 0.8 (orange peel)
 - 6) Impact Resistance MIL D-3134: 0.025 inch Max
 - 7) Water Absorption MIL D-3134: 0.04%
 - c. Topcoat: Dur-A-Flex, Inc., Armor Top resin, hardener and grit.
 - 1) See above for Product Requirements
 - 3. Patch Materials
 - a. Shallow Fill and Patching: Use Dur-A-Flex, Inc., Dur-A-Glaze Rapid-Patch
 - b. Deep Fill and Sloping Material (over 1/4 inch): Use Dur-A-Flex, Inc., Dur-A-Crete.
 - 4. Accent Striping Width: 6 inch or as indicated on the Drawings.
 - 5. Color: Yellow.

Ithaca Fire Station Fluid-Applied Flooring

- C. Fluid-Applied Flooring Type (FAF3): **Hybri-Flex EC**; (self leveling chip broadcast), epoxy/aliphatic urethane topcoat seamless flooring system.
 - 1. Location: Shower and toilet rooms as indicated on Drawings.
 - 2. System Materials:
 - a. Topping: Dur-A-Flex, Inc, Poly-Crete SL resin, hardener and SL aggregate.
 - b. The broadcast aggregate shall be Dur-A-Flex, Inc. Micro chip.
 - c. Broadcast: Dur-A-Flex, Inc. Dur-A-Glaze #4, epoxy based two-component resin.
 - d. Seal coats: Dur-A-Flex, Inc Dur-A-Glaze #4, epoxy-based, two-component resin.
 - e. Topcoat: Dur-A-Flex, Inc. Armor Top aliphatic urethane 2 component resin with grit.
 - 3. Patch Materials:
 - a. Shallow Fill and Patching: Use Dur-A-Flex, Inc. Poly-Crete SL (up to ¹/₄ inch).
 - b. Deep Fill and Sloping Material (over ¼ inch): Use Dur-A-Flex, Inc. Poly-Crete WR.
 - 4. Thickness: 1/4-inch, nominal, when dry.
 - 5. Texture: Slip resistant.
 - 6. Sheen: Semi-Gloss.
 - 7. Color: As selected by Architect.
 - 8. Products:
 - a. Topping; Product "Poly-Crete SL":

Percent Reactive	100%
VOC	0 g/L
Bond Strength to Concrete, ASTM D4541	400 psi, substrate fails
Compressive Strength, ASTM C579	7,400 psi
Tensile Strength, ASTM D638	1,800 psi
Impact Resistance @ 125 mils, MIL D-3134; No	>160 inch lbs
visible damage or deterioration	

b. Broadcast Coat: Product "Dur-A-Glaze #4 Resin":

Percent Reactive	100 %
VOC	<4 g/L
Water Absorption, ASTM D 570	0.04%
Tensile Strength, ASTM D 638	4000psi
Coefficient of thermal expansion ASTM D 696	2 x 10-5 in/in/F
Flammability ASTM D-635	Self-Extinguishing

Flame Spread/ NFPA 101 ASTM E-84	Class A
c. Topcoat: Product "Armor Top":	
VOC	0 g/L
60 Degree Gloss ASTM D523	75+/-5
Mixed Viscosity, (Brookfield 25oC)	500 cps
Tensile strength, ASTM D 638	7,000 psi
Abrasion Resistance, ASTM D4060 CS 17 wheel (1,000 g load) 1,000 cycles	Gloss: 4 mg loss with grit, 10 mg loss without grit. Satin: 8 mg loss with grit, 12 mg loss without grit.
Pot life @ 700 F 50% RH	2 hours
Dry properties, 70oF, 50% R.H.	8 hours tack free, 12 hours Dry
Dry properties, 60oF, 30% RH	12 hours tack free, 18 hours Dry
Dry properties, 80oF, 70%RH	4 hours tack free, 6 hours Dry
Flash Point PMCC	1860F
Full Chemical resistance	7 days

2.04 FINISHES

A. Finish coat color shall be selected by Architect from manufacturer's standard solid colors, chip color blends, and speckled blends. Texture selected by the Architect.

2.05 ACCESSORIES

- A. Transitions:
 - 1. Manufacturer: Schluter Systems; Schiene trim Stainless Steel
 - 2. Locations: At room-to-room transitions of different fluid-applied finishes.
- B. Moisture Mitigating Primer: Include in BASE BID the installation of Dur-A-Flex, Inc. Dur-A-Glaze MVP Primer moisture mitigation system to be installed prior to resinous flooring installation. Should the relative humidity percentages found from testing indicate it not necessary to use Dur-A-Glaze MVP, Section 012200 Unit Prices shall apply.
- C. Subfloor Filler for Shallow Fill and Patching: Thixotropic thermosetting epoxy; type recommended by flooring material manufacturer.
- D. Subfloor Filler for Deep Fill and Sloping Material (over 1/4 inch): Heavy-duty, trowelapplied, 100% solids epoxy resin; type recommended by flooring material manufacturer.
- E. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.

Ithaca Fire Station Fluid-Applied Flooring

PART 3 EXECUTION

3.01 EXAMINATION

- A. Ensure substrates are clean, dry, level, and structurally sound, with no projections from surfaces.
- B. Ensure substrates free from irregularities greater than 1/8 inch.
- C. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.
- D. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive flooring.
- E. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.
- F. Verify that concrete sub-floor surfaces are ready for flooring installation **by Owner's Testing Agency** for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 - 1. Perform in-situ Relative Humidity (RH) testing in accordance with ASTM F2170. Results must be under 75 percent. Provide complete set of testing results per ASTM F2170 including a location plan of all probe locations. Provide probe identification numbers and individual test results per probe.
 - 2. If RH testing is over 75 percent, follow manufacturer's recommendations for moisture mitigation systems. The mitigation system will be included as base project requirement.
- G. Verify that required floor-mounted utilities are in correct location.
- H. Do not proceed with work until unsatisfactory conditions detrimental to the proper and timely completion of the work have been corrected. Commencement of work constitutes installer's acceptance of substrates and conditions.

3.02 PREPARATION

- A. Clean and degrease all substrate(s) receiving fluid-applied flooring systems.
- B. Prepare all concrete surfaces scheduled to receive fluid-applied flooring by the "blast track" method. "Blast track" cleaning shall be provided by mechanics experienced in this operation Profile concrete according to International Concrete Repair Institute Guideline 03732, having a minimum profile of CSP 4-5.
- C. Mechanically abrade floor areas inaccessible to the mobile blast machines to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, scarifiers, rotary impact tools, or other suitable equipment.
- D. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
- E. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Grind irregularities above the surface level. Prohibit traffic until filler is cured.

- F. Filling of bug holes and surface defects: Pre-detail concrete surface with 100% solids epoxy mortar as manufactured by the floor system Manufacturer
- G. Existing expansion joints and control joints shall be cut clear of any existing material and shall be treated as outlined by Manufacturer's recommendations.
- H. Vacuum clean substrate.
- I. Apply primer to surfaces required by flooring manufacturer.
- 3.03 INSTALLATION FLOORING GENERAL
 - A. Apply in accordance with manufacturer's instructions.
 - B. Do not contaminate adjacent surfaces, finishes, etc.
 - C. Dry surfaces prior to application of any system component. Remove any remaining dust or loose particles using a vacuum or clean, dry, oil-free compressed air.
 - D. Remove all existing thresholds and terminate flooring finish so that the thresholds will cover the termination. Replace thresholds at completion.
 - E. Cut key slots a minimum of 1/2 inch by 1/2 inch wherever a free edge will occur, including but not limited to all drains, other fittings set into the floor surface, across all termination lines not covered by thresholds, transitions to other floor systems, doorways, wall perimeters, expansion joints, columns, and equipment pads. Cut key slot at all Apparatus Bay doors lined up with bottom door seal at interior side.
 - F. Chisel or chip-out and repair cracks and joints (non-moving) greater than 1/2 inch wide in accordance with manufacturer's recommendations.
 - G. Apply primer by using a flat squeegee and back-roll with a 3/8" nap roller cover.
 - H. Power sand floor to remove any high spots and re-prime.
 - I. Mix, handle, and add components in a safe manner to achieve the desired results in accordance with the manufacturer's recommendations.
 - J. Apply each coat to minimum thickness required by manufacturer.
 - K. Follow the contour of the substrate unless pitching or other leveling work in indicated otherwise in the contract documents.
 - L. Finish to smooth level surface. Provide a neat finish with well-defined boundaries and straight edges.
 - M. Install flooring in recessed type floor access covers.
 - N. Fillet and cove at vertical surfaces.

3.04 INSTALLATION - EPOXY TYPE FLOORING

A. Apply basecoat after prime coat has sufficiently cured, as outlined by manufacturer. The base coat shall be mixed with color additive and sufficiently blended to ensure a thoroughly homogenized material. Do not introduce air bubbles or other contaminants during

mixing. Apply mixed material at the rate of 80 square feet per gallon to a thickness of approximately 20 mils.

- B. First Broadcast broadcast quartz aggregate evenly to saturation.
- C. For areas designated as "Double Broadcast":
 - 1. Intermediate Coat intermediate coat shall be as base coat, resin to be water clear.
 - 2. Second Broadcast broadcast colored quartz aggregate evenly to saturation.
 - 3. Topcoat topcoat shall be applied at a rate of approximately 100 square feet per gallon using a high quality 3/8" nap roller to give a uniform thickness and even appearance. (Standard textured finish.)
 - 4. Total base coat plus aggregate plus lock coat shall total approximately 125 mils (min. 120 mils).

3.05 INSTALLATION - URETHANE TYPE FLOORING

- A. The system shall be applied in two distinct steps as listed below:
 - 1. Substrate preparation
 - 2. Topping application
- B. Wherever a free edge will occur, including doorways, wall perimeters, expansion joints, columns, and equipment pads, a ¹/₄ inch by ¹/₄ inch keyway shall be cut in. At edges such as doorways, drains and transitions to other floor systems a ¹/₂ inch by ¹/₂ inch keyway shall be cut in.
- C. Cracks and joints (non-moving) greater than 1/2-inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
- D. Immediately prior to the application of any component of the system, the surface shall be dry, and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
- E. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
- F. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
- G. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.
- H. Topping
 - 1. The topping shall be a trowel applied as specified. The topping shall be applied in one lift with a nominal thickness of 1/4 inch.
 - 2. The topping shall be comprised of three components, a resin, hardener, and filler as supplied by the Manufacturer.

- 3. The hardener shall be added to the resin and thoroughly dispersed by suitably approved mechanical means. HF Aggregate shall then be added to the catalyzed mixture and mixed in a manner to achieve a homogenous blend.
- 4. The topping shall be applied over horizontal surfaces using a screed box, trowels or other systems approved by the Manufacturer.
- I. Install cove base of the same material, to a height as detailed and located on the drawing(s). Cove at a minimum radius of ½".

3.06 CLEANING

- A. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.
- B. Clean up all debris and dirt resulting from work.

3.07 PROTECTION

- A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
- B. Prohibit traffic on floor finish for 48 hours after installation.
- C. Barricade area to protect flooring until fully cured.

END OF SECTION

SECTION 096813 - TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Carpet tile, fully adhered.
- B. Walk-off carpet tile, fully adhered.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied flooring.
- B. Section 09 06 13 Materials Legend.

1.03 REFERENCE STANDARDS

- A. ASTM D2859 Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
- B. ASTM E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
- C. ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- D. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- E. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- F. CRI 104 Standard for Installation of Commercial Carpet.
- G. NFPA 253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 1. Extra Carpet tile: Refer to 090613 Materials Legend.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis-of-Design Product: Refer to Section 090613 "Materials Legend".
1. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

- A. Tile Carpeting, Type CPT-1: Tufted, textured loop, manufactured in one color dye lot.
 - 1. Tile Style, Fiber, Color and Size: Refer to Section 090613 "Materials Legend".
 - 2. Pattern and Installation: Refer to Section 090613 "Materials Legend"..
 - 3. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
 - 4. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
 - 5. Maximum Electrostatic Charge: 3.5 Kv. at 20 percent relative humidity.
 - 6. Gauge: 1/12 inch.
 - 7. Stitches: 10.4 per inch.
 - 8. Finished Pile Height: 0.15 inch.
 - 9. Finished Pile Thickness: 0.12 inch.
 - 10. Primary Backing Material: Refer to Section 09 06 13 Materials Legend..
 - 11. Nominal Total Thickness: 0.38 inch.
 - 12. Nominal Total Weight: 119.0 oz/sq yd.
- B. Tile Carpeting, Type CPTM-1: Extruded aluminum profile with foam base layer.
 - 1. Tile Style, Fiber, Thickness, Color and Size: Refer to Section 090613 "Materials Legend".
 - 2. Pattern and Installation: Refer to Section 090613 "Materials Legend"..
 - 3. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
 - 4. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
 - 5. Maximum Electrostatic Charge: 3.5 Kv. at 20 percent relative humidity.
 - 6. Nominal Total Weight: 8,360 g/m sq.

2.03 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

Ithaca Fire Station Tile Carpeting

- B. Edge Strips: Embossed aluminum, color as selected by Architect.
- C. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
 - 1. Test as Follows:
 - a. Alkalinity (pH): ASTM F710.
 - b. Internal Relative Humidity: ASTM F2170.
 - c. Moisture Vapor Emission: ASTM F1869.
 - 2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.
- C. Vacuum clean substrate.
- 3.03 INSTALLATION
 - A. Starting installation constitutes acceptance of subfloor conditions.
 - B. Install carpet tile in accordance with manufacturer's instructions.
 - C. Blend carpet from different cartons to ensure minimal variation in color match.
 - D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
 - E. Locate change of color or pattern between rooms under door centerline.
 - F. Fully adhere carpet tile to substrate.
 - G. Trim carpet tile neatly at walls and around interruptions.
 - H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

Ithaca Fire Station Tile Carpeting B. Clean and vacuum carpet surfaces.

END OF SECTION 096813

SECTION 099000 - PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints and stains.
- C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
 - 1. Wall surfaces whether concealed by casework, furniture, or equipment.
 - 2. Exposed surfaces of steel lintels and ledge angles.
 - 3. Prime surfaces to receive wall coverings.
 - 4. Mechanical and Electrical:
 - a. In finished areas, paint all power panels, unless otherwise indicated.
 - b. In finished areas, paint shop-primed items.
 - c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
 - d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so 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. Non-metallic roofing and flashing.
 - 6. Stainless steel, anodized aluminum, bronze, terne, and lead items.
 - 7. Floors, unless specifically so indicated.
 - 8. Ceramic and other tiles.
 - 9. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
 - 10. Glass.
 - 11. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 055000 Metal Fabrications: Shop-primed items.
- B. Section 055 00 Metal Stairs: Shop-primed items.
- C. Section 081113 Hollow Metal Doors and Frames Shop-primed items.
- D. Section 090613 Materials Legend.

1.03 DEFINITIONS

A. Conform to <u>ASTM D16</u> for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

- A. <u>40 CFR 59, Subpart D</u> National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency.
- B. <u>ASTM D16</u> Standard Terminology for Paint, Related Coatings, Materials, and Applications.
- C. <u>ASTM D4442</u> Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.

1.05 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Paint and Coatings: 2% of total gallon use (min. 1 gallon) of each color selected for the project.
 - 2. Label each container with color in addition to the manufacturer's label.

1.06 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience.

1.07 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.

1.08 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Sherwin Williams Company: www.sherwin-williams.com.
 - a. Interior Paint: ProGreen 200, zero-VOC, low odor.
 - b. Interior Paint: Promar 200, B20W02651.
 - c. Interior Paint: Dry Fall Paint: Super Save-Lite Dry Fall.
 - d. Interior Paint: Pro Industrial Precatalyzed Waterbased Epoxy.
 - e. Interior Paint: Industrial Enamel B66 series.
 - f. Exterior Paint: Industrial Enamel B54 series.
 - g. Exterior Paint: Resilience Exterior Acrylic Latex Paint.

C. Stains:

- 1. Sherwin Williams Company: www.sherwin-williams.com.
 - a. Interior Stain: Wood Classics Oil Stain A48-200 series.
 - b. Interior Finish CoaT: EP110200; Acrylicm polyurethane, semi-gloss.
- D. Block Fillers:
 - 1. Sherwin Williams Company: www.sherwin-williams.com.
 - a. Filler: PrepRite Block Filler B25W00025.
 - b. Surfacer: Loxon Block Surfacer A24W00200.
- E. Substitutions: As submitted in compliance with the Division 1 Specifications.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings 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 coating material in quantity required to complete entire project's work from a single production run.
 - 4. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content:
 - 1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. <u>40 CFR 59, Subpart D</u>--National Volatile Organic Compound Emission Standards for Architectural Coatings.

- 2. Determination of VOC Content: Testing and calculation in accordance with <u>40 CFR 59</u>, <u>Subpart D</u> (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- D. Flammability: Comply with applicable code for surface burning characteristics.
- E. Colors: As indicated on drawings
 - 1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of coatings 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. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
 - 3. Interior Wood: 15 percent, measured in accordance with <u>ASTM D4442</u>.
 - 4. Exterior Wood: 15 percent, measured in accordance with <u>ASTM D4442</u>.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.

- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- I. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or <u>SSPC-SP 3</u> (power tool cleaning) followed by <u>SSPC-SP 1</u> (solvent cleaning).
- J. Shop-Primed Steel Surfaces to be Finish Painted: 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.
- K. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
- L. Exterior Wood to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior calking compound after sealer has been applied. Prime concealed surfaces.
- M. Glue-Laminated Beams: Prior to finishing, wash surfaces with solvent, remove grease and dirt.
- N. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Apply products in accordance with manufacturer's instructions.
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.
- E. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- F. Sand wood and metal surfaces lightly between coats to achieve required finish.
- G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

- H. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- 3.04 CLEANING
 - A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- 3.05 **PROTECTION**
 - A. Protect finished coatings until completion of project.
 - B. Touch-up damaged coatings after Substantial Completion.
- 3.06 SCHEDULE EXTERIOR PAINT SYSTEMS
 - A. Shop Primed Metal: bollards, lintels. doors and frames
 - 1. Primer: Touch-up alkyd enamel.
 - 2. Paint: 2 coats alkyd enamel, semi-gloss.
 - B. Galvanized Metals:
 - 1. Primer: One coat galvanizer primer.
 - 2. Paint: 2 coats alkyd enamel, semi-gloss.
 - C. Cellular PVC:
 - 1. Primer: One coat, as recommended by manufacturer.
 - 2. Paint: 2 coats acrylic latex, semi-gloss

3.07 SCHEDULE – INTERIOR PAINT SYSTEMS

- A. Concrete and Concrete Block where scheduled for Epoxy.
 - 1. Primer: 1 coat block surfacer at Concrete Block Walls.
 - 2. Paint: 2 coats catalyzed waterborne, eggshell.
- B. Concrete and Concrete Block not scheduled for Epoxy.
 - 1. Primer: 1 coat block filler at Concrete Block Walls.
 - 2. Paint: 2 coats latex, eggshell.
- C. Exposed Metal ceilings scheduled for Dryfall.
 - 1. Primer: Touch-up alkyd enamel
 - 2. Paint: 2 coats alkyd dyrfall, flat.
- D. Gypsum Board: Ceilings, soffits, and bulkheads.
 - 1. Primer: 1 coat latex.
 - 2. Paint: 2 coats latex, flat.
- E. Gypsum Board: Standard walls.
 - 1. Primer: 1 coat latex.
 - 2. Paint: 2 coats latex, eggshell.

- F. Finished Wood: Standing and running trim.
 - 1. Filler: Color match paste.
 - 2. Stain: 1 coat alkyd, semi-transparent (color to match wood doors).
 - 3. Finish: 2 coats clear acrylic polyurethane, satin.
- G. Shop Primed Metal: Misc. Metals, including but not limited to, Doors and frames, stair stringers, railings, and lintels.
 - 1. Primer: Touch-up alkyd enamel.
 - 2. Paint: 2 coats alkyd enamel, eggshell.

END OF SECTION 099000

SECTION 099656 - EPOXY WALL COATING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This section includes the following:
 - 1. Epoxy wall coating system as shown on the drawings.

1.03 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a epoxy based wall coating system, with decorative colored chips and urethane topcoats. The system shall have the color and texture as specified by the Owner with a nominal thickness of 55 - 60 mils. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

1.04 SUBMITTALS

- A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Samples: A 3 x 3-inch square sample of the proposed system Micro sized aggregate in full line of wall epoxy standard colors. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

1.05 QUALITY ASSURANCE

- A. The Manufacturer shall have a minimum of 10 years' experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.
- B. The Applicator shall have experience in installation of the flooring system as confirmed by the manufacturer in all phases of surface preparation and application of the product specified.
- C. No requests for substitutions shall be considered that would change the generic type of the specified System.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping
 - 1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.
- B. Storage and Protection

Ithaca Fire Station Epoxy Wall Coating

- 1. The Applicator shall be provided with a storage area for all components. The area shall be between 60 degrees F and 90 degrees F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
- 2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Architect or other personnel.
- C. Waste Disposal
 - 1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.07 PROJECT CONDITIONS

- A. Site Requirements
 - 1. Application may proceed while air, material and substrate temperatures are between 60 degrees F and 90 degrees F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
 - 2. The relative humidity in the specific location of the application shall be less than 80 % and the surface temperature shall be at least 5 F above the dew point.
 - 3. The Applicator shall ensure that adequate ventilation is available for the work area.
 - 4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.
- B. Conditions of substrate to be coated with epoxy material.
 - 1. Block wall mortar joints have cured no less than 7 days under good conditions.
 - 2. Sealers and curing agents should not be used.
- C. Safety Requirements
 - 1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
 - 2. "No Smoking" signs shall be posted at the entrances to the work area.
 - 3. Non-related personnel in the work area shall be kept to a minimum.

1.08 WARRANTY

- A. Manufacturer warrants that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to manufacturer's published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.
- B. Manufacturer liability with respect to this warranty is strictly limited to the value of the material purchase.

PART 2 - PRODUCTS

2.01 COATING

- A. Dur-A-Flex, Inc, Dur-A-Wall VC, epoxy-based, urethane topcoat, chip seamless wall system
 - 1. System Materials:
 - a. 1st Broadcast Coat: Dur-A-Flex, Inc, Dur-A-Gard No Sag resin, and hardener.
 - b. 2nd Broadcast Coat: Dur-A-Flex, Inc, Dur-A-Glaze # 4 Water Clear resin, and hardener.
 - c. Chips: Dur-A-Flex, Inc, decorative chips (Micro)
 - d. Grout Coat: Dur-A-Flex, Inc, Dur-A-Glaze #4 Water Clear resin, and hardener.
 - e. Topcoats: Dur-A-Flex, Inc. Armor Top resin, and hardener
 - 2. Patch Materials
 - a. Shallow Fill and Patching: Use Dur-A-Flex, Inc. Dur-A-Glaze #4 Cove Rez.

2.02 MANUFACTURER

- Dur-A-Flex, Inc., 95 Goodwin Street, East Hartford, CT 06108, Phone: (860) 528-9838, Fax: (860) 528-2802, www.dur-a-flex.com
- B. Manufacturer of Approved System shall be single source and made in the USA.
- C. Substitutions: See Section 016000 Product Requirements.

2.03 PRODUCT REQUIREMENTS

A. First Broadcast Coat: Dur-A-Gard No Sag

- 1. Percent Solids: 100 %
- 2. VOC: 3.45 g/L
- 3. Compressive Strength, ASTM D 695: 16,000 psi
- 4. Tensile Strength, ASTM D 638: 3,800 psi
- 5. Flexural Strength, ASTM D 790: 4,000 psi
- 6. Abrasion Resistance, ASTM D 4060
 - a. C-10 Wheel, 1,000 gm load, 1,000 cycles: 35 mg loss
- 7. Flame Spread/NFPA-101, ASTM E 84: Class A
- 8. Flammability, ASTM D 635: Self Extinguishing
- 9. Impact Resistance MIL D-3134: 0.025-inch Max
- 10. Water Absorption. MIL D-3134: 0.04 %

- 11. Potlife @ 70 deg. F: 20-25 minutes
- B. Second Broadcast Coat and Grout Coat: Dur-A-Glaze #4 Water Clear
 - 1. Percent Solids: 100 %
 - 2. VOC: 3.8 g/L
 - 3. Compressive Strength, ASTM D 695: 11,200 psi
 - 4. Tensile Strength, ASTM D 638: 2,100 psi
 - 5. Flexural Strength, ASTM D 790: 5,100 psi
 - 6. Abrasion Resistance, ASTM D 4060
 - a. C-10 Wheel, 1,000 gm load, 1,000 cycles: 29 mg loss
 - 7. Flame Spread/NFPA-101, ASTM E 84: Class A
 - 8. Impact Resistance MIL D-24613: 0.0007 inches, no cracking or delamination
 - 9. Water Absorption. MIL D-24613: Nil
 - 10. Potlife @ 70 deg. F: 20 minutes
- C. Topcoats: Armor Top
 - 1. VOC: 0 g/L
 - 2. 60 Degree Gloss ASTM D523: 75+/-5
 - 3. Mixed Viscosity, (Brookfield 25 deg. C): 500 cps
 - 4. Tensile strength, ASTM D 638: 7,000 psi
 - 5. Abrasion Resistance, ASTM D4060
 - a. CS 17 wheel (1,000 g load) 1,000 cycles
 - 1) Gloss, loss with grit: 4 mg
 - 2) Gloss, loss without grit: 10 mg
 - 3) Satin, loss with grit: 8 mg
 - 4) Satin, loss without grit: 12 mg
 - 6. Pot life @ 70 deg. F 50% RH: 2 hours
 - 7. Dry properties
 - a. 70 deg. F, 50% R.H: 8 hours tack free, 12 hours Dry
 - b. 60 deg. F, 30% RH: 12 hours tack free, 18 hours Dry
 - c. 80 deg. F, 70% RH: 4 hours tack free, 6 hours Dry
 - 8. Flash Point PMCC: 186 deg. F

9. Full Chemical resistance: 7 days

2.04 ACCESSORIES

- A. Primers
 - 1. Concrete block primer: DUR-A-FLEX, DUR-A-WALL HP Block Filler.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting coating performance.
- B. Verify that substrates and conditions are satisfactory for installation and comply with requirements specified.

3.02 PREPARATION

- A. General
 - 1. New and existing concrete and concrete block surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, and dirt.
 - 2. There shall be no visible moisture present on the surface at the time of application of the system.
 - 3. Remove loose mortar spatter, joint compounds etc.
 - 4. Masonry block shall be clean, dry and coated with a high solids block filler.

3.03 APPLICATION

- A. General
 - 1. The system shall be applied in six distinct steps as listed below:
 - a. Substrate preparation
 - b. Priming
 - c. Broadcast coats application with chip broadcast
 - d. Second broadcast coat application with chip broadcast
 - e. Grout coat application
 - f. Topcoat applications
 - 2. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
 - 3. The system shall follow the contour of the substrate.

Ithaca Fire Station Epoxy Wall Coating

- 4. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.
- B. Priming
 - 1. DUR-A-FLEX DUR-A-WALL HP BLOCK FILLER is required to fill any pores in the substrate when applying over concrete or concrete block walls.
- C. 1st Broadcast Coat
 - 1. The broadcast coat shall be comprised of the specified two components, a resin, and hardener.
 - 2. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.
 - 3. The base coat shall be applied by a roller at the rate of 200 sf/gal to yield a dry film thickness of 8 mils.
 - 4. The chip will be broadcast into the wet resin at the rate of 0.1-0.12 lb/SF.
- D. 2nd Broadcast Coat
 - 1. A second broadcast coat will be applied as the first.
- E. Grout Coat
 - 1. The grout coat shall be comprised of the specified two components, a resin, and hardener.
 - 2. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.
 - 3. The grout coat shall be applied using a roller at the rate of 200 sf/gal to yield a dry film thickness of 8 mils.
- F. Topcoats
 - 1. The topcoat of Armor Top is typically applied using the dip and roll method at the rate of 500 sf/gal. Armor Top should not be applied more than 3 mils wet.
 - 2. The topcoat shall be comprised of a liquid resin and hardener that is mixed at the ratio per the manufacturer's instructions.
 - 3. Repeat steps 1 and 2.
 - 4. The finish coating will have a nominal thickness of 55-60 mils.

3.04 FIELD QUALITY CONTROL

- A. Tests, Inspection
 - 1. The following tests shall be conducted by the Applicator:
 - a. Temperature
 - 1) Air, substrate temperatures and, if applicable, dew point.
- b. Coverage Rates
 - 1) Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.05 CLEANING AND PROTECTION

- A. Cure material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
- B. Remove masking. Perform detail cleaning to leave cleanable surface for subsequent work of other sections.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 099724- EXTERIOR TEXTURED FINISH SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide textured finish system for exterior gypsum or cement board soffit and ceiling surfaces.
- B. Exterior Soffit Vents.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

1.3 REFERENCES

- A. ASTM C1177, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
- B. ASTM C1325, Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
- C. South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: The textured finish system manufacturer shall be a company with at least thirty five years of experience in manufacturing specialty finishes and regularly engaged in the manufacture and marketing of products specified herein. The manufacturer shall have an ISO 9001:2008 certified quality system and ISO 14001:2004 certified environmental management system.
- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience. Contractor shall have at least 5 years of experience in commercial textured finish application, and shall have completed at least 3 projects of similar size and complexity. Contractor shall provide proof before commencement of work that he/she will maintain and supervise a qualified crew of applicators through the duration of the work. When requested Contractor shall provide a list of the last three comparable jobs including the name, location, and start and finish dates for the work.

- C. Mock-ups: The contractor shall install a mock-up of the system for evaluation and approval by the design professional, building owner, or owner's representative/quality assurance agent.
- D. Testing: Testing shall be conducted as directed by the design professional, building owner, or owner's representative/quality assurance agent to verify soffit/ceiling assembly performance and adhesion to prepared substrates.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, and batch number.
- B. Store products in a dry area with temperature maintained between 50 and 85 degrees F (10 and 29 degrees C). Protect from direct sunlight. Protect from freezing. Protect from extreme heat (>90 degrees F [32 degrees C]).
- C. Handle products in accordance with manufacturer's printed instructions.

1.6 WARRANTY

A. Provide manufacturer's standard limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Sto SE & Co.
- B. Other Acceptable Manufacturers:
 - 1. Dryvit
 - 2. Substitutions: See Section 016000 Product Requirements.

2.2 MATERIALS

A. Stolit[®] Textured Finishes acrylic based, integrally colored textured finishes

Stolit 1.0, Stolit 1.0 Dark Colors, Stolit 1.5, Stolit 1.5 Dark Colors, Stolit Freeform, Stolit Freeform Dark Colors, Stolit R1.5, Stolit R1.5 Dark Colors

- B. Base Coat
 - 1. Sto BTS Plus one component polymer modified portland cement high build base coat
- C. Surface Reinforcement

- 1. StoGuard Mesh nominal 4.2 oz/yd2 (142 g/m2) self-adhesive glass fiberreinforcing mesh treated for compatibility with Sto materials
- D. Gypsum Soffit Board
 - 1. 5/8" USG Imperial® Gypsum Base, Firecode® C Core in compliance with ASTM C1177
- E. Control Joints:
 - 1. Basis-of-Design Product: DEFS Control Joint with Removable Tape. DCJ-58V; Clark Dietrich.

2.3 EXTERIOR SOFFIT VENTS

- A. One piece, perforated, ASTM B221, 6063-T5 alloy aluminum, with edge suitable for direct application to gypsum soffit board and manufactured especially for soffit application. Provide continuous vent.
 - 1. Basis-of-Design Product: SV202; Air Vent.
 - 2. Substitutions: See Section 016000 Product Requirements.

PART 3 EXECUTION

3.1 INSTALLATION

- A. General Surface Preparation
- B. Gypsum soffit board must be installed in conformance with the applicable building code and manufacturer's written installation instructions. Gypsum soffit board surface must be clean, dry, and free of surface contamination. Soffit board surface shall not have planar irregularities in excess of 1/16 inch (1.6 mm) and shall be free of voids, cracks, and other surface defects.
- C. Mixing
 - 1. Mix Sto products in accordance with published literature. Refer to applicable Product Bulletins for specific information on use, handling, application, precautions, and limitations of specific products.
- D. Application
 - 1. Install corrosion proof termination accessories per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at junctures

with penetrations such as soffit vents, electrical fixtures, and with abutting walls and columns. Install corrosion proof control joints per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at intervals as required by the soffit board manufacturer. Refer to Sto Guide details.

- Reinforce perforated flanges of accessories with minimum 4 inch (102 mm) wide strips of Sto Detail Mesh or Sto Mesh embedded in base coat. Where cement board is used tape joints between boards with minimum 4 inch (102 mm) wide StoGuard Mesh and skim with base coat. Alternatively, tape joints with minimum 4 inch (1023 mm) wide Sto Mesh or Sto Detail mesh embedded in base coat. Allow base coat to dry.
- 3. Install nominal 1/8-inch (3 mm) base coat by trowel to the soffit/ceiling board surface. Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the Sto Mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh installed at perforated accessory flanges by installing Sto Mesh up to the termination bead of the accessory. Overlap mesh not less than 2-½ inches (64 mm) at mesh seams and feather at seams. Double wrap all inside and outside corners with minimum 8-inch (203 mm) overlap in each direction (except where corner bead is used at outside corners lap mesh over perforated flange of accessory). Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible. Do not install base coat and mesh onto solid (unperforated) portions of accessories.
- 4. When the base coat application is dry apply finish in a continuous application and work to a wet edge. Float the finish to achieve the desired texture.
- E. Control Joints: Place control joints consistent with building lines and as indicated.
 - 1. Not more than 30 feet.
- F. Protection
 - 1. Provide protection of installed materials from water infiltration into or behind them during and after construction.
 - 2. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
 - 3. Seal penetrations through the finished surface with backer rod and sealant or other appropriate means.

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Porcelain enamel steel markerboards.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Blocking and supports.
- B. Section 092116 Gypsum Board Assemblies: Concealed supports in metal stud walls.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 American National Standard for Particleboard.
- B. ASTM A424/A424M Standard Specification for Steel, Sheet, for Porcelain Enameling.
- C. ASTM F793/F793M Standard Classification of Wall Coverings by Use Characteristics.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide manufacturer's data on chalkboard, porcelain enamel steel markerboard, glass markerboard, tackboard surface covering, trim, and accessories.
- C. Samples: Color charts for selection of color and texture of tackboard surface covering.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 VISUAL DISPLAY UNITS

- A. Porcelain Enamel Magnetic Steel Markerboards:
 - 1. Color: White.
 - 2. Steel Face Sheet Thickness: 24 gauge, 0.0239 inch .
 - 3. Core: Particleboard, manufacturer's standard thickness, laminated to face sheet.
 - 4. Backing: Aluminum foil, laminated to core.
 - 5. Size: As indicated on drawings.
 - 6. Frame: Extruded aluminum, with concealed fasteners.
 - 7. Frame Finish: Anodized, natural.
 - 8. Accessories: Provide marker tray and intergral tack strip.

Ithaca Fire Station Visual Display Units

- 9. Manufacturers:
 - a. Moore Co., Inc.; www.moorecoinc.com
 - b. Claridge Products and Equipment, Inc.; www.claridgeproducts.com.
 - c. Substitutions: See Section 016000 Product Requirements.

2.02 MATERIALS

- A. Porcelain Enameled Steel Sheet: ASTM A424/A424M, Type I, Commercial Steel, with firedon vitreous finish.
- B. Vinyl Coated Fabric: ASTM F793 Category VI.
- C. Particleboard: ANSI A208.1; wood chips, set with waterproof resin binder, sanded faces.
- D. Foil Backing: Aluminum foil sheet, 0.005 inch thick.

2.03 ACCESSORIES

- A. Tack Stripl: Manufacturer's standard cork insert.
- B. Marker Tray: Aluminum, manufacturer's standard profile, one piece full length of markerboard, molded ends, concealed fasteners, same finish as frame.
- C. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install boards in accordance with manufacturer's instructions.
- B. Install with top of marker tray at 30 inches above finished floor.
- C. Secure units level and plumb.

3.03 CLEANING

- A. Clean board surfaces in accordance with manufacturer's instructions.
- B. Remove temporary protective cover at Date of Substantial Completion.

SECTION 101400 - SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.
- B. Building identification signs.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines.
- B. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.
 - 1. For signs supported by or anchored to permanent construction, furnish templates for installation of anchorage devices.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Shop Drawings: Show fabrication and installation details for signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 - 3. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.
- D. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
 - 1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
 - 2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
 - 3. Submit for approval by Owner through Architect prior to fabrication.

- E. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- F. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- G. Manufacturer's Installation Instructions: Include installation templates and attachment devices.
- H. Manufacturer's Qualification Statement.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company that is an authorized representative of the manufacturer specializing in installing the products specified in this section with minimum three years of documented experience.
- C. Single Source Limitation: Obtain each sign type indicated from one source from a single manufacturer

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.
- D. Protect against moisture and damage.

1.07 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.
- C. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs in exterior locations to be performed according to manufacturers' written instructions and warranty requirements.
- D. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.08 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:

- a. Deterioration of metal or polymer finishes beyond normal weathering/
- 2. Warranty Period:
 - a. Interior Signage: Five years from date of Substantial Completion.
 - b. Dimensional Letter Signs Warranty Period: Full lifetime warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flat Signs:
 - 1. ASI Sign Systems, Inc.: www.asisignage.com.
 - 2. Best Sign Systems, Inc: www.bestsigns.com/#sle.
 - 3. Cosco Industries: www.coscoarchitecturalsigns.com/#sle.
 - 4. Inpro: www.inprocorp.com/#sle.
 - 5. Mohawk Sign Systems, Inc: www.mohawksign.com/#sle.
 - 6. The Southwell Co.: www.southwellco.com.
 - 7. Substitutions: See Section 016000 Product Requirements.
- B. Dimensional Letter Signs:
 - 1. ASI Sign Systems, Inc.: www.asisignage.com.
 - 2. Cosco Industries; Cast Aluminum: www.coscoarchitecturalsigns.com/#sle.
 - 3. Inpro: www.inprocorp.com/#sle.
 - 4. Gemini Inc.; Cast Aluminum: www.geminiletters.co
 - 5. The Southwell Co.: www.southwellco.com.
 - 6. Substitutions: See Section 016000 Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. Thermal Movements for Exterior Signage: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.03 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Use Room Finish Schedule for the basis for room names and quantity. Assume one sign for each door in each room.
 - 2. Sign Type: Flat signs with engraved panel media as specified.
 - 3. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
 - a. Separate braille 1/2 inch from the corresponding raised characters. Braille translations to be provided by signage manufacturer.
 - b. Glue-on letters or etched backgrounds are not acceptable.
 - 4. Character Proportion: Width to height ratio between 3:5 and 1:1, and stroke-width-toheight ration between 1:5 and 1:10.
 - 5. Room Number Character Height: 1 inch.

- 6. Room Letters Character Height: 3/4-inch, minimum.
- 7. Sign Size: 2 inches x length required or 6 inches by 6 inches, unless otherwise indicated.
 - a. Toilet Room Sign Size: Design ADA-4 size 8 inch by 8 inch with 4-inch accessibility symbol.
 - b. Area of Refuge Sign Size: Design ADA-4 size 8 inch by 8 inch with 4-inch accessibility symbol.
- 8. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
- 9. Service Rooms: Identify with room names and numbers to be determined later, not those indicated on drawings.
- 10. EXIT Sign Type: Identify with ISA (International Symbol of Accessibility) pictogram, the text "EXIT", and braille.
- 11. NO EXIT Sign Type: Identify with the text "NO EXIT DOOR IS LOCKED", and braille.
- 12. TOILET ROOM Sign Type: Identify with pictograms, with the text "UNISEX" the ISA (International Symbol of Accessibility) pictogram, and braille.
- 13. Provide 2 additional signs that state "FOR AUTHORIZED PERSONNEL ONLY".
- C. Building Identification Signs:
 - 1. Use individual metal letters.
 - 2. Mount on outside wall in location indicated on drawings.

2.04 SIGN TYPES

- A. Flat Signs: Signage media without frame.
 - 1. Edges: Square.
 - 2. Corners: Radiused.
 - 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
 - 1. Character Font: Helvetica, Arial, or other sans serif font.
 - 2. Character Case: Upper case only.
 - 3. Background Color: As selected by Architect from manufacturers standard..
 - 4. Character Color: Contrasting color.
 - 5. Character and Background Finish: Non-glare.

2.05 TACTILE SIGNAGE MEDIA

- A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
 - 1. Total Thickness: 1/8 inch.
 - 2. Plastic Laminate: non-static, fire-retardant and self-extinguishing; impervious to most acids, alkali's, alcohol, solvents, abrasives, and boiling water.

2.06 DIMENSIONAL LETTERS

- A. Metal Letters:
 - 1. Metal: Aluminum casting.
 - 2. Character Thickness: 2 inch.
 - 3. Metal Thickness: 1/8 inch minimum.

Ithaca Fire Station Signage

- 4. Letter Height: As indicated on drawings.
- 5. Text and Typeface:
 - a. Character Font: Times Bold.
- 6. Finish: Anodized.
- 7. Mounting: Concealed anchors and inserts; projected spacer style mounting..

2.07 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.
- B. Tape Adhesive: Double sided tape, permanent adhesive.
- C. Anchors and Inserts: Nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance.
 1. Drilled-in-Place Anchors: Toothed steel or lead expansion bolt devices.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.08 FINISHES, GENERAL

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.09 ALUMINUM FINISHES

A. Color Anodic Finish: Manufacturer's standard Class 1 integrally colored or electrolytically deposited color anodic coating, 0.018 mm or thicker, in color as selected applied over a satin (directionally textured) mechanical finish, complying with AAMA 611.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Proceeding with installation confirms Contractor's acceptance of substrate and conditions.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Install free from distortion, warp. or defect adversely affecting appearance.
- D. At double door locations, locate on wall to the right of the right-hand door.
- E. If no wall space is available at latch side of door, locate on the nearest adjacent wall.

- F. Locate signs where indicated and scheduled:
 - 1. Room and Door Signs: Locate on wall at latch side of door with centerline of sign at 60 inches above finished floor and at 9 inches from the arc of the door swing in the closed position.
 - a. At double door locations, locate on wall to the right of the right-hand door.
 - b. If no wall space is available at latch side of door, locate on the nearest adjacent wall.
 - 2. If no location is indicated obtain Owner's instructions
 - 3. Verify all mounting locations with Architect prior to starting work.
- G. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- H. Clean installed products in accordance with manufacturer's instructions prior to Substantial Completion.
- I. Protect from damage until Date of Substantial Completion; repair or replace damaged items.

SECTION 102123 - CUBICLE CURTAINS AND TRACK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface mounted overhead curtain track and guides.
- B. Cubicle curtains.

1.02 RELATED REQUIREMENTS

- A. Section 061053 Miscellaneous Rough Carpentry: Blocking and supports for track.
- B. Section 102800 Toilet, Bath and Laundry Accessories: Curtain Rod.

1.03 REFERENCE STANDARDS

- A. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data for curtain fabric characteristics.
- C. Shop Drawings: Indicate a reflected ceiling plan view of curtain track, hangers and suspension points, attachment details, schedule of curtain sizes.
- D. Samples: Submit 12 by 12 inch sample patch of curtain cloth with representative top, bottom, and edge hem stitch detail, heading with reinforcement and carrier attachment to curtain header.
- E. Samples: Submit 12 inch sample length of curtain track including typical splice, wall and ceiling hanger, and escutcheon.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Accept curtain materials on site and inspect for damage.
- B. Store curtain materials on site and deliver to Owner for installation when requested.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis-of-Design Product: Refer to Section 090613 Materials Legend.
1. Substitutions: See Section 016000 - Product Requirements.

Ithaca Fire Station Cubicle Curtains and Track

2.02 CURTAINS

A. Cubicle Curtains:

- 1. Inherently flame resistant or flameproofed; capable of passing NFPA 701 test.
- 2. Material: Close weave polyester; anti-bacterial and preshrunk.
- 3. Color/Pattern: Refer to Section 090613 Materials Legend..
- 4. Open Mesh Cloth: Open weave to permit air circulation; flameproof material, manufacturer's standard color.
- 5. Refer to Section 102800 Toliet, Bath and Laundry Accessories.
- B. Curtain Fabrication:
 - 1. Width of curtain to be 20 percent wider than rod length.
 - 2. Length of curtain to end 12 inches above finished floor.
 - 3. Include open mesh cloth at top 20 to 22 inches of curtain for room air circulation, attached to curtain as specified above.
 - 4. Curtain Heading: Fabric band matching curtain panel with metal grommet holes for carriers spaced 6 inches on center.
 - 5. Seams and Hems: Manufacturer's standard fabrication method for securely sewn and finished seams and hems.

PART 3 EXECUTION

- 3.01 EXAMINATION
 - A. Verify that surfaces and supports above ceiling are ready to receive work of this Section.
 - B. Verify that field measurements are as indicated.

3.02 INSTALLATION

- A. Install curtain track to be secure, rigid, and true to ceiling line.
- B. Secure track to ceiling system.
- C. Install end cap and stop device.
- D. Install curtains on carriers ensuring smooth operation.

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Corner guards.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 53 Miscellaneous Rough Carpentry: Blocking for wall and corner guard anchors.
- B. Section 09 06 13 Materials Legend

1.03 REFERENCE STANDARDS

- A. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate physical dimensions, features, anchorage details, and rough-in measurements.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wall and door protection items in original, undamaged protective packaging. Label items to designate installation locations.
- B. Protect work from moisture damage.
- C. Protect work from UV light damage.
- D. Do not deliver products to project site until areas for storage and installation are fully enclosed, and interior temperature and humidity are in compliance with manufacturer's recommendations for each type of item.
- E. Store products in either horizontal or vertical position, in compliance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Corner Guards:

Ithaca Fire Station Wall and Door Protection

- 1. Arden Architectural Specialties, Inc.: www.ardenarch.com.
- 2. Construction Specialties, Inc: www.c-sgroup.com/#sle.
- 3. Inpro: www.inprocorp.com/#sle.

2.02 PRODUCT TYPES

- A. Corner Guards Surface Mounted:
 - 1. Material: High impact vinyl with full height extruded aluminum retainer and integral impact absorbing device.
 - 2. Performance: Resist lateral impact force of 100 lbs at any point without damage or permanent set.
 - 3. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 - 4. Width of Wings: 2 inches.
 - 5. Corner: Square.
 - 6. Color: Refer to Section 09 06 13 MaterialsLegend,.
 - 7. Length: One piece.
 - 8. Preformed end caps.
 - 9. Quantity: Provide 25 total guards with locations to be coordinated in field with Architect and Owner.

2.03 FABRICATION

A. Fabricate components with tight joints, corners and seams.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.
- B. Verify that field measurements are as indicated on drawings.

3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to supporting construction.
- B. Position corner guard 4 inches above finished floor to 48 inches high..

3.03 CLEANING

A. Clean wall and door protection items of excess adhesive, dust, dirt, and other contaminants.

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Commercial shower and bath accessories.
- C. Under-lavatory pipe supply covers.
- D. Utility room accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 53 Miscellaneous Rough Carpentry: Concealed supports for accessories, including in wall framing and plates and above ceiling framing.
- B. Section 102123 Cubicle Curtain and Tracks
- C. Section 110600 Schedules for Equipment

1.03 REFERENCE STANDARDS

- A. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design.
- B. ASME A112.18.9 Protectors/Insulators for Exposed Waste and Supplies on Accessible Fixtures.
- C. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A269/A269M Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
- E. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- F. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- G. ASTM C1822 Standard Specification for Insulating Covers on Accessible Lavatory Piping.
- H. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- I. ICC A117.1 Accessible and Usable Buildings and Facilities.

1.04 SUBMITTALS

A. See Section 013300 Submittal Procedures, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Accessories General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- D. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- E. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.02 FINISHES

- A. Stainless Steel: Satin finish, unless otherwise noted.
- B. Galvanizing for Items Other than Sheet: Comply with ASTM A123/A123M; galvanize ferrous metal and fastening devices.
- C. Back paint components where contact is made with building finishes to prevent electrolysis.

2.03 COMMERCIAL TOILET ACCESSORIES

- A. Toilet Paper Dispenser:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Bobrick Washroom Equipment, Inc., Model B-2890.
 - a. Bradley. Equivalent product.
 - b. Substitutions: Section 016000 Product Requirements.
 - 2. Description: One-roll unit.
 - 3. Mounting: Surface mounted.
 - 4. Capacity: 10-inch diameter roll.
 - 5. Material and Finish: Stainless steel, No. 4 finish (satin).
 - 6. Lockset: Tumbler type.
 - 7. Refill Indicator: Pierced slots at front.
- B. Combination Towel (Roll) Dispenser/Waste Receptacle:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Bobrick Washroom Equipment, Inc., Model B-3974.
 - a. Bradley. Equivalent product.
 - b. Substitutions: Section 016000 Product Requirements.
 - 2. Description: Combination unit for automatically dispensing rolled towels, with removable waste receptacle.
 - 3. Mounting: Recessed.
 - 4. Operation: Battery.

- 5. Minimum Towel-Dispenser Capacity: 8" wide, 8" diameter, 800 ft. long roll paper towels.
- 6. Minimum Waste-Receptacle Capacity: 12 gal. .
- 7. Liner: Reusable, vinyl waste-receptacle liner.
- 8. Lockset: Tumbler type for towel-dispenser compartment and waste receptacle.
- C. Soap Dispenser Wall Mounted:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide the following:
 - a. GOJO LTX- H-5066 Touchless Foam Soap Dispenser.
 - 1) Locations: Refer to drawing A202.
 - b. GOJO TDX- H-3043 Touchless Foam Soap Dispenser.
 - 1) Locations: Refer to drawing A650 and Section 110600.
 - Substitutions: Section 016000 Product Requirements.
 - 2. Description: Designed for dispensing foam soap.
 - 3. Mounting: Vertically oriented, surface wall mounted.
 - 4. Capacity: 1200ml and 2000ml. Refer to above for locations.
 - 5. Materials: Molded plastic, white.
 - 6. Lock Dispenser.

c.

- 7. Refill Indicator: Window type.
- D. Soap Dispenser Counter Mounted:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Bobrick Washroom Equipment, Inc., Model B-826.18
 - a. Bradley: Equivalent Product.
 - b. Substitutions: Section 016000 Product Requirements.
 - 2. Description: Designed for dispensing lotion hand foam soap with moisturizers.
 - 3. Mounting: Vertically oriented, counter mounted.
 - 4. Operation: Battery.
 - 5. Capacity: 800 ml.
 - 6. Materials: Brigh polished chrome plastic.
 - 7. Lock Dispenser.
 - 8. Refill Indicator: LED blinking light.
 - 9. Locations: Refer to drawing A202.

2.04 COMMERCIAL SHOWER AND BATH ACCESSORIES

- A. Shower Curtain Rod: Stainless steel tube, 1 inch outside diameter, 0.04 inch wall thickness, satin-finished, with 1 3/8 inch outside diameter, minimum 0.04 inch thick satin-finished stainless steel flanges, for concealed mounting.
 - 1. Basis-of-Design Products:
 - a. Bobrick: B-207.
 - b. Bradley: Model 9539.
 - c. Substitutions: Section 016000 Product Requirements.
 - 2. Locations: Refer to drawing A202 and A650.
- B. Shower Curtain (non-firematic spaces):
 - 1. Refer to Section 102123.
 - 2. Locations: Refer to drawing A202.
- C. Shower Curtain (Firematic Spaces):

- 1. Material: Opaque vinyl, 13 gauge inch thick, matte finish, with antibacterial treatment, flameproof and stain-resistant.
- Size: As required for opening with hemmed edges. 2.
- Style: 28 inch high curtian headin; open weave nylon mesh. (Style 1). 3.
- Grommets: Manufacturers standard; pierced through top hem on 6 inch centers. 4.
- 5. Color: As selected from manufacturer's standard colors.
- Shower Curtain Hooks: Chrome-plated or stainless steel spring wire designed for snap 6. closure.
- 7. **Basis-of Design Products:**
 - Super Bio Stat; Clikeze Privacy Systems, Inpro. a.
 - Substitutions: Section 016000 Product Requirements. b.
- 8. Locations: Refer to drawing A650 and Section 110600.
- D. Folding Shower Seat: Wall-mounted surface; welded tubular seat frame, structural support members, swing-down legs, hinges, and mechanical fasteners of Type 304 stainless steel, Lshaped, right hand and rectangular seat.
 - Seat: Phenolic or polymeric composite one-piece seat or seat slats, of color as selected. 1.
 - 2. Frame: 1 1/4 inch sqaure tubing, minimum 0.05 inch wall thickness, exposed flange mounting.
 - 3. Size: ADA Standards compliant. 4.
 - **Basis-of-design Products:**
 - Bobrick: B-5193 a.
 - b. Bradley: Equivalent Product.
 - c. Substitutions: Section 016000 - Product Requirements.
 - Locations: Refer to drawings A650, A202 and Section 110600. 5.
- E. Shower Bench: Wall mounted.
 - **Basis-of-Design Products:** 1
 - Columbia; PSiSC Bench.. a.
 - Substitutions: Section 016000 Product Requirements. b.
 - 2. Locations: Refer to drawing A650 and Section 110600.
- F. Wall-Mounted Soap Dish: Heavy duty, seamless stainless steel, surface-mounted with drain holes, without grab bar, satin finish; with concealed mechanical fastening suitable for substrate and backplate.
 - 1. **Basis-of-Design Products:**
 - Bobrick: B-680. a.
 - Bradley: Model 9015.. b.
 - Substitutions: Section 016000 Product Requirements. c.
- Robe/ Towel Hook: Heavy-duty stainless steel, double-prong, rectangular-shaped bracket and G. backplate for concealed attachment, satin finish.
 - **Basis-of-Design Products:** 1.
 - Bobrick: B-6727. a.
 - Bradley: Model 9124.. b.
 - Substitutions: Section 016000 Product Requirements. c.
 - 2. Locations: Refer to drawing A202.
- Hat and Coat Hook: Heavy-duty stainless steel, double-prong, rectangular-shaped bracket and H. backplate for concealed attachment, bright polished finish.
 - **Basis-of-Design Products:** 1.
 - a. Bobrick: B-682.

- b. Bradley: Equivalent Product.
- c. Substitutions: {CH#89052}.
- 2. Locations: Refer to drawing A650 and Section 110600.

2.05 UNDER-LAVATORY PIPE AND SUPPLY COVERS

- A. Under-Lavatory Pipe and Supply Covers:
 - 1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
 - 2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
 - 3. Construction: 1/8 inch flexible PVC.
 - a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 - b. Comply with ASTM C1822, type indicated.
 - c. Comply with ASME A112.18.9.
 - d. Comply with ICC A117.1.
 - 4. Color: White.
 - 5. Locations: All piping below sinks.
 - 6. Products:
 - a. Plumberex Specialty Products, Inc; Plumberex Handy-Shield Maxx: www.plumberex.com/#sle.
 - b. Substitutions: See Section 016000 Product Requirements.

2.06 UTILITY ROOM ACCESSORIES

- A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.
 - 1. Holders: Three spring-loaded rubber cam holders.
 - 2. Length: 36 inches.
 - 3. Basis-of-Design Product:
 - a. Fiat Products; Model 889C
 - b. Substitutions: 016000 Product Requirements.
 - 4. Locations: Refer to drawing A650 and Section 110600.
- B. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
 - 1. Hooks: Five, 0.06 inch stainless steel rag hooks at shelf front.
 - 2. Mop/broom holders: Four spring-loaded rubber cam holders at shelf front.
 - 3. Length: 44 inches.
 - 4. Basis-of-Design Products:
 - a. Bradley: Model 9934..
 - b. Substitutions: 016000 Product Requirements.
 - 5. Locations: Refer to drawing A650 and Section 110600.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.

C. Verify that field measurements are as indicated on drawings.

3.02 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

SECTION 102815 - INTERIOR TRENCH DRAINS

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 SUMMARY

- A. This Section includes the following sanitary drainage piping specialties:
 - 1. Channel Drainage System.
- B. Related Sections include the following:
 - 1. Division 22 for piping connected to trench drains.

1.03 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and accessories for the following as well as cross-section shop drawing:
 - 1. Channel Drainage System.
- B. Operation and Maintenance Data: For drainage piping specialties to include in emergency, operation, and maintenance manuals.
- 1.04 QUALITY ASSURANCE
 - A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.
 - B. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic sanitary piping specialty components.

1.05 COORDINATION

- A. Coordinate placement of trench drains with finished concrete surface.
- B. The placement of the interior trench drains shall be integrated with the placing of the concrete slabs surrounding them.

PART 2 PRODUCTS

- 2.01 CHANNEL DRAINAGE SYSTEMS
 - A. Polymer-Concrete Channel Drainage Systems:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, ACO KS100 Drain, by ACO Polymer Products, Inc. or a comparable product as approved by Architect

Ithaca Fire Station Interior Trench Drains

- 2. Type: Modular system of channel sections, grates, and appurtenances; designed so grates fit into channel recesses without rocking or rattling.
 - a. Channel Sections: Narrow, interlocking-joint, sloped-invert, polymer-concrete modular units with end caps. Include rounded bottom, with built-in invert slope of 0.6 percent and with outlets in number, sizes, and locations indicated. Include extension sections necessary for required depth.
 - 1) Dimensions: 4-inch (102-mm) inside width. Include number of units required to form total lengths indicated.
 - 2) Frame: Stainless steel for grates.
 - b. Grates: Manufacturer's designation "heavy duty," with slots or perforations and of width and thickness that fit recesses in channel sections.
 - 1) Material: Ductile iron.
 - 2) Locking Mechanism: "QuickLok" locking.
 - 3) ADA compliant model 478Q.
 - c. Supports, Anchors, and Setting Devices: Manufacturer's standard, unless otherwise indicated.
 - d. Channel-Section Joining and Fastening Materials: As recommended by system manufacturer.
- B. Polymer-Concrete Sediment Interceptor: Type K1-901S In-line Catch Basin by ACO Polymer Products, Inc.
 - 1. Description: 10-inch- (255.4-mm-) by 19.69-inch (500-mm), precast, polymer-concrete body, with outlets in number and sizes indicated. Include ductile iron slotted grate.
 - 2. Provide removable trash bucket.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Refer to Division 22 Section "Common Work Results for Plumbing" for piping joining materials, joint construction, and basic installation requirements.
- B. Install trench drains at low points of surface areas to be drained. Set grates of drains flush with finished surface, unless otherwise indicated.
- C. Assemble channel drainage system components according to manufacturer's written instructions. Install on support devices so that top will be flush with adjacent surface.
- D. Setting channel drainage system:
 - 1. Start with outlet point. Ensure stringline, or laser is set at top edge of required channel height.

- 2. Set catch basin (or outlet channel) on bed of concrete to height indicated on drawings. Connect and seal outlet pipe.
- 3. Using stiff/dry mix concrete, create 'patties' at intervals to support channels. Allow two patties per channel, spaced such that no concrete material is trapped in the joint, creating gaps. Patties should be sized to provide required concrete surround. Note: Pouring a full length "mud slab: in lieu if individual "patties" is an acceptable alternative approach for channel support.
- 4. To seal channels, roughen ends and use a flexible sealant check chemical compatibility.
- 5. Lower channel vertically onto 'patties' and position to correct height and alignment ensuring 'tight' connection to previous channel.
- 6. Add concrete on top of 'patty' to cover concrete 'keys' on side of channel this prevents movement, or floating, during concrete pour.
- 7. Continue to lay channels until end of run or next catch basin is reached.
- E. Installation tolerances
 - 1. Horizontal and vertical: plus, or minus, 1/8" in 10 ft.

3.02 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

3.03 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.
- C. Do not install grates until time of construction work completion in Apparatus Bay. Contractor to use ³/₄" thick bridging material adequate to support all construction activities until finished grates are installed. Bridging material shall be tight to both sides of the trench.

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 104400 - FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fire extinguishers.
- B. Fire extinguisher cabinets.
- C. Emergency keybox.
- D. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 53 Miscellaneous Rough Carpentry: Wood blocking product and execution requirements.
- 1.03 REFERENCE STANDARDS
 - A. FM (AG) FM Approval Guide.
 - B. NFPA 10 Standard for Portable Fire Extinguishers.
 - C. UL (DIR) Online Certifications Directory.
- 1.04 SUBMITTALS
 - A. See Section 01 33 00 Submittal Procedures, for submittal procedures.
 - B. Product Data: Provide extinguisher operational features.

1.05 FIELD CONDITIONS

A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Fire Extinguishers, Cabinets and Accessories:
 - 1. Potter-Roemer: www.potterroemer.com/#sle.
 - 2. JL Industries Inc.: www.jlindustries.com
 - 3. Laresen's Manufacturing Co.: www.larsensmfg.com.
 - 4. Substitutions: See Section 016000 Product Requirements.

2.02 FIRE EXTINGUISHERS

Ithaca Fire Station Fire Protection Specialties

- A. Fire Extinguishers General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
 - 1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.
- B. Multipurpose Dry Chemical Type FE-1 Fire Extinguishers : Carbon steel tank, with pressure gauge.
 - 1. Stored Pressure Operated: Deep Drawn.
 - 2. Class: A:B:C type.
 - 3. Size: 5 pound and 10 pound.
 - a. 10 pound at Apparatus Bay and Mezzanine locations.
 - b. 5 pound at all other locations.
 - 4. Size and classification as scheduled.
 - 5. Finish: Baked polyester powder coat, red color.
 - 6. Provide at all FEC-1 and FEC-2 cabinets (as applicable per Drawings), and all FE-1mounting bracket locations.
 - 7. Basis-of-Design Product: Larsen's Manufacturing Company; Model MP5.
- C. Carbon Dioxide Type FE-2 Fire Extinguishers: Carbon steel tank, with pressure gauge.
 - 1. Stored Pressure Operated: Deep Drawn.
 - 2. Class: 10-B:C. type.
 - 3. Size: 10 pound.
 - 4. Size and classification as scheduled.
 - 5. Finish: Baked polyester powder coat, red color.
 - 6. Provide at all FE-2 mounting bracket locations.
 - 7. Basis-of-Design Product: Larsen's Manufacturing Company; Model CD10.
- D. Dry Chemical Type FE-3 Fire Extinguishers: Stainless steel tank, with pressure gauge.
 - 1. Class: K type.
 - 2. Size: 1.6 gallons.
 - 3. Finish: Polished stainless steel.
 - 4. Temperature range: Minus 20 degrees F to 120 degrees F.
 - 5. Provide at all FE-3 mounting bracket locations.

2.03 FIRE EXTINGUISHER CABINETS (FEC-1)

- A. Cabinet Construction: Formed stainless steel sheet; 0.036 inch thick base metal..
- B. Cabinet Configuration: Semi-recessed type.
 - 1. Size to accommodate accessories.
 - 2. Exterior nominal dimensions of 13 inch wide by 27 inch high by 5 inch deep.
 - 3. Projected Trim: Rolled edge, returned to wall surface, with 2 1/2 inch projection, and 1 1/2 inch wide face.
 - 4. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.
- C. Door: 1/2 inch thick, reinforced for flatness and rigidity; projected lever handle with cam action latch. Hinge doors for 180 degree opening with continuous piano hinge. Provide roller type catch.
- D. Door Glazing: Tempered glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.

- E. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
- F. Fabrication: Weld, fill, and grind components smooth.
- G. Finish of Cabinet Exterior Trim and Door: No.4 Brushed stainless steel.
- H. Finish of Cabinet Interior: White colored enamel.
- I. Basis-of-Design Product: Larsen's Manufacturing Company; Architectural Series Model No. SS-2409-R3

2.04 FIRE RATED FIRE EXTINGUISHER CABINETS (FEC-2)

- A. Cabinet Construction: Formed stainless steel sheet; 0.048inch thick base metal..
- B. Cabinet Configuration: Semi-recessed type.
 - 1. Double wall construction fabricated from cabinet metal lined with minimum 5/8 inch thick fire-barrier material
 - 2. Size to accommodate accessories.
 - 3. Exterior nominal dimensions of 13 inch wide by 27 inch high by 5 inch deep.
 - 4. Projected Trim: Rolled edge, returned to wall surface, with 2 1/2 inch projection, and 1 1/2 inch wide face.
 - 5. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.
- C. Door: 1/2 inch thick, reinforced for flatness and rigidity; fully glazed panel with frame; tubular stiles and rails, hollow metal design; projected lever handle with cam action latch. Hinge doors for 180 degree opening with continuous piano hinge. Provide roller type catch.
- D. Door Glazing: Tempered glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.
- E. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
- F. Fabrication: Weld, fill, and grind components smooth.
- G. Finish of Cabinet Exterior Trim and Door: No.4 Brushed stainless steel.
- H. Finish of Cabinet Interior: White colored enamel.
- I. Basis-of-Design Product: Larsen's Manufacturing Company; Architectural Series Model No. FS-SS-2409-R3

2.05 EMERGENCY KEY BOX

- A. Type: Recess mounted.
 - 1. <u>Basis-of-Design Product</u>: Subject to compliance with requirements, provide Model 3271; Knox Company.
- B. Material: ¹/₄ inch steel plate, ¹/₂ inch solid steel door with interior gasket seal and stainless steel door hinge. Panel to have anti-theft re-locking mechanism with drill resistant plate lock protector and dust cover.

- C. Tamper Alert: Manufacturers standard alert connected to fire alrm system.
- D. Lock: UL Listed double-action rotating tumblers with hardened steel pins accessed by proprietary coded biased cut key. Provide min. 1/8 inch stainless steel dust cover with tamper seal mounting.
 - 1. Exposed Flat Trim: One-piece combination trim and perimeter door frame overlapping surrounding wall surface with exposed trim face and wall return at outer edge (backbend).
- E. Finish: Manufacturers standard powder coat.
- F. Color: Black.
- G. Body Dimensions: 4 inches high x 5 inches wide x 3 7/8" inches deep.
 1. Recessed Mount Flange Dimensions: 7 inches high x 7 inches wide.

2.06 ACCESSORIES

- A. Graphic Identification: FIRE EXTINGUISHER; silk-screened application applied to cabinet door in a vertical orientation; Color: Red.
- B. Signage: V-Shaped Sign Larsen Model PTD-182 or approved equal
 1. Provide at every location of bracket mounted extinguishers and FEC's. Mount at 7'-0" AFF as measured from centerline of sign.

2.07 MOUNTING BRACKETS, TYPE FE-1 & FE-2

- A. Where indicated, provide extinguisher brackets, designed to secure fire extinguishers to wall or structure. Provide blocking as required for all stud wall construction.
- B. Extinguisher Brackets: Formed steel, galvanized and enamel finished. Sizes as required for types and capacities of fire extinguishers specified. Appropriate design for cabinet or structure mounting application
- C. Finish Color: Red.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify rough openings for cabinet are correctly sized and located.
- C. Examine fire extinguishers for proper charging and tagging. Remove and replace damaged, defective, or uncharged fire extinguishers.
- 3.02 INSTALLATION
 - A. Install in accordance with manufacturer's instructions.
 - B. Install cabinets plumb and level in wall openings, 48 inches from finished floor to top of cabinet.

Ithaca Fire Station Fire Protection Specialties

- C. Install mounting brackets plumb and level to surfaces, 48 inches from finished floor to top of fire extinguisher.
- D. Secure rigidly in place.
- E. Place extinguishers in cabinets.
- F. Position graphic identification at locations indicated.
- G. Position cabinet signage at all locations for all types of extinquishers
- H. Remove temporary protective coverings and strippable films, if any, as fire protection cabinets are installed unless otherwise indicated in manufacturer's written installation instructions.

3.03 ADJUSTING

- A. Adjust cabinet doors to operate easily without binding.
- B. Adjust cabinet doors to operate easily without binding.

3.04 CLEANING

A. Clean interior and exterior cabinet surfaces in accordance with manufacturer's instructions.

3.05 PROTECTION

- A. Touch up marred finishes. Use only materials and procedures recommended or furnished by the manufacturers.
- B. Replace cabinets and mounting brackets that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

3.06 SCHEDULES

A. See Architectural Floor Plan(s) for quantities, types and locations.

SECTION 105129 - PHENOLIC LOCKERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Phenolic lockers.
- B. Locker benches.

1.02 RELATED REQUIREMENTS

A. Section 061010 - Rough Carpentry: Wood blocking and nailers.

1.03 REFERENCE STANDARDS

- A. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities 2017.
- D. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that phenolic lockers can be supported and installed as indicated.

1.05 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's published data on locker construction, sizes, and accessories.
- C. Shop Drawings: Indicate locker plan layout, elevations, sections, details, locker trim, locker accessories, numbering plan, and attachments to other work.
- D. Samples: Submit two samples 4 by 4 inches in size, of each color scheduled.
- E. Manufacturer's Installation Instructions: Indicate component installation assembly.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Identification Plates: Full size; equal to 10 percent of amount installed.
 - 3. Hooks: Full size; equal to 10 percent of amount installed.

G. Warranty: Sample of special warranty.

1.06 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 the work of this section with minimum three years of documented experience and approved by manufacturer.
- 1.07 DELIVERY, STORAGE, AND HANDLING
 - A. Do not deliver lockers until spaces to receive them are clean, dry, and ready for installation.
 - B. Protect locker finish and adjacent surfaces from damage.

1.08 WARRANTY

- A. See Section 017800 Closeout Submittals, for additional warranty requirements.
- B. Provide ten-year manufacturer warranty covering defects of manufacturing and workmanship, including, but not limited to, structural failures, faulty latch operation, and other door hardware.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Phenolic Lockers/Phenolic Storage Cabinets:
 - 1. ASI Storage Solutions: www.asistorage.com.
 - 2. Columbia Lockers, a division of PSiSC; Phenolic Lockers: www.psisc.com.
 - 3. Summit Lockers: www.summitlockers.com
 - 4. Substitutions: See Section 016000 Product Requirements.

2.02 LOCKER/STORAGE APPLICATIONS

- A. Storage Cabinets: Phenolic storage cabinets (Day Room), wall mounted with matching closed base. Provide size as indicated even if it requires a custom size unit.
 - 1. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 2. Width: 24 inches.
 - 3. Depth: 24 inches.
 - 4. Height: 84 inches.
 - 5. Cabinet Configuration: Single tier.
 - 6. Fittings:
 - a. Four (4) shelves fully adjustable for full interior height of unit.

Ithaca Fire Station Phenolic Lockers
- b. Stay closed door magnets.
- c. Through bolt fastening.
- 7. Ventilation: By open space between the back of the door and locker body.
- 8. Locking: Built-in digital keypad locks.
- 9. Provide flat top.
- 10. Color: As selected by Architect from manufacturer's full line of standard colors.
- B. Wardrobe Lockers: Phenolic lockers (Bunk Rooms and Bunk Room Alcoves), wall mounted with matching closed base. Provide size as indicated even if it requires a custom size unit.
 - 1. Width: 18 inches 24 inches.
 - 2. Depth: 24 inches.
 - 3. Height: 74 inches.
 - 4. Locker Configuration: Single tier.
 - 5. Fittings: Hat shelf, one double-prong ceiling hook, two single prong wall hooks.
 - a. Stay closed door magnets.
 - b. Through bolt fastening.
 - 6. Locking: Built-in digital keypad locks.
 - 7. Provide flat top.
 - 8. Color: As selected by Architect from manufacturer's full line of standard colors.
- C. Athletic Lockers: Two tier lockers (Exercise Room), wall mounted with matching closed base . Provide size as indicated even if it requires a custom size unit.
 - 1. Width: 12 inches.
 - 2. Depth: 12 inches.
 - 3. Height: 72 inches.
 - 4. Fittings: One double-prong ceiling hook, two single prong wall hooks.
 - a. Stay closed door magnets.
 - b. Through bolt fastening.
 - 5. Locking: Built-in digital keypad locks.
 - 6. Provide flat top.
 - 7. Color: As selected by Architect from manufacturer's full line of standard colors.
- D. Athletic Lockers: Z-tier (2 lockers each with a short and long compartment) lockers (Shower Lockers), wall mounted with matching closed base. Provide size as indicated even if it requires a custom size unit.

Ithaca Fire Station Phenolic Lockers

- 1. Width: 12 inches.
- 2. Depth: 12 inches.
- 3. Height: 72 inches.
- 4. Fittings: One double-prong ceiling hook, two single prong wall hooks.
 - a. Stay closed door magnets.
 - b. Through bolt fastening.
- 5. Locking: Built-in digital keypad locks.
- 6. Provide flat top.
- 7. Color: As selected by Architect from manufacturer's full line of standard colors.
- E. Locker Benches: Stationary type; bench top of 1 1/2" thick, solid HDPE plastic. Provide size as indicated even if it requires a custom size unit.
 - 1. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 2. Height: 18 inch.
 - 3. Length: 42 inch.
 - 4. Depth: 20 inches.
 - 5. Pedestals: 1 1/4" diameter painted steel pedestals, 16¹/₄" high, secured to bench tops with stainless steel tamper resistant torx head screws and secured to the floor using lead expansion shields with 2" stainless steel Phillips head machine bolts.
 - 6. Color: As selected by Architect from manufacturer's full line of standard colors.

2.03 PHENOLIC LOCKERS

- A. Lockers: Factory assembled, made of phenolic core panels with mortise and tenon joints and stainless steel mechanical joint fasteners; fully finished inside and out; each locker capable of standing alone.
 - 1. Doors: Full overlay, covering full width and height of locker body; square edges.
 - 2. Panel Core Exposed at Edges: Machine polished, without chips or tool marks; square edge unless otherwise indicated.
 - 3. Where locker ends or sides are exposed, finish the same as fronts or provide extra panels to match fronts.
 - 4. Provide filler strips where indicated, securely attached to lockers.
 - 5. Door Color: As selected by Architect; allow for 2 different colors.
 - 6. Body Color: Manufacturer's standard white or light color.
 - 7. Fasteners for Accessories and Locking Mechanisms: Tamperproof type.
- B. Component Thicknesses:

Ithaca Fire Station Phenolic Lockers

- 1. Doors: 1/2-inch minimum thickness.
- 2. Locker Body: One of the following combinations:
 - a. Tops, bottoms, and shelves 3/8 inch; sides and backs 5/16 inch; minimum.
- 3. End Panels and Filler Panels: 3/8-inch minimum thickness.
- 4. Tops: 1/2-inch minimum thickness.
- 5. Toe Kick Plates: 1/2-inch minimum thickness.
- C. Phenolic Core Panels: Nonporous phenolic resin and paper core formed under high pressure, with natural-colored finished edges, integral melamine surface, matte finish, and uniform surface appearance; glued laminated panels not acceptable.
 - 1. Surface Burning Characteristics: Flame spread index of 75 or less, and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
- D. Hinges: Stainless steel, powder coated to match locker color; 5 knuckle, offset; minimum of 180 degree opening; with sex bolts.
- E. Coat Hooks: Ball-pointed type, high-impact phenolic; attached with tamperproof screws; two fasteners minimum per each.
- F. Number Plates: Manufacturer's standard, minimum 4-digit, permanently attached with two rivets minimum; near top of door and centered; may be field installed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that prepared bases are in correct position and configuration.
- B. Verify bases and embedded anchors are properly sized.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install lockers plumb and square.
- C. Secure lockers with anchor devices to suit substrate materials. Minimum Pullout Force: 100 pounds.
- D. Bolt adjoining locker units together to provide rigid installation.
- E. Install end panels, filler panels, miscellaneous panels, and tops.
- F. Install accessories.
- G. Replace components that do not operate smoothly.

3.03 ADJUSTING

A. Lubricate and adjust hardware.

Ithaca Fire Station Phenolic Lockers B. Adjust doors and latches to operate easily without binding.

3.04 CLEANING

A. Clean locker interiors and exterior surfaces.

3.05 PROTECTION

- A. Protect lockers from damage, abuse, dust, dirt, stain, or paint.
- B. Do not permit use during construction.
- C. Touch up marred finishes using only materials and procedures recommended or furnished by locker manufacturer. Replace lockers that cannot be restored to factory-finished appearance.

SECTION 105613 METAL STORAGE SHELVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cantilevered shelving.
- B. Shelving accessories.

1.02 RELATED REQUIREMENTS

A. Section 092116 - Gypsum Board Assemblies: Blocking and reinforcement in walls for anchoring shelving units.

1.03 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Rated uniform shelf loads.
 - 2. Details of shelving assemblies, including reinforcement.
 - 3. Accessories.
 - 4. Specimen warranty.
- C. Test Reports: Provide independent agency test reports documenting compliance with specified structural requirements.
- D. Shop Drawings: Indicate location, type, and layout of shelving, including lengths, heights, and aisle layout, and relationship to adjacent construction.
- E. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Extra Shelves: Two of each size with shelf brackets.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inspect for dents, scratches, or other damage. Replace damaged units.

- B. Store in manufacturer's unopened packaging until ready for installation.
- C. Store under cover and elevated above grade.

1.06 WARRANTY

- A. See Section 017800 Closeout Submittals, for additional warranty requirements.
- B. Provide ten-year manufacturer warranty covering defects of manufacturing and workmanship and rust and corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Cantilevered Shelving:
 - 1. E-Z Shelving Systems, Inc.; Product "E-Z Shelving System": www.e-zshelving.com
 - 2. Substitutions: See Section 016000 Product Requirements.

2.02 SHELVING - GENERAL

A. See drawings for layout and sizes.

2.03 CANTILEVERED SHELVING

- A. Cantilevered Shelving: Wall-mounted formed steel uprights with slots for cantilevered shelving brackets, shelving brackets, shelving surfaces, and accessories as specified.
 - 1. Unit Width: 48 inches, center to center of uprights, unless indicated otherwise.
 - 2. Shelf Capacity, 12-inch-deep shelf: Rated uniform load of 200 psf, minimum, tested in accordance with ANSI MH28.1.
 - 3. Loading Capacity for Single Shelf Bracket, 12 inches long: 560 lbs.
 - 4. Loading Capacity for Double Shelf Bracket, 12 inches long: 280 lbs.
 - 5. Adjustability of Shelving: At any height above bottom bracket.
 - 6. Shelf Depth: 12 inches, minimum.
- B. Uprights: Formed steel members with slotted tubular face to receive shelf brackets and double flange on backside for attachment to substrate. Flanges punched with 1/4-inch diameter mounting holes starting 2 inches from each end.
 - 1. Material: Stainless steel, ASTM A240, Type 304-2B.
 - 2. Sheet Metal Thickness: 14-gage, minimum.
 - 3. Length: As indicated on drawings.
- C. Shelf Brackets: Combination shelf support and bookend, formed steel; equipped with left or right flanges for shelf support; full depth of shelves and minimum 6 inches height above shelf surface; rounded outer edges and corners for safety.

- 1. Material: Stainless steel, ASTM A240, Type 304-2B.
- 2. Thickness: 14-gage, minimum.
- 3. Type A Profile: Single, shelf tapered bracket with top flange to support one shelf end.
- 4. Type B Profile: Double shelf, tapered bracket with top flange to support ends of two adjoining shelves.
- 5. Connection to Uprights: Clamp assemblies.
- 6. Clamp Assembly Type: Split unit with profile to match tubular slot extension of upright. Provide with 3/8-inch diameter bolt and nut for attachment.
 - a. Material: Electro-zinc-plated steel, ASTM B633, chromate dipped.
- D. Shelves: Formed steel, louvered, finished on all surfaces; front edge bent down and back edge bent up for rigidity; front and back flanges with returns for safety; no unsanitary hems, crevices, or folds.
 - 1. Material: Stainless steel, ASTM A240, Type 304-2B.
 - 2. Thickness: 18-gage, 0.0478 inch, minimum.
 - 3. Shelf Connections: Pre-punch shelves for bracket attachment; positive bolt connection between shelf and bracket.
 - 4. Size: As indicated on drawings

2.04 ACCESSORIES

A. Fasteners: Type, size, and spacing as recommended by manufacturer for secure, rigid installation to meet specified performance requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate is level and that clearances are as specified.
- B. Verify that walls are suitable for shelving attachment.
- C. Do not begin installation until substrates have been properly prepared.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install shelving with shelf surfaces level and vertical supports plumb; adjust feet and bases as required.

3.04 ADJUSTING

A. Remove and replace damaged components.

3.05 CLEANING

A. Clean shelving and surrounding area after installation.

3.06 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

SECTION 107500 - FLAGPOLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum Flagpoles.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete base and foundation construction.

1.03 REFERENCE STANDARDS

- A. ASTM B241/B241M Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube.
- B. NAAMM FP 1001 Guide Specifications for Design Loads of Metal Flagpoles.

1.04 SUBMITTALS

- A. See Section 01 33 00 Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data on pole, accessories, and configurations.
- C. Shop Drawings: Indicate detailed dimensions, base details, anchor requirements, and imposed loads.
- 1.05 QUALITY ASSURANCE
 - A. Designer Qualifications: Design flagpole foundation under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed the State in which the Project is located.
- 1.06 DELIVERY, STORAGE, AND HANDLING
 - A. Spiral wrap flagpole with protective covering and pack in protective shipping tubes or containers.
 - B. Protect flagpole and accessories from damage or moisture.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flagpoles:
 - 1. <u>American Flagpole; a Kearney-National Inc. company</u>.
 - 2. Eder Flag Manufacturing Company, Inc.
 - 3. <u>Ewing Flagpoles</u>.

- 4. <u>Lingo Inc.; Acme Flagpole Company Division</u>.
- 5. <u>Pole-Tech Company Inc</u>.
- 6. <u>U.S. Flag & Flagpole Supply, LP</u>.
- 7. Concord American Flagpole
- 8. Substitutions: See Section 016000 Product Requirements.

2.02 FLAGPOLES

- A. Flagpole Construction, General: Construct flagpoles in one piece if possible. If more than one piece is necessary, comply with the following:
 - 1. Fabricate shop and field joints without using fasteners, screw collars, or lead calking.
 - 2. Provide flush hairline joints using self-aligning, snug-fitting, internal sleeves.
 - 3. Provide self-aligning, snug-fitting joints.
- B. Flagpoles: Designed in accordance with NAAMM FP 1001
 - 1. Material: Aluminum.
 - 2. Design: Cone tapered.
 - 3. Mounting: Ground mounted type.
 - 4. Nominal Height: 30 ft; measured from nominal ground elevation.
 - 5. Halyard: Interior type .
- C. Performance Requirements:
 - 1. Wind Pressure Loading on Flagpole with Flag: Resistant without permanent deformation to 90 miles/hr wind speed, in accordance. Determine according to NAAMM FP 1001; the factor of safety used is 2.5 or specified wind speed, whichever is more stringent.

2.03 POLE MATERIALS

A. Aluminum: ASTM B241/B241M, 6063 alloy, T6 temper.

2.04 ACCESSORIES

- A. Finial Ball: Aluminum, 6 inch diameter.1. Anodized: Gold.
- B. Truck Assembly: Cast aluminum; revolving, stainless steel ball bearings, non-fouling.
- C. Flag: American design, 5 ft by 8 ft size, nylon fabric, brass grommets, hemmed edges.
- D. Cleat Box: Aluminum, with built-in hinge and hasp assembly, attached to pole with tamper proof screws inside box.
- E. Halyard: 5/16 inch diameter polypropylene, braided, white.
- F. Halyard Flag Snaps: Provide two (2) stainless steel swivel flagsnaps with neoprenecovers.
- G. Flash Collar: Provide Spun Aluminum Collar to match flagpole.
- H. Ground Set Base: Refer to drawings.
- 2.05 FINISHING

- A. Aluminum: Provide Class 1 finish complying with AA M32-C22-A41 in thicknesses ranging from 1 to 3 mils.
 - 1. Anodized Clear.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that concrete foundation is ready to receive work and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available and of the correct characteristics.

3.02 PREPARATION

A. Coat metal sleeve surfaces below grade and surfaces in contact with dissimilar materials with asphaltic paint.

3.03 INSTALLATION

- A. Install flagpole concrete ground set base assembly and fittings in accordance with manufacturer's instructions.
- B. Electrically ground flagpole installation.
- C. Install foundation plate and centering wedges for flagpoles base set in concrete base and fasten.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1 inch.

3.05 ADJUSTING

A. Adjust operating devices so that halyard and flag function smoothly.

20230220- Ithaca Equipment Schedule-R02.xlsx

idders Take erein belov esignated t	e Note: The below assembly o v that are also noted on variou o be supplied by Owner and a	of Project Equip us Project Con are not designa	pment tract [ated to	t, case Docur o be ii	ework nents nstalle	, furn does ed by	iture, not ir a Con	etc. l n any itract	has be way r or, sh	en as equir all be	semble e the d install	ed to p luplicat ed by t	rovide ion of s he Owr	add said ner.	ditional information as to the req d scope for materials and/or labo	juiremen or. Plea	ts of areas of responsibility between Ov se be aware of this in assembling your b	vner and the Contractors. Items lister ids for this project. All items that are
oom No.	Room Name	Equip. No.	Provided by GC	Provided by PC	Provided by MC	Provided by EC	Supplied by Owner	Installed by GC	Installed by PC	Installed by EC	Installed by others, connections by PC	Installed by others, connections by MC	Installed by others,	Connections by EL	Mfgr. & Model No.	Quant.	Description	Notes
104	Radio/Watch Room	104.01	x										x	T		1	Built -In Counter/Console	See Interior Elevations, Enlarged Floor Plans and Details
		104.02					х							T	TBD	2	Task Chair	
		104.03	x													2	Built In - File Cabinet. 27.65"H X 23"D X 15"W	See Interior Elevations and Enlarge Floor Plans.
		104.04	x										х		Overhead Door Master Control Panel	1	Master Control Station for Apparatus Bay Overhead Doors	See Interior Elevations, Enlarged Floor Plans and Details
		104.05					x	x					х		TBD	1	40" Flat Screen Monitor for IAmResponding system.	GC installs brackets, EC provides power & box, conduit and pull strin for data
		104.06					x	х					x		TBD	1	Flat Screen TV	GC installs brackets, EC provides Power, box, conduit and pull strin for Data and Cable
		104.07					x	x					x		TBD	2	23" Desktop Screen Monitor & computer system.	GC installs Monitors to Articulatin Arms, EC provides box, conduit an pull string for Power and Data
		104.08					х	x							Claridge Magnetic Glassboard #GB-MGM-23-TG	1	Magnetic Glass Board, 24H"x 36W" Color: Natural Palette (Pure White)	See Interior Elevations and Enlarge Floor Plans.
		104.09					x	x						(Claridge 852N	1	800 Series Tackboard 48"hx72"w Aluminum Framed Bulletin Board	See Interior Elevations and Enlarge Floor Plans.
		104.10					x								HP Laser Jet Pro 400 MFP M425dn	1	Printer	See Interior Elevations and Enlarg Floor Plans. Power and data outle installed near unit by EC.
		104.11					х	х						E	Basis of Design Global Industrial #T9FB169983 (402-08)	1	11 Pocket Vertical Literature Rack 36"H x 9.75"W x 4.125"D	See Interior Elevations and Enlarg Floor Plans
		104.12					х								TBD	1	Table and Chairs	Allowance entered
		104.13	х													1	Built-In Storage Cabinet	See Interior Elevations and Enlarge Floor Plans.
108	Day Room Kitchen / Dining		1		1				Ī			1	Ī	T		I	Water Cooler and Filter.	Radio/Watch Roc
	547 10011 110010 1 511115	108.11					Х			Х			Х	T	Wellsys - WS 11000+	1	With hot & cold water.	Day Room Kitchon / Dini
115	Janitor	115.01		x											[Basin] FIAT MSB-2424 [Mop Holder] Fiat 889 CC [Faucet] Advance Tabco K240	1	Mop Basin w/ Service Faucet and (3) Hook Stainless Steel Mop Holder	See interior elevations and enlarg floor plans
		115.02	x												E-Z Shelving Systems Inc.	1	Cantilever Shelving & Hardware (3) 6'-0" long uprights per unit with four (4) 5'-6"(L) x 2'-0"(D) shelves per unit. Mount upright at 12" clear from Finish floor. Shelves are to be 18ga stainless steel	See interior elevations and enlarge floor plans. Allowance entered
		115.03					х							Τ	TBD	1	Floor Buffer	Allowance entered
		115.04	x											T	Bradley 9934	1	Utility Shelf w/ (5) hooks and (4) Mop and Broom Holders; 44w x 8d	See interior elevations and enlarg floor plans
117	Apparatus Bay	1	1	1	1		1	1	1		1	1	1	-				Janit
,		117.01					x				x	x	x	c	Plymovent Vehicle Exhaust Capture System, System Exhaust Fan, Control Panel, UniFilter,Duct Silencers- Basis of Design = Two (2) Hose Drops VEHICLE CONNECTION:MAGNETIC	1	System installed by others - electrical connections by EC; 10" Diameter opening for roof penetration by GC; signal wiring by EC; Rooftop ductwork scope by MC.	All 3-Phase line voltage electrica scope by EC; Low-Voltage wiring l EC. Building penetrations by GC a hoisting to compressor room of exhaust fan by GC; compressed tie-in by PC. Mechanical ducting roof by MC which include the installation of a backdraft dampe

Room No.	Room Name	Equip. No.	Provided by GC	Provided by PC	Provided by MC	Provided by EC	Supplied by Owner	Installed by GC	Installed by PC	Installed by EC	Installed by others, connections by PC	Installed by others, connections by MC	Installed by others, connections by EC	Mfgr. & Model No.	Quant.	Description	Notes
		117.02		х										Advance Tabco 7-PS-68	1	Stainless Steel Hand Sink with wrist- blade operated gooseneck faucet	See interior elevations and enlarged floor plans
		117.03	x											Gojo pro TDX 2000	1	(Soap Dispenser) Gojo Cherry Gel Pumice Hand Cleaner Starter Kit	See Interior elevations and enlarged floor plans
		117.04	x											Bobrick B-3974	1	Automatic Towel Dispenser and Waste Receptacle + Liner Mate Semi- recessed stainless steel automatic paper towel dispenser with 12 gallon receptacle + Liner Mate garbage bag holder	See interior elevations and enlarged floor plans
		117.05	x										x	Liftmaster RGL24LY	2	Stop-Go Light Redlight/Greenlight Safety Lights	See Interior Elevations and Specifications for additional information. EC to provide concealed conduit w/wiring for all locations.
		117.06		х										Elkay LVRC8WSK	1	Vandal-Resistant Water Fountain & Bottle Filling Station	See interior elevations and enlarged floor plans
		117.07			х								х	AIRIUS A-25-EC	2	Destratification Fan	See Mechanical Drawings
		117.08		x										Hannay Model #N818-25-26-10.5B-SR Gilmour Model #855032-1001 Hose Nozzle	2	Water hose reel Provide 70 feet of 3/4" hose	Provide with Tempered Water
		117.09		x										Potter Roemer Truck Fill Hose Valve	1	Hose Valve 1 1/2" Truck fill [Female x Male] Female inlet x Male Hose Thread outlet. Red hand wheel with polished chrome plated valve	See Interior elevations and enlarged floor plans.
		117.10		х										Hannay Model # N716-23-24-15.5G	1	Compressed Air Reels 75 Foot Reel Capacity Roller Position TR (wall mount)	See Interior elevations and enlarged floor plans
		117.11		x									x	Coxreels_C-Series-Air-Electric Combo Reel	2	Air and Electric reel with Kellems_Strain Relief Plug Assembly from Hubbell	
		117.12		х										Guardian G175OP Eye/Face Wash G6044-XXX Tempering Unit	1	Wall Mounted, Eye/Face Wash assembly. All plumbing lines run internally in C.M.U. walls	See Interior elevations and enlarged floor plans
		117.13					x	x						Gear Grid Standard Lockers	2	(2 Total) Wall Mounted Lockers at 20" deep x 20" wide full height Lockers equipped with large lockable storage box, name plate Holder and Name Plate, Hanger bar, 2 HD stainless steel hangers and bottom shelf	Lockers Color-Red Allowance Entered
		117.14					x							Plymovent Extraction Arm - Existing to be relocated by Owner Vendor.	1	Existing Relocated Welding Exhaust Extraction System	See Equipment Plan 1&2/A650) and Interior Elevations (2/A667)
		117.15					x	x					x	"Emergency Responder System"	1	Flat Screen Monitor by Owner (Wall Mount provided and installed by GC). EC provides power and data.	EC to coordinate mounting height with owner. Data and Power to be located at mid-monitor level.
118	EMS Storage		1		1			1	1			1	1	Basis of Design - Mott	1	[Apparatus Bay
	-	118.01	x											Manufacturing. Stainless Steel Cabinets	1	S.S. base, wall cabinets & countertop	See Interior Elevations and Enlarged Floor Plans
		118.02					x	х						Uline H-5589	1	Locking Cabinet 48"W x 24"Dx 73"H	See Interior Elevations and Enlarged Floor Plans
		118.03		x										Advance Tabco DI-1-168	1	Drop in sink, 18 Guage Stainless Steel . K-52 Deck Mounted Gooseneck 4" O.C. Faucet	19"x19" sink with 16"W x 14"D x 8"H bowl
		118.04					x	х						Geargrid Backboard Rack	1	Wall Mounted Locker 24"x24"x72" w/backboard rack set.	See interior elevations and enlarged floor plans. Allowance Entered
		118.05	x											Uline #H-6816	1	Solid Stainless Steel Shelving 60 x 24 x 63"	See Interior Elevations and Enlarged Floor Plans
120	Bay Janitor		1	1	1						1	1	1		1		EMS Storage
120	שמין זמווונטר	120.01		x										[Basin] FIAT MSB-2424 [Mop Holder] Fiat 889 CC [Faucet] Advance Tabco K240	1	Mop Basin w/ Service Faucet and (3) Hook Stainless Steel Mop Holder	See interior elevations and enlarged floor plans
			-		-		-						-				

Room No.	Room Name	Equip. No.	Provided by GC	Provided by PC	Provided by MC	Provided by EC	Supplied by Owner	Installed by GC	Installed by PC	Installed by EC	Installed by others, connections by PC	Installed by others, connections by MC	Installed by others,	connections by EC	Mfgr. & Model No.	Quant.	Description	Notes
		120.02	x												E-Z Shelving Systems Inc.	1	Cantilever Shelving & Hardware (3) 6'-0" long uprights per unit with four (4) 6'-0"(L) x 2'-0"(D) shelves per unit. Mount upright at 12" clear from Finish floor. Shelves are to be 18ga stainless steel	See interior elevations and enlarged floor plans. Allowance entered
		120.03					x								Tennant T300e	1	Floor Cleaner/Scrubber with water conservation features and no needed chemicals	17" or 20" diameter cleaning path
		120.04	x												Bradley 9934	1	Utility Shelf w/ (5) hooks and (4) Mop and Broom Holders; 44w x 8d	See interior elevations and enlarged floor plans
		120.05	x												Geargrid Wash Center	1	4'-0" Unit w/ 3 Large tool hangers +1 Four-Prong rack	See interior elevations and enlarged floor plans
121	Eiromatic Storage	1	1	1	1	1	1	1	1	1	1	1	T	-		1	Bulk Storago Packs	Bay Janitor
121	Filematic Storage	121.01					х	Х							Uline #H-5395	2	60"w x 24"d x 72" h	Particle Board Shelving
		121.02					х	х							Uline #H-3346	1	Bulk Storage Racks 72"w x 36"d x 72" h	Particle Board Shelving
		121.03					х	Х							Uline #H-2873	3	72"w x 24"d x 72" h	Particle Board Shelving
122	Mechanic Room	122.01					x	x					T		Uline H-1564M-Y	1	Flammable Liquid Cabinet w/Manual Double Close Door and 45 Gallon	Firematic Storage See Interior elevations and enlarged floor plans
		122.02					x	x						x	Uline #H-5770-Steel	1	Deluxe Workstation Table Steel Top (72" x 36") <u>Accessories include:</u> (1) Sheff (H-5761), (3) Pegboard Panels [H-5768], (1) Louvered Panel [H-5767] (1) Louvered Panel [H-5767]	See Interior elevations and enlarged floor plans
		122.03													NOT USED			
		122.04		x											[Sink] Advance Tabco #FS-1-3624-24R w/Advance Tabco K116 Faucet	1	One Compartment Sink w/side drainboard and K116 Faucet (14 Ga. 304 Stainless Steel)	See Interior elevations and enlarged floor plans
		122.05			1		х	х	1						Uline #H-3912	2	Bulk Storage Rack	See Interior elevations and enlarged
		122.06													NOT USED		48 1 X 18 0 X 72 11	
		122.07					x								Global Industrial T9F535489	1	(Tool Chest/Cabinet Combo) 11 drawer Roller Tool Storage Cabinet w/ 27" Tool Chest	See Interior elevations and enlarged floor plans
		122.08		x											Hannay Model # N716-23-24-15.5G w/Hannay folding bracket mount	1	Wall Mounted Air Reels with 3/8" I.D. air line; 75' in length	See Interior elevations and enlarged floor plans
		122.09	х												Gojo pro TDX 2000	1	(Soap Dispenser) Gojo Cherry Gel Pumice Hand Cleaner Starter Kit	See Interior elevations and enlarged floor plans
		122.10					x								Global Industrial T9F183149A	1	48" x 30" Mobile Adjustable Height C- Channel Leg Workbench - Maple Square Edge	See Interior elevations and enlarged floor plans
123	Turnout Gear		1	T	1	1	1	Г	1	<u> </u>	1	1	Т	<u> </u>		1		Mechanic Room
123		123.01					x	x							Gear Grid Standard Lockers	1	(24 Total Lockers at 24" deep x 30" wide full height) [12 Wall Mounted Lockers] and [12 Lockers with center-room self- supporting frame]. Lockers equipped with large lockable storage box, name plate Holder and Name Plate, Hanger bar, 2 HD stainless steel hangers and bottom shelf	Lockers Color-Red Self Supporting Frames Color-Black Allowance Entered
		123.02	х		1			1	1						Advance Tabco WS-15-24-16	3	15" x 24" S.S. wall mounted shelf	See 1/A650 and Interior elevations 10/A666
	1	1	1	1									<u>.</u>				1	Turnout Gear
124	Decon	124.01					x	x			x	x		x	Granuldisk Solo Rescue with Tahoe Dosing Pump	1	SCBA Mask, bottle and glove sanitizer 208v-240v/3-Phase, 40A Breaker	Provide water supply & drain, Provide electrical supply for corded unit with NEMA 15-50P plug.(water supply 104 degrees max.)
		124.02		x											T&S Brass and Bronze Works Model #PB-8WOSN00PZLUB	1	Commercial wall mount mixing faucet with 72" flexable steel hose and high flow spray valve	See Interior Elevations and Enlarged Floor Plans
		124.03	Х												SUGATSUNE Model # XL-SA01-240/S	2	Stainless Steel Angle Bracket	See interior Elevations and Enlarged Floor Plans

Room No.	Room Name	Equip. No.	Provided by GC	Provided by PC	Provided by MC	Provided by EC	Supplied by Owner	Installed by GC	Installed by PC	Installed by EC	Installed by others, connections by PC	Installed by others, connections by MC	Installed by others, connections by EC	Mfgr. & Model No.	Quant.	Description	Notes
		124.04	х											Advance Tabco SW1-72	1	Single Bar Pot Rack - 72" Long	Centered on sink; Do not install until
		124.05		x										[Sink] Advance Tabco 9-62-36-24RL [Faucet] Advance Tabco K116 Heavy Duty Pre-Rinse Faucet (T&S)	1	18 Ga. 304 S/S Two Compartment Sink (2) 18" X 24" Bowls w/ (2) 24" Drainboard & Pre Rinse Faucet	See Interior Elevations and Enlarged Floor Plans
		124.06	х											Gojo pro TDX 2000	1	Soap Dispensing System	Gojo Cherry Gel Pumice Hand Cleaner Starter Kit
		124.07	х											Bobrick Model #B-5193	1	Solid phenolic folding shower seat	See Interior Elevations and Enlarged Floor Plans
		124.08					х	х						Uline Model # H-6142	1	Stainless Steel Wire Shelving 72"l x 36"w x 63"h	See Interior Elevations and Enlarged Floor Plans
125	Coortourdeu	1	1	1	1	1	1	1	1	1	1	1	1	T	1	[Decon
125	Gear Laundry	125.01					x	x			x		x	Unimac Extractor Model # UW65 Series	1	Hardmount 65lb capacity Turnout Gear Washer/Extractor with Fire Link Option	PC to provide water Inlets (4)-3/4" ea.; drain size (1)-3" - GC to provide trough and install unit, EC to provide hard-wired electrical supply and disconnect. Unit available in Single Phase 200-208/220-240 or 3-Phase 200-208/220-240. Allowance entered. Quote Pending
		125.02					x	x			x	x	x	Unimac Model #UTGC6EDG44	1	PPE Gear Dryer Electrical: 208V, 60 Hx, 3 ph	Wiring and Disconnect by EC, MC to provide 6" duct exhaust and PC to provide drain line; Allowance entered. Quote Pending
		125.03					x	x			x		x	Samsung Bespoke Ultra Capacity	1	5.3 cu. Ft. High-Efficiency Residential Front-Load Clothes Washer	120V; 20A
		125.04					x	x				x	x	Samsung Bespoke Ultra Capacity	1	7.6 cu. Ft. High-Efficiency Residential Front-Load Clothes Electric Dryer	120 / 240 V; 30A
		125.05		х										Guy Gray	1	Recessed Light Gray powder-coated steel washing machine outlet box	See plumbing drawings or specifications
		125.06					x				x		х	TBD (FireSoaps is suggested)	1	Washer/Extractor Detergent Delivery System	
		125.07	х											Advance Tabco WS-12-24-16	1	12" x 24" S.S. wall mounted shelf	See Interior elevations and enlarged floor plans
		125.08	x											Basis of Design - Mott Manufacturing. Stainless Steel Cabinets	1	S.S. base, wall cabinets & countertop	See Interior Elevations and Enlarged Floor Plans
		125.09	х											Advance Tabco WS-12-60-16	1	16 ga. Stainless Steel wall mounted shelf 12"W x 60"L	See interior elevations and enlarged floor plans
127	Hot Side Lockors	T	1	1	1	1	1	1	1	<u> </u>	1	1	1		1	I	Gear Laundry
127	HOT SIDE LOCKERS	127.01	x											Summit Lockers	11	Phenolic Lockers Three Tier Custom 12"W x 12"Dx 72"H	See interior elevations and enlarged floor plans. Allowance Entered
128	Hot Side Showers	1	1	1	1	l I	l I	r -	1	1	1	1	<u> </u>		1		Hot Side Lockers
120	not side showers	128.01		х										Bradley Model #HN200	2	Recess mounted wall shower	See Plumbing drawings, interior elevations and enlarged floor plans
		128.02	х											Clickeze Style 1	2	Anti-microbial Shower Curtain Eze-Mesh 20" at/top	See interior elevations and enlarged floor plans
		128.03	х											Bobrick Model #B-682	2	Stainless Steel surface mounted coat hook	See interior elevations and enlarged floor plans
		128.04	x											Columbia - PSiSC Bench	2	9 1/2" Wide x 30" Bench (2) Wall Mounted Brackets per bench	See interior elevations and enlarged floor plans
and Floor																	Hot Side Showers
209	Janitor	209.01		x										[Basin] FIAT MSB-2424 [Mop Holder] Fiat 889 CC [Faucet] Advance Tabco K240	1	Mop Basin w/ Service Faucet and (3) Hook Stainless Steel Mop Holder	See interior elevations and enlarged floor plans
		209.02	x											E-Z Shelving Systems Inc.	1	Cantilever Shelving & Hardware (3) 6'-0" long uprights per unit with three (4) 6'-0"(L) x 1'-6"(D) shelves per unit. Mount upright at 12" clear from Finish floor. Shelves are to be 18ga stainless steel	See interior elevations and enlarged floor plans. Allowance entered

Room No.	Room Name	Equip. No. 209.03	× Provided by GC	Provided by PC	Provided by MC	Provided by EC	Supplied by Owner	Installed by GC	Installed by PC	Installed by EC	Installed by others, connections by PC	Installed by others, connections by MC	Installed by others.	connections by EC	Mfgr. & Model No. Bradley 9934	Quant. 1	Description Utility Shelf w/ (5) hooks and (4) Mop and Broom Holders; 44"w x 8"d	Notes See interior elevations and enlarged floor plans
		209.04					х								TBD	1	Floor Buffer	
		1	1			1	-		1	-	1	1	-			1		Janito
211	Hall / Bunk Lockers	211.01	x												Basis of Design - Summit Lockers	24	Phenolic Lockers Single Tier Custom 24"W x 24"Dx 72"H	See 1/A104,1/A650 and 15 & 16/A601
		1	1	.	1	1	-	1	1	1	r –	.	-	1		1		Hall / Bunk Lockers
217 218 219 220 221	Bunk Rooms	XXX.01					x								Basis of Design - Norix Furniture Protégé NextGen Steel Single Bed #PROT100 w/Norix Comfort Shield Mattress MNE7-3680	6	XL I win Bed color Ebony W/cherry wood headboard/footboard option and foam encased innerspring mattress with antimicrobial nylon cover	See 2/A650
222		XXX.02	x												Basis of Design - Summit Lockers	6	Phenolic Lockers Single Tier w/ Through Bolt Door Custom 18"W x 24"Dx 78"H	See 1/A104,1/A650 and 15 & 16/A601
		XXX.03											+		NOT USED			
		XXX.04					х								Basis of Design - Steelcase/Davenport or similar	6	Writing Desk 42"W x 19"D x 30"H	See 2/A650
	- -	1	1	1	1	1	1	1	1	r –	1	1				1	ſ	Bunk Room
225	Compressor	225.01					x							x	Plymovent Vehicle Exhaust Exhaust Fan	1	System installed by others - electrical connections by EC; Roof penetration by GC; signal wiring by EC and above roof ductwork by MC.	See 117.01
		225.02		x										x	Ingersoll Rand Model #2475N5 with F Series, Grade G inline filter.	1	House Air Compressor 80-gallon vertical tank. 3 Phase/ 60Hz/ 12.5 Amps/ Voltage 200v.	See Plumbing Drawings for installation requirements; provide F Series/Grade G inline filter. EC to provide electrical to unit. Fan and fresh air intake by MC See Mechanical drawings
					-	-		-		-			_					Compresso
226	Trash /Outdoor Equipment Storage	226.01	x												Gear Grid Broom Center	1	5' Unit (3) Large Tool Hangers (1) Four Prong Rack	See Interior Elevations and Enlarged Floor Plans
		226.02	x												E-Z Shelving Systems Inc.	1	Cantilever Shelving & Hardware (4) 3'-0" long uprights per unit with Two (2) 8'-6"(L) x1'-6"(D) shelves per unit. Mount upright at 48" clear from Finish floor. Shelves are to be 18ga stainless steel	See interior elevations and enlarged floor plans.
		226.03					x								(Rubbermaid or sim.)	3	Trash & Recycle Bins	Based on Rubbermaid Rolling Models; 50 gal. capacity
																		Trash (Outdoor Fauinment Storage

SECTION 122400 - WINDOW SHADES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior manual roller shades.

1.02 RELATED REQUIREMENTS

A. Secion 090613 - Materials Legend

1.03 REFERENCE STANDARDS

- A. ASTM G21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- B. NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
- C. WCMA A100.1 Safety of Window Covering Products.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Sequencing:
 - 1. Do not fabricate shades until field dimensions for each opening have been taken with field conditions in place.
 - 2. Do not install shades until final surface finishes and painting are complete.
- 1.05 SUBMITTALS
 - A. See Section 013300 Submittal Procedures, for submittal procedures.
 - B. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.
 - C. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.
 - D. Verification Samples: Minimum size 6 inches square, representing actual materials, color and pattern.
 - E. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.

Ithaca Fire Station Window Shades

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver shades in manufacturer's unopened packaging, labeled to identify each shade for each opening.
- B. Handle and store shades in accordance with manufacturer's recommendations.

1.08 FIELD CONDITIONS

A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.09 WARRANTY

- A. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
 - 1. Shade Hardware: Limited Lifetime.
 - 2. Fabric: Limited Lifetime.
 - 3. Aluminum and Steel Coatings: Limited Lifetime.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Interior Manually Operated Roller Shades:
 - 1. SWFcontract, a division of Springs Window Fashions, LLC.: www.swfcontract.com/#sle.
 - 2. Substitutions: See Section 016000 Product Requirements.
- B. Source Limitations: Furnish products produced by a single manufacturer and obtained from a single supplier.

2.02 ROLLER SHADES

- A. General:
 - 1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
 - 2. Provide shade system that operates smoothly when shades are raised or lowered.
- B. Roller Shades Basis of Design: SWF Contract; True Performance Manual Shade with Fascia,
 - 1. Description: Single roller, manually operated fabric window shades.
 - a. Drop Position: Regular roll.
 - b. Mounting: Window jamb mounted.
 - c. Size: As indicated on drawings.
 - d. Fabric: As indicated in Section 090613 Materials Legend.
 - 2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
 - a. Material: Steel, 16 gauge thick.
 - 3. Roller Tubes:
 - a. Material: Extruded aluminum.
 - b. Size: As recommended by manufacturer; selected for suitability for installation conditions, span, and weight of shades.

Ithaca Fire Station Window Shades

- c. Fabric Attachment: Utilize extruded channel in tube to accept vinyl spline welded to fabric edge. Shade band to be removable and replaceable without removing roller tube from brackets or inserting spline from the side of the roller tube.
- d. Roller tubes to be capable of being removed and reinstalled without affecting roller shade limit adjustments.
- 4. Hembars: Designed to maintain bottom of shade straight and flat.
 - a. Style: Full wrap fabric covered bottom bar, flat profile with heat sealed closed ends.
- 5. Clutch Operator: Manufacturer's standard material and design integrated with bracket/brake assembly.
 - a. Provide a permanently lubricated brake assembly mounted on an oil-impregnated hub with wrapped spring clutch.
 - b. Brake must withstand minimum pull force of 50 pounds in the stopped position.
 - c. Mount clutch/brake assembly on the support brackets, fully independent of the roller tube components.
- 6. Drive Chain: Continuous loop stainless steel beaded ball chain, 95 pound minimum breaking strength. Provide upper and lower limit stops.
 - a. Chain Retainer: Chain tensioning device complying with WCMA A100.1.
- 7. Managed Lift: Required lifting force of 3 pounds to a maximum of 8.5 pounds for single.
- 8. Accessories:
 - a. Fascia: Extruded aluminum, size as required to conceal shade mounting, attachable to brackets without exposed fasteners.
 - 1) Color: Match window shades..
 - 2) Profile: Square.
 - 3) Configuration: Captured, fascia stops at captured bracket end.
 - b. Room-Darkening Channels: Extruded aluminum side and center channels with brush pile edge seals, SnapLoc mounting base, and concealed fasteners. Channels to accept one-piece exposed blackout hembar to assure side light control and sill light control.

2.03 SHADE FABRIC

- A. Fabric: Nonflammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
 - 1. Material: Refer to 090613 Materials Legend.
 - 2. Performance Requirements:
 - a. Flammability: Pass NFPA 701 large and small tests.
 - b. Fungal Resistance: No growth when tested according to ASTM G21.
 - Color: Refer to 090613 Materials Legend..
 - 4. Fabrication:
 - a. Fabric Orientation: Refer to 090613 Materials Legend.

2.04 ROLLER SAHDE FABRICATION

- A. Field measure finished openings prior to ordering or fabrication.
- B. Dimensional Tolerances: As recommended in writing by manufacturer.

PART 3 EXECUTION

3.

3.01 EXAMINATION

- A. Examine finished openings for deficiencies that may preclude satisfactory installation.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Start of installation shall be considered acceptance of substrates.

3.02 PREPARATION

- A. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under the project conditions.
- B. Coordinate with window installation and placement of concealed blocking to support shades.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.
- B. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

3.04 CLEANING

- A. Clean soiled shades and exposed components as recommended by manufacturer.
- B. Replace shades that cannot be cleaned to "like new" condition.

3.05 PROTECTION

- A. Protect installed products from subsequent construction operations.
- B. Touch-up, repair, or replace damaged products before Substantial Completion.

SECTION 123100 - MANUFACTURED METAL CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Manufactured standard and custom casework, with cabinet hardware.
- B. See Part 2 "Performance Criteria" for specific work performance criteria required for this contract and other Prime Contracts as part of the Work of this section.

1.02 RELATED REQUIREMENTS

- A. Section 061010 Rough Carpentry: Blocking and nailers for anchoring casework.
- B. Section 079200 Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.
- C. Section 092116 Gypsum Board Assemblies: Reinforcements in metal-framed partitions for anchoring casework.
- D. Section 123600 Countertops.

1.03 REFERENCE STANDARDS

A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

1.04 DESIGN REQUIREMENTS

- A. Flush construction: Surfaces of doors, drawers and panel faces shall align with cabinet fronts without overlap of case ends, top or bottom rails. Horizontal and vertical case shell members (panels, top rails, and bottoms) shall meet in the same plane without overlap.
- B. Self-supporting units: Completely welded shell assembly without applied panels at ends, backs or bottoms, so that cases can be used interchangeably or as a single, standalone unit.
- C. Interior of case units: Easily cleanable, flush interior. Base cabinets, 30" and wider, with double swinging doors shall provide full access to complete interior without center vertical post.
- D. Drawers: Sized on a modular basis for interchange to meet varying storage needs and designed to be easily removable in field without the use of special tools.
- E. Case openings: Rabbeted-like joints all four sides of case opening for hinged doors and two sides for sliding doors in order to provide dust resistant case.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

- B. Product Data: Component dimensions, configurations, construction details, joint details, and attachments; manufacturer's catalog literature on hardware, accessories, and service fittings, if any.
- C. Shop Drawings: Indicate casework types, sizes, locations, using large scale plans, elevations, cross sections. Include rough-in and anchors, placement dimensions and tolerances, clearances required, and keying information.
- D. Manufacturer's Installation Instructions: Indicate special installation requirements.
- E. Maintenance Data: Manufacturer's recommendations for care and cleaning.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect items provided by this section during handling and installation, including finished surfaces and hardware items. For metal surfaces, use polyethylene film or other protective material standard with the manufacturer.
- B. Accept casework on site. Inspect on arrival for damage.
- C. Coordinate size of access and route to place of installation.

PART 2 PRODUCTS

2.01 PERFORMANCE CRITERIA

- A. Provide labor and materials necessary to provide a complete system.
- B. Perform all work of this section with experienced workmen familiar with the work, and in accordance with industry standards and manufacturer's recommendations.
- C. Plumbing Contractor is responsible for the following:
 - 1. Furnish, install, and connect sinks, fixtures, outlets, strainers, tailpieces, traps, vacuum breakers, stops, and other related plumbing components in accordance with the Building Code, local building codes, and authorities having jurisdiction.
 - 2. Coordinate with General Construction Contractor.
- D. Mechanical Contractor is responsible for the following:
 - 1. Furnish, install, and make final connections of ductwork to range hoods and other related mechanical components in accordance with the Building Code, local building codes, and authorities having jurisdiction.
 - 2. Coordinate with General Construction Contractor.
- E. Electrical Contractor is responsible for the following:

- 1. Furnish, install, and make final connections of ductwork to wiring, conduit, and other related electrical components within the casework in accordance with the Building Code, local building codes, and authorities having jurisdiction.
- 2. Coordinate with General Construction Contractor.

2.02 MANUFACTURERS

- A. Metal Casework:
 - 1. Jamestown Metal Products; ICI Stainless Steel: www.jamestown.com.
 - 2. Mott Manufacturing; Product "Stainless Steel Laboratory Casework": www.mott.ca.
 - 3. Substitutions: See Section 016000 Product Requirements.

2.03 FABRICATION

- A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.
- B. Casework: Die-formed metal sheet; each unit self-contained and not dependent on adjacent units or building structure for rigidity; factory-fabricated, factory-assembled, and factory-finished.
 - 1. Style: Flush overlay square edge.
 - 2. Primary Cabinet Material: Stainless steel.
 - 3. Stainless Steel Sheet Metal:
 - a. Gables, Front and Back Panels, Gusset Plates, Aprons, and Rails: 18-gauge, 0.0478-inch minimum thickness.
 - b. Drawers, Cabinet Floors, Shelves, Filler Panels and Drawer Dividers: 20-gauge, 0.0359-inch minimum thickness.
 - c. Backing Sheet to Door and Door Fronts: 22-gauge, 0.0299-inch minimum thickness.
 - 4. Structural Performance: Provide components that safely support the following minimum loads, without deformation or damage:
 - a. Base Units: 500 pounds per linear foot across the cabinet ends.
 - b. Drawers: 125 pounds.
 - c. Hanging Upper Cases: 300 pounds.
 - d. Shelves: 100 pounds.
 - 5. Corners and Joints: Without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.
 - 6. Edges and Seams: Smooth. Form counter tops, shelves, and drain boards from continuous sheets.

- 7. Shelf Edges: Turned down 3/4 inch on each side and returned 3/4-inch front and back.
- 8. Ends: Close open ends with matching construction.
- 9. Welding: Electric spot welded; joints ground smooth and flush.
- 10. Drawers and Doors: Fabricate drawer and door fronts of sandwiched sheets of sheet steel welded together and reinforced for hardware.
 - a. Fill with sound-deadening core.
- 11. Filler Panels: Flanged on both sides, of matching construction and finish, for locations where cabinets do not fit tight to adjacent construction.
- 12. Separation: Use bituminous paint or non-conductive tape to coat metal surfaces in contact with cementitious materials, and to separate dissimilar metals.

2.04 CABINET HARDWARE

- A. Manufacturer's standard types, styles, and finishes.
- B. Locks: Provide locks on casework drawers and doors where indicated. Lock with 4 pin cylinder and 2 keys per lock.

2.05 MATERIALS

- A. General: Manufacturer's standard materials for units specified, unless otherwise indicated.
- B. Stainless Steel Sheet: ASTM A666 Type 304.
- C. Counter Tops, Back Splash, and Side Splash: Stainless steel.
- D. Sound Deadening Material: Inorganic, for sandwich panel fabrication.
- E. Cabinet Locks: Lock with 4 pin cylinder and 2 keys per lock; master keyed.
- F. Hinges: Institutional type, five knuckle projecting barrel; minimum 2-1/2" long; type 304 stainless steel. Provide two hinges for doors up to 36" high: three hinges for doors over 36" high.
- G. Turn down edges of shelves 1 inch on each side and return 1 inch front and back. Reinforce shelves 36" long and longer with hat channel reinforcement the full width of shelf.
- H. Component Thicknesses, minimum:
 - 1. Gables, Front and Back Panels, Case Tops, Gusset Plates and Rails: 18-gage.
 - 2. Drawers, Door Fronts, Cabinet Floors, Cabinet Toe Kick, Shelves, Filler Panels and Drawer Dividers: 18-gage.
 - 3. Backing Sheet to Door and Drawer Fronts: 20-gage.

2.06 FINISHES

- A. Stainless Steel: No. 4 finish.
- B. Shop finish all components.

Ithaca Fire Station Manufactured Metal Casework

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of support framing and anchors.

3.02 INSTALLATION

- A. Install casework, components, and accessories in accordance with manufacturer's instructions.
- B. Use anchoring devices to suit conditions and substrate materials encountered.
- C. Set casework items plumb and square, securely anchored to building structure, with no distortion.
 - 1. Base Cabinets: Examine floor levelness and flatness of installation space. Do not proceed with installation if encountered floor conditions require more than 3/4-inch leveling adjustment. When installation conditions are acceptable, for each space, establish the high point of the floor. Set and make level and plumb first cabinet in relation to this high point.
 - 2. Wall Cabinets: Examine wall surfaces in installation space. Do not proceed with installation if the following conditions are encountered:
- D. Align cabinets to adjoining components.
- E. Secure upper and floor cabinets to concealed reinforcement at gypsum board assemblies.
- F. Separate dissimilar metals to prevent galvanic action.
- G. Field weld joints in stainless steel work, without open seams. Grind smooth and polish to match adjacent surfaces.
- H. Field touch-up blemishes to original finish.

3.03 ADJUSTING

- A. Adjust operating parts, including doors, drawers, hardware, fixtures to function smoothly.
 - 1. Doors shall swing freely, catches shall hold securely, and all doors shall be aligned both vertically and horizontally. Drawers shall open and close smoothly, without binding and without excessive slide play.

3.04 CLEANING

- A. See Section 017419 Construction Waste Management and Disposal, for additional requirements.
- B. Clean casework, counters, shelves, legs, hardware, fittings and fixtures.

3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity.
- B. Protect casework and countertops from ongoing construction activities. Prevent installers from standing on or storing tools and materials on casework or countertops.

Ithaca Fire Station Manufactured Metal Casework

- C. Repair damage that occurs prior to Date of Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.
- D. Repair or remove and replace defective work as directed upon completion of installation.
- E. Repair damage that occurs prior to Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

SECTION 123600 - COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Countertops for architectural cabinet work.
- B. Countertops for manufactured casework.
- C. Wall-hung counters and vanity tops.
- D. Window sills/ aprons.
- E. Stainless-steel backsplashes.
- F. Countertop and wall mounted bench support brackets.

1.02 RELATED REQUIREMENTS

- A. Section 064100 Architectural Wood Casework.
- B. Section 090613 Materials Legend.
- C. Section 066000 Cellular PVC Fabrications for wall mounted bench seats.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 American National Standard for Particleboard.
- B. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. AWI/AWMAC/WI (AWS) Architectural Woodwork Standards, 2nd Edition.
- D. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards.
- E. ISFA 2-01 Classification and Standards for Solid Surfacing Material.
- F. ISFA 3-01 Classification and Standards for Quartz Surfacing Material.
- G. NEMA LD 3 High-Pressure Decorative Laminates.
- H. NSI (DSDM) Dimensional Stone Design Manual, Version VIII.

1.04 SUBMITTALS

- A. See Section 013300 Submittal Procedures for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Countertop brackets.

Ithaca Fire Station Countertops

- C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.
- D. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.
- 1.05 QUALITY ASSURANCE
 - A. Fabricator Qualifications: Same fabricator as for cabinets on which tops are to be installed,
- 1.06 DELIVERY, STORAGE, AND HANDLING
 - A. Store products in manufacturer's unopened packaging until ready for installation.
 - B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

PART 2 PRODUCTS

2.01 COUNTERTOPS

a.

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
- B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
 - 1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
 - Manufacturers: Refer to Section 090613 Materials Legend
 - 1) Substitutions: See Section 016000 Product Requirements.
 - b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
 - c. Wear Resistance: In addition to specified grade, comply with NEMA LD 3 High Wear Grade requirements for wear resistance.
 - d. Finish: Refer to Section 090613 Materials Legend.
 - e. Surface Color and Pattern: Refer to Section 090613 Materials Legend.
 - 2. Exposed Edge Treatment: Molded PVC edge, high impact, color through; smooth finish with T-spline, sized to completely cover edge of panel.
 - a. Color: To match and selected by Architect..
 - b. Thickness: 3mm.
 - 3. Back and End Splashes: Same material, same construction; minimum 4 inches high, where indicated on drawings.
 - 4. Fabricate in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 11 Countertops, Custom Grade.
- C. Solid Surfacing Countertops and Window Sills/ Aprons: Solid surfacing sheet or plastic resin casting over continuous substrate.
 - 1. Flat Sheet Thickness:
 - a. Countertops: 1/2 inch.
 - b. Window Sills/ Aprons: 3/4 inch.
 - 2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-

porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.

- a. Basis-of-Design Manufacturers:
 - 1) Refer to Section 090613 "Materials Legend".
 - 2) Substitutions: See Section 016000 Product Requirements.
- b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
- c. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
- d. Color: Refer to section 090613 Materials Legend..
- 3. Other Components Thickness: 1/2 inch, minimum.
- 4. Exposed Edge Treatment: Refer to drawings; square edge; use marine edge at sinks.
- 5. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
- 6. Skirts: As indicated on drawings.
- D. Natural Quartz and Resin Composite Countertops: Sheet or slab of natural quartz and plastic resin self-supporting over structural members.
 - 1. Flat Sheet Thickness: 3/4 inch, minimum.
 - Natural Quartz and Resin Composite Sheets, Slabs and Castings: Complying with ISFA 3-01 and NEMA LD 3; orthophthalic polyester resin, unfilled, and pigments; homogenous, non-porous and capable of being worked and repaired using standard stone fabrication tools; no surface coating; color and pattern consistent throughout thickness.
 - a. Basis-of-Design Manufacturers:
 - 1) Refer to Section 090613 "Materials Legend".
 - 2) Substitutions: See Section 016000 Product Requirements.
 - b. Factory fabricate components to the greatest extent practical in sizes and shapes indicated; comply with NSI (DSDM).
 - c. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
 - d. Finish on Exposed Surfaces: Refer to 090613 Materials Legend.
 - e. Color and Pattern: Refer to Section 090613 Materials Legend..
 - 3. Other Components Thickness: 3/4 inch, minimum.
 - 4. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
 - 5. Skirts: As indicated on drawings.
 - 6. Drainboards: Provide reveals in countertop at location indicated.

2.02 MATERIALS

- A. Particleboard for Supporting Substrate: ANSI A208.1 Grade 2-M-2, 45 pcf minimum density; minimum 3/4 inch thick; join lengths using metal splines.
- B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- C. Joint Sealant: Mildew-resistant silicone sealant, clear.
- D. Countertop and Wall Mounted Bench Support Brackets (non-intrusive): Cold-formed steel, L-shaped without gusset, and designed to support counter with minimum 250 pound point load.
 - 1. Provide 18 x 18 inch brackets for 21 and 25 inch deep countertops and 18 x 24 inch brackets for 30 inch deep countertops.
 - 2. Provide 8 x 12 inch brackets for Wall Mounted Bench.
 - 3. Manufacturers:
 - a. Short Run Pro; Product Streamline Countertop Brackets: www.shortrunpro.com.

b. Substitutions: As submitted in compliance with the Division 1 Specifications.

2.03 FABRICATION

- A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
 - 1. Join lengths of tops using best method recommended by manufacturer.
 - 2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
 - 3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
- B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
 - 1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
 - 2. Height: 4 inches, unless otherwise indicated.
 - 3. Backsplashes: Integral ove with countertop.
- C. Solid Surfacing: Fabricate tops and wall panels up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.
- D. Countertops: 1/2-inch thick, solid surface material laminated to 3/4-inch particleboard with exposed edges built-up.
- E. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings, finished to match.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Engineer of Record of unsatisfactory preparation before proceeding.
- C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
- B. Support Brackets: Install on solid backing not greater than 32 inches on center.

- C. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.
- D. Grommets: Coordinate Owner verification of locations.
 1. Provide at each open counter space spaced 3'-0" on center as directed by the owner.
- E. Fill visible seams in countertops smooth and flush.
- F. Seal joint between back/end splashes and vertical surfaces.

3.04 TOLERANCES

- A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
- B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
- C. Field Joints: 1/8 inch wide, maximum.

3.05 CLEANING

3.06 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

SECTION 129300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the Work of this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of the Section. Cooperate with such trades to assure steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Bike Rack
 - 2. Bollards.
 - 3. Bench
 - 4. Picnic Table
- B. Related Sections include the following:
 - 1. Division 03 Section "Cast-in-Place Concrete" for concrete footings.
 - 2. Division 31 Section "Earthwork" for excavation and backfill for bollard installation.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Maintenance Data: For site furnishings to include in maintenance manuals.

PART 2 - PRODUCTS

- 2.1 Performance Requirements
 - A. Building Product Disclosure Requirements: Provide Building Product Disclosure documentation for products used in this section where available.
 - 1. Environmental Product Declarations.

2.2 BICYCLE RACKS

- A. Subject to compliance with requirements, provide Bike Rack by **Belson** Bike Rack Co. or comparable product.
- B. Product: BELSON Model #CBBR-2CR-SS.
- C. Bicycle Rack Construction:
 - 1. Frame: 2-3/8" SS Tube.
 - 2. Finish: Stainless Steel.
 - 3. Installation Method: Surface Mount.

2.3 BOLLARDS

- A. Bollard Pipe Construction:
 - 1. Material: A36 Steel.
 - 2. Overall Height: 72 inches.
 - 3. Overall Width:
 - a. 4" diameter I.D. (4-1/2" O.D.) for site bollards.
 - 4. Installation Method: Cast in concrete. Fill all bollards with concrete.
 - 5. Finish: Galvanized.
- B. Bollard Sleeves:
 - 1. Site bollards:
 - a. Type 316 stainless steel bollard sleeve, product R-7301 by Reliance Foundry.
 - b. Diameter: 6"
 - c. Height: 36"

2.4 BENCHES

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Landscape Forms: 6' long Scarborough backed bench with center arm.
 - 2. DuMor: Bench 160.
 - 3. Keystone Ridge: Schenley.
- B. Product Requirements: Subject to compliance with requirements, provide a product meeting the following requirements:
 - 1. Length: 6 feet.
 - 2. Frame: Steel.
 - 3. Arms: Three, one at each end and in center.
 - 4. Steel Finish: Powder coated.
 - a. Color: Black.
2.5 PICNIC TABLE

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Landscape Forms: Gretchen Picnic Table.
 - 2. DuMor
 - 3. Keystone Ridge
- B. Product Requirements: Subject to compliance with requirements, provide a product meeting the following requirements:
 - 1. Length: 54 inches.
 - 2. Frame: Carbon Steel.
 - 3. Mounting: Free standing.
 - 4. Wood: Thermally Modified Ash
 - 5. Steel Finish: Powder coated.
 - a. Color: Black
 - 6. Options: No umbrella hole.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and securely anchored at locations indicated on Drawings.

3.3 CLEANING

A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 12 93 00

SECTION 142400 - HYDRAULIC ELEVATORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Complete hydraulic elevator systems.
 - 1. Passenger type.
 - a. Standard pre-engineered hydraulic passenger elevators.
 - b. Elevator car enclosures, hoistway entrances and signal equipment
 - c. Jack(s)..
 - d. Operation and control.
 - e. Accessibility provisions for physically disabled persons
 - f. Equipment, machines, controls, systems and devices as required for safely operating the specified elevators at their rated speed and capacity.
 - g. Materials and accessories as required to complete the elevator installation.
- B. Elevator Maintenance Contract.

1.02 RELATED REQUIREMENTS

- A. Section 033000 Cast-in-Place Concrete: Includes elevator machine foundation and elevator pit.
- B. Section 042000 Unit Masonry: Masonry hoistway enclosure; building-in and grouting hoistway door frames, and thresholds.
- C. Section 051200 Structural Steel Framing: Includes overhead hoist beams.
- D. Section 055000 Metal Fabrications: Includes elevator pit ladder and sill supports.
- E. Section 071300: Waterproofing of elevator pit walls.
- F. Section 078400 Firestopping: Fire rated sealant in hoistway.
- G. Section 096500 Resilient Flooring: Floor finish in car.
- H. Section 211300 Fire-Suppression Sprinkler Systems: Sprinkler heads in hoistway.
- I. Section 223000 Plumbing Equipment: Pit pump..
- J. Section 260533.13 Conduit for Electrical Systems:
- K. Section 260583 Wiring Connections:
- L. Section 284600 Fire Detection and Alarm:
 - 1. Fire and smoke detectors and interconnecting devices.
 - 2. Fire alarm signal lines to elevator controller cabinet.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design.

- B. ASCE 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- C. ASME A17.1 Safety Code for Elevators and Escalators Includes Requirements for Elevators, Escalators, Dumbwaiters, Moving Walks, Material Lifts, and Dumbwaiters with Automatic Transfer Devices.
- D. ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks Includes Inspection Procedures for Electric Traction and Winding Drum Elevators, Hydraulic Elevators, Inclined Elevators, Limited-Use/Limited-Application Elevators, Private Residence Elevators, Escalators, Moving Walks, and Dumbwaiters.
- E. ASME QEI-1 Standard for the Qualification of Elevator Inspectors.
- F. ASTM A276/A276M Standard Specification for Stainless Steel Bars and Shapes.
- G. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- H. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- I. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
- J. ASTM B209/B209M Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- K. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- L. ASTM B221M Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
- M. AWS D1.1/D1.1M Structural Welding Code Steel.
- N. ITS (DIR) Directory of Listed Products.
- O. NEMA LD 3 High-Pressure Decorative Laminates.
- P. NEMA MG 1 Motors and Generators.
- Q. NFPA 13 Standard for the Installation of Sprinkler Systems.
- R. NFPA 70 National Electrical Code.
- S. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
- T. PS 1 Structural Plywood.
- U. UL (DIR) Online Certifications Directory.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

- 1. Coordinate work with other installers to provide conduits necessary for installation of wiring including but not limited to:
 - a. Elevator equipment devices remote from elevator machine room or hoistway.
 - b. Elevator pit for lighting and sump pump.
 - c. Automatic transfer switch from controller cabinet.
- 2. Coordinate work with other installers for equipment provisions necessary for proper elevator operation, including but not limited to, the following:
 - a. Automatic transfer switches with auxiliary contacts for emergency power transfer status indication.
 - b. Shunt trip devices for automatic disconnection of elevator power prior to fire suppression system activation.
 - c. Overcurrent protection devices selected to achieve required selective coordination.
- B. Preinstallation Meeting: Convene meeting at least one week prior to start of this work.
 - 1. Review schedule of installation, proper procedures and conditions, and coordination with related work.
- C. Construction Use of Elevator: Not permitted.

1.05 SUBMITTALS

- A. See Section 013300 Submital Procedures for submittal procedures.
- B. Product Data: Submit data on following items:
 - 1. Signal and operating fixtures, operating panels, and indicators.
 - 2. Car design, dimensions, layout, and components.
 - 3. Car and hoistway door and frame details.
 - 4. Electrical characteristics and connection requirements.
- C. Shop Drawings: Include appropriate plans, elevations, sections, diagrams, and details on following items:
 - 1. Elevator Equipment and Machines: Size and location of driving machines, power units, controllers, governors, and other components.
 - 2. Hoistway Components: Size and location of car guide rails, buffers, jack unit and other components.
 - 3. Rail bracket spacing; maximum loads imposed on guide rails requiring load transfer to building structural framing.
 - 4. Clearances and over-travel of car.
 - 5. Locations in hoistway of traveling cables and connections for car lighting and telephone.
 - 6. Location and sizes of hoistway and car doors and frames.
 - 7. Electrical characteristics and connection requirements.
 - 8. Indicate arrangement of elevator equipment and allow for clear passage of equipment through access openings.
- D. Samples: Submit samples illustrating car interior finishes, car and hoistway door and frame finishes, and handrail material and finish in the form of cut sheets and material samples.
- E. Manufacturer's Qualification Statement.
- F. Testing Agency's Qualification Statement.
- G. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

- H. Initial Maintenance Contract.
- I. Maintenance Contract: Submit proposal to Owner for standard one year continuing maintenance contract agreement in accordance with ASME A17.1 and requirements as indicated, starting on date initial maintenance contract is scheduled to expire.
 - 1. Indicate in proposal the services, obligations, conditions, and terms for agreement period and for renewal options.
- J. Operation and Maintenance Data:
 - 1. Parts catalog with complete list of equipment replacement parts; identify each entry with equipment description and identifying code.
 - 2. Operation and maintenance manual.
 - 3. Schematic drawings of equipment and hydraulic piping, and wiring diagrams of installed electrical equipment with list of corresponding symbols to identify markings on hoistway apparatus.

1.06 QUALITY ASSURANCE

- A. Maintain one copy of each quality standard document on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years documented experience.
- C. Installer Qualifications: Trained personnel and supervisor on staff of elevator equipment manufacturer.
- D. Inspection and testing: Elevator Installer shall obtain and pay for all required inspections, tests, permits and fees for elevator installation.
 - 1. Arrange for inspections and make required tests.
 - 2. Deliver to the Owner upon completion and acceptance of elevator work.
- E. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of type specified in this section.
- F. Products Requiring Fire Resistance Rating: Listed and classified by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
- G. Products Requiring Electrical Connection: Listed and classified by UL (DIR) or testing agency acceptable to authorities having jurisdiction as suitable for the purpose indicated in construction documents.agreement

1.07 PROJECT CONDITIONS

A. Prohibited Use: Elevators shall not be used for temporary service or for any other purpose during the construction period before Substantial Completion and acceptance by the purchaser unless agreed upon by Elevator Contractor and General Contractor with signed temporary

1.08 WARRANTY

- A. See Section 017800 Closeout Submittals for additional warranty requirements.
- B. Provide manufacturer's warranty for elevator operating equipment and devices for one year from Date of Substantial Completion.

1.09 MAINTENANCE

- A. Furnish maintenance and call back service for a period of 12 months for each elevator after Date of Substantial Completion, during normal working hours, excluding callbacks. Service shall consist of periodic examination of the equipment, adjustment, lubrication, cleaning, supplies and parts to keep the elevators in proper operation.
 - 1. Manufacturer shall have a service office and full time service personnel within a 100 mile radius of the project site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hydraulic Elevator Manufacturers:
 1. Basis of Design Hydraulic Elevators: ThyssenKrupp Elevator; Endura MRL 3500.
- B. Other Acceptable Manufacturers:
 - 1. Otis Elevator Company: www.otis.com/#sle.
 - 2. Schindler Elevator Corporation: www.schindler.com/#sle.
- C. Substitutions: See Section 016000 Product Requirements.
- D. Products other than Basis of Design are subject to compliance with specified requirements and prior approval of Architect. By using products other than Basis of Design, the Contractor accepts responsibility for costs associated with any necessary modifications to related work including any design fees.
- E. Source Limitations: Provide elevator and associated equipment and components produced by the same manufacturer as the other elevator equipment used for this project and obtained from a single supplier.

2.02 HYDRAULIC ELEVATORS

- A. Hydraulic Passenger Elevator:
 - 1. Hydraulic Elevator Equipment:
 - a. Holeless hydraulic with two (1) stage cylinders mounted within hoistway.
 - b. Hydrolid Fluid: Enviromax, vegtable-based hydrolic fluid.
 - 2. Drive System:
 - a. Standard manufacture motor specifically designed for oil-hydraulic elevator service. Duty rating shall be selected for specified speed and load.
 - 3. Operation Control Type:
 - a. Microprocessor based and protected from environmental extremes and excessive vibrations in a NEMA 1 enclosure.
 - 4. Service Control Type:
 - a. Standard service control only.
 - 5. Interior Car Height: 96 inch.
 - 6. Electrical Power: 208 volts; alternating current (AC); three phase; 60 Hz.
 - 7. Rated Net Capacity: 3500 pounds.
 - 8. Rated Speed: 80 feet per minute.
 - 9. Hoistway Size: As indicated on drawings.

- 10. Interior Car Platform Size: 6'-8" clear width by 5'-5" clear depth.
- 11. Elevator Pit Depth: 48 inch.
- 12. Overhead Clearance at Top Floor: 146 inch.
- 13. Travel Distance: As indicated on drawings.
- 14. Number of Stops: As indicated on drawings.
- 15. Number of Openings: 1 Front.
- 16. Hydraulic Equipment Location: At bottom of elevator pit.

2.03 COMPONENTS

- A. Elevator Equipment:
 - 1. Motors, Hydraulic Equipment, Controllers, Controls, Buttons, Wiring, Devices, and Indicators: Comply with NFPA 70; see Section 260583.
 - 2. Guide Rails, Cables, Buffers, Attachment Brackets and Anchors: Design criteria for components includes safety factors in accordance with applicable requirements of Elevator Code, ASME A17.1.
 - 3. Buffers:
 - a. Spring type for elevators with speed less than or equal to 200 fpm.
 - 4. Lubrication Equipment:
 - a. Lubrication Points: Visible and easily accessible.
- B. Electrical Equipment:
 - 1. Motors: NEMA MG 1.
 - 2. Boxes, Conduit, Wiring, and Devices: As required by NFPA 70; see Sections 260533.13 and 260583.
 - 3. Spare Conductors: Provide ten percent in extra conductors and two pairs of shielded audio cables in traveling cables.
 - 4. Include wiring and connections to elevator devices remote from hoistway. Provide additional components and wiring to suit machine room layout. See Section 260583.

2.04 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with ASME A17.1, applicable local codes, and authorities having jurisdiction (AHJ).
- B. Accessibility Requirements: Comply with ADA Standards.
- C. Comply with seismic design requirements in accordance with ASME A17.1, applicable local codes, and authorities having jurisdiction (AHJ).
 - 1. Complying with Elevator Safety Requirements for Seismic Risk Zone in accordance with ASME A17.1, ASCE 7 and other related requirements.
 - a. Project Seismic Risk: As indicated on Structural drawings..
 - 2. Provide earthquake emergency operations in accordance with ASME A17.1 requirements.
- D. Perform welding of steel in accordance with AWS D1.1/D1.1M.
- E. Fabricate and install door and frame assemblies in accordance with NFPA 80 and in compliance with requirements of authorities having jurisdiction.
- F. Perform electrical work in accordance with NFPA 70.

G. Comply with fire protection sprinkler system of hoistway design in accordance with NFPA 13 requirements and authorities having jurisdiction (AHJ). See Section 211300.

2.05 OPERATION CONTROLS

- A. Elevator Controls: Provide landing operating panels and landing indicator panels.
 - 1. Landing Operating Panels: Metallic type, one for originating "Up" and one for originating "Down" calls, one button only at terminating landings; with illuminating indicators.
 - 2. Landing Indicator Panels: Illuminating.
 - 3. Comply with ADA Standards for elevator controls.
- B. Interconnect elevator control system with building fire alarm and smoke alarm systems.
- C. Door Operation Controls:
 - 1. Program door control to open doors automatically when car arrives at floor landing.
 - 2. Render "Door Close" button inoperative when car is standing at dispatch landing with doors open.
 - 3. Door Safety Devices: Moveable, retractable safety edges, quiet in operation; equipped with photo-electric light rays.
- D. Provide "Firefighter's Emergency Operation" in accordance with ASME A17.1, applicable building codes, and authorities having jurisdiction (AHJ).
 - 1. Designated Landing: At First floor.

2.06 OPERATION CONTROL TYPE

- A. Single Automatic (Push Button) Operation Control: Applies to car in single elevator shaft.
 - 1. Refer to description provided in ASME A17.1.
 - 2. Set system operation so that momentary pressure of landing button dispatches car from other landing to that landing.
 - 3. Allow call registered by momentary pressure of landing button at any time to remain registered until car stops in response to that landing call.
 - 4. If elevator car door is not opened within predetermined period of time after car has stopped at terminal landing allow car to respond to call registered from other landing.

2.07 SERVICE CONTROL TYPE

- A. Independent Service Control:
 - 1. Provide key operated "Independent Service" on car operating panel. Key activation will remove that car from normal operation and cancel pre-registered car calls.
 - 2. Car will respond to selected floor. Car will not respond to any calls from landing call buttons. Car will only respond to calls placed on the car operating panel. Doors will remain open at last landing requested. Doors will close with a constant pressure on "Door Close" button.
 - 3. Key activation to normal operation will return car to normal operation.

2.08 EMERGENCY POWER

A. Set-up elevator operation to run with building emergency power supply when the normal building power supply fails, and in compliance with ASME A17.1 requirements.

- B. Building Emergency Power Supply: Supplied by backup generator; provide elevator system components as required for emergency power characteristics with phase rotation the same as for normal power.
 - 1. Provide transfer switches and auxiliary contacts.
 - 2. Install connections to power feeders.
- C. Emergency Lighting: Comply with ASME A17.1 elevator lighting requirements.
- D. Provide operational control circuitry for adapting the change from normal to emergency power.
- E. Upon transfer to emergency power, advance one elevator at a time to a pre-selected landing, stop car, open doors, disable operating circuits, and hold in standby condition.

2.09 MATERIALS

- A. Steel Sheet: ASTM A1008/A1008M, Designation CS (commercial steel), with matte finish.
- B. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- C. Stainless Steel Sheet: ASTM A666, Type 304; No. 4 Brushed finish unless otherwise indicated.
- D. Stainless Steel Bars, Shapes and Moldings: ASTM A276/A276M, Type 304.
- E. Extruded Aluminum: ASTM B221 (ASTM B221M), natural anodized finish unless otherwise indicated.
- F. Aluminum Sheet: ASTM B209/B209M, 3105 alloy, O temper.
- G. Plywood: PS 1, Structural I, Grade C-D or better, sanded.
- H. Resilient Flooring: Vinyl tile flooring and Resilient base, see Section 096500.
- I. Plastic Laminate: NEMA LD 3, Type HGS, color as selected by Engineer of Record from manufacturer's standard line of colors.

2.10 CAR AND HOISTWAY ENTRANCES

- A. Elevator:
 - 1. Car and Hoistway Entrances, Each Elevator Floor Lobby:
 - a. Hoistway Fire Rating: 1 Hour.
 - b. Elevator Door Fire Rating: 1 Hour.
 - c. Framed Opening Finish and Material: Brushed stainless steel.
 - d. Car Door Material: Stainless steel, with rigid sandwich panel construction.
 - e. Hoistway Door Material: Stainless steel, with rigid sandwich panel construction.
 - f. Door Type: Double leaf.
 - g. Door Operation: Side Opening, single speed..
 - h. Door Width: 42 inches.
 - i. Door Height: 84 inches.
 - j. Sills: Extruded aluminum.
- B. Sills/Thresholds: Configure to align with frame return and coordinate with floor finish.

2.11 CAR EQUIPMENT AND MATERIALS

- A. Elevator Car, Type: TKAP.:
 - 1. Car Operating Panel: Provide main and auxiliary; flush-mounted applied face plate, with illuminated call buttons corresponding to floors served with "Door Open" button, "Door Close" button, and alarm button.
 - a. Panel Material: Integral with front return; one per car.
 - b. Car Floor Position Indicator: Above car operating panel with illuminating position indicators.
 - c. Locate alarm button where it is unlikely to be accidentally actuated; not more than 54 inch above car finished floor.
 - d. Provide matching service cabinet integral with front return panel, with hinged door and keyed lock in each car.
 - e. Provide following within service cabinet as part of car operating panel:
 - 1) Switch for each auxiliary operational control, keyed.
 - 2) Switches for inspection control.
 - 3) Emergency light.
 - 4) Telephone cabinet and hard-wired connection with telephone.
 - a) Provide converter for VOIP type telephone.
 - f. Provide convenience outlet receptacle; 110VAC, 15 amps, locate below service cabinet.
 - 2. Ventilation: Single speed fan with grille in ceiling.
 - 3. Flooring: Resilient vinyl tile.
 - 4. Wall Base: Recessed stainless steel, 4 inch high.
 - 5. Front Return Panel: Stainless steel.
 - 6. Door Wall: Plastic laminate on plywood.
 - 7. Side Walls: Plastic laminate on plywood.
 - 8. Rear Wall: Plastic laminate on plywood.
 - 9. Bumper Rail: Stainless steel, at all three sides. Provide open clearance space 1-1/2 inch (38 mm) wide to face of wall.
 - a. Flat Bar Stock, Solid: 1/4 inch thick by 2 inch high.
 - b. Stainless Steel Finish: No. 4 Brushed.
 - 10. Ceiling:
 - a. Concealed Frame Suspended Ceiling: Stainless steel, mount 7 inch below car canopy with 1-1/2 inch nominal space between edge of ceiling and wall.
 - b. Lay-in Panel: Translucent, polycarbonate panels.
 - c. Lighting: LED downlilights..
- B. Car Accessories:
 - 1. Protective Pads: Canvas cover, padded with impact-resistant fill material, sewn with piping edges; fire resistant in compliance with ASME A17.1; brass grommets for supports, covering side and rear walls and front return, with cut-out for control panel; provide one set for each elevator.
 - a. Color: As selected by Architect.
 - b. Provide at least 4 inch clearance from bottom of pad to finished floor.
 - c. Pad Supports: Stainless steel studs, and mounted from top of wall panels.
 - 2. Disconnect Switch: Provide disconnect and breaker with controler.

2.12 FINISHES

A. Powder Coat on Steel: Clean and degrease metal surface; apply one coat of primer; two coats of powder coat.

B. Finish Paint for Metal Surfaces: Alkyd enamel, semi-gloss, color as selected, complying with VOC limitations of authorities having jurisdiction (AHJ).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting this work.
- B. Verify that hoistway and pit are ready for work of this section.
- C. Verify hoistway shaft and openings are of correct size and within tolerance.
- D. Verify location and size of machine foundation and position of machine foundation bolts.
- E. Verify that electrical power is available and of correct characteristics.

3.02 PREPARATION

- A. Arrange for temporary electrical power for installation work and testing of elevator components; see Section 015000 Temporary Facilities and Controls for additional requirements.
- B. Maintain elevator pit excavation free of water.

3.03 INSTALLATION

- A. Coordinate this work with installation of hoistway wall construction.
- B. Install system components, and connect equipment to building utilities.
- C. Provide conduit, electrical boxes, wiring, and accessories; see Sections 260533.13 and 260583.
- D. Install hydraulic piping between cylinder and pump unit.
- E. Mount machines, motors, and pumps on vibration and acoustic isolators.
 - 1. Place on structural supports and bearing plates.
 - 2. Securely fasten to building supports.
 - 3. Prevent lateral displacement.
- F. Install hoistway, elevator equipment, and components in accordance with approved shop drawings.
- G. Install guide rails to allow for thermal expansion and contraction movement of guide rails.
- H. Accurately machine and align guide rails, forming smooth joints with machined splice plates.
- I. Obtain brackets or bracket inserts from elevator company before they are required to be installed in the work & coordinate the installation with the elevator manufacturer.
- J. Bolt brackets to inserts placed in concrete form work.
- K. Install hoistway door sills, frames, and headers in hoistway walls; grout sills in place, set hoistway floor entrances in alignment with car openings, and align plumb with hoistway.

- L. Structural Metal Surfaces: Clean surfaces of rust, oil or grease; wipe clean with solvent; prime two coats.
- M. Wood Surfaces not Exposed to Public View: Finish with one coat primer; one coat enamel.
- N. Adjust equipment for smooth and quiet operation.
- O. Fire caulk between elevator door and shaft wall and between controller and shaft wall.

3.04 TOLERANCES

- A. Guide Rail Alignment: Plumb and parallel to each other in accordance with ASME A17.1 and ASME A17.2.
- B. Car Movement on Aligned Guide Rails: Smooth movement, without any objectionable lateral or oscillating movement or vibration.

3.05 FIELD QUALITY CONTROL

- A. See Section 014000 Quality Requirements for additional requirements.
- B. Testing and inspection by regulatory agencies certified in accordance with ASME QEI 1 will be performed at their discretion.
 - 1. Schedule tests with agencies and notify Owner and Engineer of Record.
 - 2. Obtain permits as required to perform tests.
 - 3. Perform tests required by regulatory agencies.
 - 4. Furnish test and approval certificates issued by authorities having jurisdiction.
- C. Perform testing and inspection in accordance with requirements.
 - 1. Inspectors shall be certified in accordance with ASME QEI-1.
 - 2. Perform tests as required by ASME A17.2.
 - 3. Provide at least two weeks written notice of date and time of tests and inspections.
 - 4. Supply instruments and execute specific tests.
- D. Operational Tests:
 - 1. Perform operational tests in the presence of Owner and Architect.
 - 2. Test single elevator system by transporting at least four persons up from main floor to top floor landings during a five minute period.
 - 3. At an agreed time, and the building occupied with normal building traffic, conduct tests to verify performance.
 - a. Furnish event recording of each landing call registrations, time initiated, and response time throughout entire working day.

3.06 ADJUSTING

- A. Adjust for smooth acceleration and deceleration of car to minimize passenger discomfort.
- B. Adjust with automatic floor leveling feature at each floor landing to reach 1/4 inch maximum from flush with sill.

3.07 CLEANING

- A. Remove protective coverings from finished surfaces.
- B. Clean surfaces and components in accordance with manufacturers written instructions.

3.08 CLOSEOUT ACTIVITIES

- A. See Section 017900 Demonstration and Training for additional requirements.
- B. Demonstrate proper operation of equipment to Owner's designated representative.
- C. Demonstration: Demonstrate operation of system to Owner's personnel.
 - 1. Use operation and maintenance data as reference during demonstration.
 - 2. Briefly describe function, operation, cleaning and maintenance of each component.
- D. Training: Train Owner's personnel on cleaning and operation and maintenance of system.
 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 - 2. Provide minimum of two hours of training.
 - 3. Location: At project site, unless noted otherwise.

3.09 **PROTECTION**

- A. Do not permit construction traffic within car after cleaning.
- B. Protect installed products until Date of Substantial Completion.
- C. Touch-up, repair, or replace damaged products and materials prior to Date of Substantial Completion.

3.10 MAINTENANCE

- A. See Section 017000 Execution and Closeout Requirements for additional requirements relating to initial maintenance service.
- B. Provide Initial Maintenance Contract of elevator system and components in accordance with ASME A17.1 and requirements as indicated for 3 months from Date of Substantial Completion.
- C. Perform maintenance contract services using competent and qualified personnel under the supervision and direct employ of the elevator manufacturer or original installer.
- D. Maintenance contract services shall not be assigned or transferred to any agent or other entity without prior written consent of Owner.
- E. Include systematic examination, adjustment, and lubrication of elevator equipment.
- F. Maintain and repair or replace parts, whenever required, using parts produced by original equipment manufacturer.
- G. Perform work without removing cars from use during peak traffic periods.
- H. Provide emergency call back service during regular working hours throughout period of this maintenance contract.

END OF SECTION 142400