

# Wappingers Central School District Wappingers Falls, New York

## 2023 District Wide Renovations Phase 2

Roy C. Ketcham Senior High	SED Project No. 13210106-0012-039
John Jay Senior High	SED Project No. 13210106-0020-043
Van Wyck Junior High	SED Project No. 13210106-0017-027
Wappingers Junior High	SED Project No. 13210106-0004-036
Fishkill Elementary	SED Project No. 13210106-0005-021
Sheafe Road Elementary	SED Project No. 13210106-0018-022
Vassar Road Elementary	SED Project No. 13210106-0008-026
Main Garage #1	SED Project No. 13210106-5007-009

## Volume 1 Divisions 0 and 1 Hazardous Materials, Structural and Architectural

## Project Manual

To the best of the Architect/Engineer's knowledge, information and belief, the plans and specifications for the project are in compliance with all applicable provisions on the New York State Uniform Fire Prevention and Building Code, and the New York State Energy Conservation Construction Code, and the New York State Education Department's Manual of Planning Standards. All

Work will be done in accordance with Industrial Code Rule #56.

Issued for Bids  
August 30, 2024



21 East Market Street, Rhinebeck, New York 12572  
Tel 845-876-2832  
A Weston & Sampson Company

CONSULTANTS  
Quality Environmental Solutions and Technologies  
Fellenzer Engineering



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## NOTICE TO BIDDERS

The Board of Education of the Wappingers Central School District hereby invites the submission of sealed bids on:  
2023 District Wide Renovations Phase 2

The work will be bid in five Contracts.

General Work – Contract GW.2  
HVAC Work – Contract HVAC.2  
Plumbing Work – Contract P.2  
Electrical Work – Contract E.2  
Hazardous Materials Abatement – Contract HM.2

Sealed bids will be received at the Office of the Purchasing Agent, Wappingers Central School District, 25 Corporate Park Drive, Hopewell Junction, NY 12533 until 2:00 p.m. (local time) on October 2nd at which time the bids will be opened and read aloud immediately thereafter. Bids received after that time will not be accepted. It is deemed the responsibility of all prospective bidders to ensure that bids are delivered to the location indicated herein.

The Work is scheduled to start upon award of contract and is subject to the Milestone Schedule contained in the Project Manual – Specification Section 011200 – Multiple Contract Summary.

Complete digital sets of Bidding Documents, drawings and specifications, may be obtained online as a download at the following website: [RA.BIDDYHQ.com](http://RA.BIDDYHQ.com) under 'public projects.'

Complete sets of Bidding Documents, Drawings and Specifications, may be obtained from REVplans, 28 Church Street, Unit 7, Warwick, NY 10990 Tel: 1-877-272-0216. Checks or money orders shall be made payable to the Wappingers Central School District. Plan deposit is refundable in accordance with the terms in the Instructions to Bidders to all submitting bids. Any bidder requiring documents to be shipped shall make arrangements with the printer and pay for all packaging and shipping costs.

Please note REVplans ([revplans.biddyhq.com](http://revplans.biddyhq.com) and [ra.biddyhq.com](http://ra.biddyhq.com)) are the designated location and means for distributing and obtaining all bid package information. Only those Contract Documents obtained in this manner will enable a prospective bidder to be identified as an official plan holder of record. The Provider takes no responsibility for the completeness of Contract Documents obtained from other sources. Contract Documents obtained from other sources may not be accurate or may not contain addenda that may have been issued

All bid addenda will be transmitted to registered plan holders via email and will be available at [revplans.biddyhq.com](http://revplans.biddyhq.com) and [ra.biddyhq.com](http://ra.biddyhq.com). Plan holders who have paid for hard copies of the bid documents will need to make the determination if hard copies of the addenda are required for their use, and coordinate directly with the printer for hard copies of addenda to be issued. There will be no charge for registered plan holders to obtain hard copies of the bid addenda.

Bid and Contract Documents may be examined at no charge by appointment only at the Wappingers Central School District Facilities Building at 99 Myers Corners Road, Wappingers Falls, NY 12590 (tel. no 845-298-5150) and Rhinebeck Architecture, 21 East Market Street, Rhinebeck New York, tel. no. (845-876-2832)

Bid and Contract Documents may also be examined at the following locations:

McGraw-Hill Construction  
Dodge Digital Plan Room

Construction Contractors Association  
330 Meadow Avenue  
Newburgh, NY 12550  
Phone: 845.562.4280

Eastern Contractors Association, Inc.  
Digital Plan room

Prospective bidders may request clarification of the bid documents in writing addressed to Rhinebeck Architecture & Planning PC, attention Brian Gottschalk via e-mail [Gottschalk.Brian@WSEinc.com](mailto:Gottschalk.Brian@WSEinc.com). No interpretations of the meaning of the plans, specifications or other contract documents will be made to any bidder orally. Every question for such interpretations shall be in writing using the correct form, and must be received One (1) week prior to bid date in order to be considered.

A pre-bid meeting will be held at the Facilities and Operations Building at the RC Ketcham High School on September 18th at 3:30 p.m. Attendance by bidders is recommended, but not required, for submitting a bid.

Each bid shall be prepared and submitted in accordance with the Instructions to Bidders, on the Bid Form bound within the Project Manual.

Bidders shall be required to certify on the Bid Form that Bid prices have been arrived at without collusion.

Bid Security in the amount of five percent (5%) of the Bid must accompany each bid in accordance with the Instruction to Bidders. One hundred percent (100%) Labor and Material Payment Bond and one hundred percent (100%) Performance Bond will be required of the successful bidder prior to signing the contract.

The Owner reserves the right to consider all Bids for a period of forty five (45) days following the bid opening before awarding the Contract, and reserves the right to waive any informalities or to reject any and all Bids.

Attention of bidders is particularly called to the requirements as to equal employment opportunity, prevailing wages, and all other Federal, New York State and local requirements.

Barbara Mackson  
Purchasing Agent

# **AIA® Document A701® – 2018**

## **Instructions to Bidders**

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

Wappingers Central School District  
2023 District Wide Renovations Phase 2

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

Wappingers Central School District  
25 Corporate drive  
Hopewell Junction, NY 12533

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

Rhinebeck Architecture  
21 East Market Street  
Rhinebeck, NY 12572

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### **ADDITIONS AND DELETIONS:**

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

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

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

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

## 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.

§ 1.1.1 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. Wherever the word "Bid" occurs, it refers to the Bidder's Proposal.

§ 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.

§ 2.2 Each Bidder is required to form an individual opinion of the quantities and character of construction work by personal examination of the site and all existing facilities where the project work is to be done, and of the plans and specifications relating to it by such means as is preferred. Each Bidder shall inspect accessible concealed areas of existing construction, provided no significant permanent damage is inflicted upon the property. Lack of knowledge about conditions in accessible concealed areas shall not be the basis for additional cost claims at a later time.

## 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.)*

#### § 3.1.1.1 COPIES

§ 3.1.1.1.1 It is the intention of this Project to be both environmentally and fiscally conscious of paper use and consumption. Therefore, documents will be distributed as digital sets. Bidding Documents, Drawings, and Specifications, may be obtained on line as a download at the following website RA.BIDDYHQ.com under public projects.

§ 3.1.1.1.2 Please note, in order to access online documents and information, a log in is required. New users can create a free online account upon visiting site by clicking 'Register for an Account'.

*(Paragraph Deleted)*

§ 3.1.1.1.3 Complete sets of Bidding Documents, Drawings and Specifications, may be obtained from REVplans, 28 Church Street, Unit 7, Warwick, NY 10990 Tel: 1-877-272-0216, upon depositing the sum of \$100 (One Hundred Dollars) for each combined set of documents. Checks or money orders shall be made payable to Wappingers Central School District.

§ 3.1.1.1.4 Deposit is refundable in accordance with the terms in the Instructions to Bidders to all submitting bids. Any bidder requiring documents to be shipped shall make arrangements with the printer and pay for all packaging and shipping costs.

*(Paragraph Deleted)*

§ 3.1.1.1.5 Any bidder requiring paper copies of the Bidding Documents, Drawings, and Specifications, shall make arrangements with the printer, and pay for all printing, packaging, and shipping costs. Such costs are non-refundable.

§ 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 and compare the Bidding Documents with each other, and with other work being Bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, 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 will be considered if received by the Architect at least seven days prior to the date for receipt of Bids.  
*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)*

§ 3.2.2.1 Provide every request for such interpretation in writing, addressed to Rhinebeck Architecture, Attention: John Sharkey, 21 East Market Street, Rhinebeck, NY 12572, or preferably by Jsharkey@Rhinebeckarchitecture.com

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

1. § 3.2.4 The Bidding Documents for this project have been prepared using certain existing construction documents furnished by the Owner, which pertain to the construction of the existing conditions, and limited observations obtained by the Architect at the project site.



2. § 3.2.3.4.1 More extensive investigations of existing conditions, including disassembly or testing of existing building components, was not undertaken by the Architect.

**§ 3.2.3.4.2** Portrayal of such existing conditions obscured or concealed from the Owner or Architect's view prior to the start of this Project's construction activities, is based on reasonable implications and assumptions. The Owner and Architect do not imply or guarantee to the Bidders, in any way, that such portrayals are accurate or true existing conditions.

### **§ 3.3 Substitutions and Equivalents**

**§ 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.

*(Paragraph Deleted)*

The bidder Shall base his bid upon the materials and

equipment described in the Bidding Documents to the fullest extent possible.

**§ 3.3.1.2** In the specifications, two or more kinds, types, brands, or manufacturers or materials may be named. Unless noted otherwise they shall be regarded as the required standard of quality, and overall, are judged to be equivalent by the Architect. The Bidder may select one of these named items as the basis for his Bid or, if the Bidder desires to use any other kind, type, brand, or manufacturer or material other than those named in the specification, it shall indicate in writing, when requested, and prior to the award of the Contract, what kind, type, brand, or manufacturer is proposed in lieu of the named specified item(s).

### **§ 3.3.2 Substitution Process**

#### **§ 3.3.2.1**

The Architect will not review requests for substitutions prior to the Bid. Refer to Division One Section "Substitutions" for procedures related to substitutions and equivalents.

### **§ 3.4 Addenda**

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

*(Paragraph Deleted)*

**§ 3.4.1.1** REVplans (revplans.biddyhq.com and ra.biddyhq.com) are the designated location and means for distributing and obtaining all bid package information. Only those Contract Documents obtained in this manner will enable a prospective bidder to be identified as an official plan holder of record. The Provider takes no responsibility for the completeness of Contract Documents obtained from other sources. Contract Documents obtained from other sources may not be accurate or may not contain addenda that may have been issued.

**§ 3.4.1.2** All bid addenda will be transmitted to registered plan holders via email and will be available at revplans.biddyhq.com and ra.biddyhq.com . Plan holders who have paid for hard copies of the bid documents will need to make the determination if hard copies of the addenda are required for their use and coordinate directly with the printer for hard copies of addenda to be issued. There will be no charge for registered plan holders to obtain hard copies of the bid addenda.

It is the responsibility of the Bidder to provide contact data to the issuing office.

**§ 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. Contractor Qualifications Statement A305, A305 A , A305 B and A305 D shall be submitted with bid.

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non alterable 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.

### § 4.1.9 TAX LIABILITY

§ 4.1.9.1 Bidders are exempt from payment of manufacturer's excise taxes for materials purchased for the *exclusive use of the Owner, provided that manufacturer has complied with rules and regulation of the Commissioner of Internal Revenue Service.*

§ 4.1.9.2 New York State Sales Tax does not apply to this project. Contractors are exempt from payment on purchase of materials for the execution of this Contract and such taxes shall not be included in Bids. Exemption Certificates will be provided upon request.

§ 4.1.9.3 All other taxes shall be included in the Bid.

### § 4.1.10 PRE-BID CONFERENCE

§ 4.1.10.1 There will be a Pre-bid Conference if detailed in the Invitation to Bidders. A lack of representation at the Pre-bid Conference will not be justification for additional costs due to unforeseen conditions during the construction phases of the Contracts

### § 4.2 Bid Security

§ 4.2.1 Each Bid must be accompanied by a certified bank check of the Bidder, or a Bid Bond prepared by a surety company licensed in New York State.

§ 4.2.2 Bid Security shall be provided in the amount of five (5) percent of the dollar amount of the Base Bid.

§ 4.2.2.1 Bid Security shall be payable to Wappingers Central School District.

§ 4.2.2.2 If certified check is utilized, the Bidder shall provide written confirmation from a licensed New York State Surety company that Performance and Payment Bonds will be available to said Bidder for this project.

§ 4.2.2.3 The apparent successful Bidders, upon failure or refusal to furnish the required Performance and Payment

Bonds and execute a Contract within ten (10) calendar days after receipt of notice of the acceptance of Bid, shall forfeit the Bid Security as liquidated damages for such failure to refusal, and not as a penalty.

**§ 4.2.2.4** The successful Bidders shall have the Bid Security returned upon execution of an Owner/Contractor Agreement.

1. **§ 4.2.2.5** Unsuccessful Bidders shall have their Bid Security returned following the execution of the Owner/Contractor Agreements or the forty five (45) day period following the Bid Opening, whichever occurs first.

### **§ 4.3 Submission of Bids**

**§ 4.3.1** A Bidder shall submit its Bid as per the advertisement for bids:

*(Paragraph Deleted)*

**§ 4.3.2** Two Paper copies of each Bid, the bid security, and any other documents required to be submitted with each 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. Oral, telephonic, telegraphic, facsimile or other electronically transmitted Bids will not be considered.

### **§ 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.

*(Paragraph Deleted)*

## **ARTICLE 5 CONSIDERATION OF BIDS**

### **§ 5.1 Opening of Bids**

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.

### **§ 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 and does not exceed the amount of funds available. 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** 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**

*(Paragraphs Deleted)*

### **§ 6.1 Submittals**

**§ 6.1.1** 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 Draft Schedule of Values (cost breakdown)
- .2 Proposed Subcontractor List
- .3 Proposed Substitution List
- .4 Itemized list of Work to be self-performed
- .5 Proposed Project Manager & Superintendent resumes

**§ 6.1.2** 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.

**§ 6.1.3** 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.

**§ 6.1.4** 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** The Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

**§ 7.1.2** 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 State of New York.

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

*(Paragraph Deleted)*

## **§ 7.2 Time of Delivery and Form of Bonds**

**§ 7.2.1** The Bidder shall deliver the required bonds to the Owner on or before the 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, and made payable to the Wappingers Central School District.

**§ 7.2.3** The bonds shall be dated the same date as the Contract.

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

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

**§ 8.1** The Bidding Documents are enumerated in Project Manual Table of Contents and List of Drawings. The Bidding Documents also include addenda and *the successful bidder's Bid Proposal*.

*(Paragraph Deleted)*

*(Paragraphs Deleted)*

*(Table Deleted)*

*(Paragraph Deleted)*

*(Table Deleted)*

*(Paragraph Deleted)*

*(Table Deleted)*

*(Paragraphs Deleted)*

*(Table Deleted)*

*(Paragraph Deleted)*

*(Table Deleted)*

---

(Name of Bidder)

---

(Telephone Number)

**BID FORM - General Work Contract GW.2**

For  
2023 District Wide Renovations Phase 2  
Wappingers Central School District  
Wappingers Falls, New York

---

**Wappingers Central School District**

25 Corporate Park Road  
Hopewell Junction, NY 12533

Attn: Business Manager.

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Total Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.
3. In submitting this Bid, the Undersigned agrees:
  - a. To hold the Bid open until forty-five (45) days after Bid Opening.
  - b. To accept the provisions of the Instructions to Bidders.
  - c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, and to furnish Performance and Labor and Material Bonds.
  - d. To commence the Work within ten (10) calendar days after date of receipt of Owner's Authorization to Commence Work, or as indicated by the Authorization to commence Work.
4. The Undersigned agrees that the Work will be completed as scheduled in the milestone schedule in Section 011200-Multiple Contract Summary.
5. By submissions of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party's knowledge and belief: (a) the prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other Bidder or with any competitor, (b) unless otherwise required by law, the prices that have been quoted in this Bid have not been knowingly disclosed by the Bidder, and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and (c) 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.

A Bid shall not be considered for award, nor shall any award be made where (a), (b), and (c) 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 Proposal, a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above have not been complied with, the Proposal shall not be considered for award, nor shall any award be made,

\_\_\_\_\_  
(Name of Bidder)

unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

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 a disclosure within the meaning of this Section.

6. The undersigned acknowledges the receipt of the prevailing wage rates for the Contract which are incorporated into the Contract Documents.
7. The Undersigned understands that the Owner reserves the right to accept or reject any or all Proposals and to waive any informalities in the bidding.
8. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

Addendum Number(s)	Date(s) of Addendum
_____	_____
_____	_____
_____	_____
_____	_____

9. **BASE BID No. G.1 - General Work Contract GW.2**

All labor, material, services and equipment necessary for completion of the Work shown on the Drawings and in the Project Manual for the **General Work Contract**.

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

10. **ALTERNATES:**

**Alternate #1 – Van Wyck Jr. High School:**

Add all new work in Main Office, Guidance and Health Suites.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**Alternate #2 – Van Wyck Jr. High School:**

Add all new work in library and adjacent work rooms

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**Alternate #4 – Main Garage No.1:**

Add replacement of Garage Doors #18 and 19.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

\_\_\_\_\_  
(Name of Bidder)

**Alternate #5 – Vassar Road Elementary:**

Add replacement of auditorium VAT with new VCT.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**11. UNIT PRICES**

None

**12. ALLOWANCES**

Include an Allowance of \$80,000 for unforeseen conditions in the Base Bid as specified in Allowance Section 012100.

**13. ATTACHMENTS**

The undersigned has attached the following documents to this Bid:

- a. Bid Bond/Certified Check
- b. Contractor's Qualification Statement
- c. Iran Divestment Act Form

Seal: (If firm is a corporation)

\_\_\_\_\_  
Legal Name of firm (please type)

\_\_\_\_\_  
Address (please type)

\_\_\_\_\_  
Federal ID No. or Social Security No. (please type)

\_\_\_\_\_  
Phone No. (please type)

\_\_\_\_\_  
Name and title of signer (please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





---

(Name of Bidder)

---

(Telephone Number)

**BID FORM - PLUMBING Work Contract P.2**

For  
2023 District Wide Renovations – Phase 2  
Wappingers Central School District  
Wappingers Falls, New York

---

**Wappingers Central School District**

25 Corporate Park Road  
Hopewell Junction, NY 12533

Attn: Business Manager.

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Total Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.
3. In submitting this Bid, the Undersigned agrees:
  - a. To hold the Bid open until forty-five (45) days after Bid Opening.
  - b. To accept the provisions of the Instructions to Bidders.
  - c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, and to furnish Performance and Labor and Material Bonds.
  - d. To commence the Work within ten (10) calendar days after date of receipt of Owner's Authorization to Commence Work, or as indicated by the Authorization to commence Work.
4. The Undersigned agrees that the Work will be completed as scheduled in the milestone schedule in Section 011200-Multiple Contract Summary.
5. By submissions of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party's knowledge and belief: (a) the prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other Bidder or with any competitor, (b) unless otherwise required by law, the prices that have been quoted in this Bid have not been knowingly disclosed by the Bidder, and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and (c) 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.  
A Bid shall not be considered for award, nor shall any award be made where (a), (b), and (c) 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 Proposal, a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above have not been complied with, the Proposal shall not be considered for award, nor shall any award be made,

\_\_\_\_\_  
(Name of Bidder)

unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

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 a disclosure within the meaning of this Section.

6. The undersigned acknowledges the receipt of the prevailing wage rates for the Contract which are incorporated into the Contract Documents.
7. The Undersigned understands that the Owner reserves the right to accept or reject any or all Proposals and to waive any informalities in the bidding.
8. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

Addendum Number(s)	Date(s) of Addendum
_____	_____
_____	_____
_____	_____
_____	_____

9. **BASE BID No. P.1 – Plumbing Work Contract P.2**

All labor, material, services and equipment necessary for completion of the Work shown on the Drawings and in the Project Manual for the **Plumbing Work** Contract

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

10. **ALTERNATES:**

None

11. **UNIT PRICES**

None

12. **ALLOWANCES**

Include an Allowance of \$10,000 for unforeseen conditions in the Base Bid as specified in Allowance Section 012100

13. **ATTACHMENTS**

The undersigned has attached the following documents to this Bid:

- a. Bid Bond/Certified Check
- b. Contractor's Qualification Statement
- c. Iran Divestment Act Form

\_\_\_\_\_  
(Name of Bidder)  
Seal: (If firm is a corporation)

\_\_\_\_\_  
Legal Name of firm (please type)

\_\_\_\_\_  
Address (please type)

\_\_\_\_\_  
Federal ID No. or Social Security No. (please type)

\_\_\_\_\_  
Phone No. (please type)

\_\_\_\_\_  
Name and title of signer (please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



---

(Name of Bidder)

---

(Telephone Number)

**BID FORM - HVAC Work Contract HVAC.2**

For  
2023 District Wide Renovations – Phase 2  
Wappingers Central School District  
Wappingers Falls, New York

---

**Wappingers Central School District**

25 Corporate Park Road  
Hopewell Junction, NY 12533

Attn: Business Manager.

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Total Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.
3. In submitting this Bid, the Undersigned agrees:
  - a. To hold the Bid open until forty-five (45) days after Bid Opening.
  - b. To accept the provisions of the Instructions to Bidders.
  - c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, and to furnish Performance and Labor and Material Bonds.
  - d. To commence the Work within ten (10) calendar days after date of receipt of Owner's Authorization to Commence Work, or as indicated by the Authorization to commence Work.
4. The Undersigned agrees that the Work will be completed as scheduled in the milestone schedule in Section 011200-Multiple Contract Summary.
5. By submissions of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party's knowledge and belief: (a) the prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other Bidder or with any competitor, (b) unless otherwise required by law, the prices that have been quoted in this Bid have not been knowingly disclosed by the Bidder, and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and (c) 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.

A Bid shall not be considered for award, nor shall any award be made where (a), (b), and (c) 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 Proposal, a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above have not been complied with, the Proposal shall not be considered for award, nor shall any award be made,

\_\_\_\_\_  
(Name of Bidder)

unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

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 a disclosure within the meaning of this Section.

6. The undersigned acknowledges the receipt of the prevailing wage rates for the Contract which are incorporated into the Contract Documents.
7. The Undersigned understands that the Owner reserves the right to accept or reject any or all Proposals and to waive any informalities in the bidding.
8. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

Addendum Number(s)	Date(s) of Addendum
_____	_____
_____	_____
_____	_____
_____	_____

9. **BASE BID No. HVAC.2- HVAC Work:**

All labor, material, services and equipment necessary for completion of the Work shown on the Drawings and in the Project Manual for the **HVAC Work**

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

10. **ALTERNATES:**

**Alternate #1 – Van Wyck Jr. High School:**

Add all new work in Main Office, Guidance and Health Suites.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**Alternate #2 – Van Wyck Jr. High School:**

Add all new work in library and adjacent work rooms

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

\_\_\_\_\_  
(Name of Bidder)

**11. UNIT PRICES**

None

**12. ALLOWANCES**

Include an Allowance of \$100,000 for unforeseen conditions in the Base Bid as specified in Allowance Section 012100

**13. ATTACHMENTS**

The undersigned has attached the following documents to this Bid:

- a. Bid Bond/Certified Check
- b. Contractor's Qualification Statement
- c. Iran Divestment Act Form

Seal: (If firm is a corporation)

\_\_\_\_\_  
Legal Name of firm (please type)

\_\_\_\_\_  
Address (please type)

\_\_\_\_\_  
Federal ID No. or Social Security No. (please type)

\_\_\_\_\_  
Phone No. (please type)

\_\_\_\_\_  
Name and title of signer (please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





---

(Name of Bidder)

---

(Telephone Number)

**BID FORM - Electric Work Contract E.2**

For  
2023 District Wide Renovations Phase 2  
Wappingers Central School District  
Wappingers Falls, New York

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**Wappingers Central School District**

25 Corporate Park Road  
Hopewell Junction, NY 12533

Attn: Business Manager.

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Total Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.
3. In submitting this Bid, the Undersigned agrees:
  - a. To hold the Bid open until forty-five (45) days after Bid Opening.
  - b. To accept the provisions of the Instructions to Bidders.
  - c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, and to furnish Performance and Labor and Material Bonds.
  - d. To commence the Work within ten (10) calendar days after date of receipt of Owner's Authorization to Commence Work, or as indicated by the Authorization to commence Work.
4. The Undersigned agrees that the Work will be completed as scheduled in the milestone schedule in Section 011200-Multiple Contract Summary.
5. By submissions of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party's knowledge and belief: (a) the prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other Bidder or with any competitor, (b) unless otherwise required by law, the prices that have been quoted in this Bid have not been knowingly disclosed by the Bidder, and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and (c) 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.

A Bid shall not be considered for award, nor shall any award be made where (a), (b), and (c) 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 Proposal, a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above have not been complied with, the Proposal shall not be considered for award, nor shall any award be made,

\_\_\_\_\_  
(Name of Bidder)

unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

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 a disclosure within the meaning of this Section.

6. The undersigned acknowledges the receipt of the prevailing wage rates for the Contract which are incorporated into the Contract Documents.
7. The Undersigned understands that the Owner reserves the right to accept or reject any or all Proposals and to waive any informalities in the bidding.
8. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

Addendum Number(s)	Date(s) of Addendum
_____	_____
_____	_____
_____	_____
_____	_____

9. **BASE BID No. E.1: Electric Work Contract E.2**

All labor, material, services and equipment necessary for completion of the Work shown on the Drawings and in the Project Manual for the **Electric Work** Contract.

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

10. **ALTERNATES:**

**Alternate #1 – Van Wyck Jr. High School:**

Add all new work in Main Office, Guidance and Health Suites.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**Alternate #2 – Van Wyck Jr. High School:**

Add all new work in library and adjacent work rooms

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

\_\_\_\_\_  
(Name of Bidder)

**Alternate #3 – Vassar Road Elementary School:**

Add Relocation of Electrical Transformer and associated Site Work

**Add** \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

**11. UNIT PRICES**

None

**12. ALLOWANCES**

Include an Allowance of \$50,000 for unforeseen conditions in the Base Bid as specified in Allowance Section 012100

**13. ATTACHMENTS**

The undersigned has attached the following documents to this Bid:

- a. Bid Bond/Certified Check
- b. Contractor's Qualification Statement
- c. Iran Divestment Act Form

Seal: (If firm is a corporation)

\_\_\_\_\_  
Legal Name of firm (please type)

\_\_\_\_\_  
Address (please type)

\_\_\_\_\_  
Federal ID No. or Social Security No. (please type)

\_\_\_\_\_  
Phone No. (please type)

\_\_\_\_\_  
Name and title of signer (please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



---

(Name of Bidder)

---

(Telephone Number)

**BID FORM – Hazardous Materials Contract HM.2**

For  
2023 District Wide Renovations – Phase 2  
Wappingers Central School District  
Wappingers Falls, New York

---

**Wappingers Central School District**

25 Corporate Park Road  
Hopewell Junction, NY 12533

Attn: Business Manager.

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Total Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.
3. In submitting this Bid, the Undersigned agrees:
  - a. To hold the Bid open until forty-five (45) days after Bid Opening.
  - b. To accept the provisions of the Instructions to Bidders.
  - c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, and to furnish Performance and Labor and Material Bonds.
  - d. To commence the Work within ten (10) calendar days after date of receipt of Owner's Authorization to Commence Work, or as indicated by the Authorization to commence Work.
4. The Undersigned agrees that the Work will be completed as scheduled in the milestone schedule in Section 011200-Multiple Contract Summary.
5. By submissions of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party's knowledge and belief: (a) the prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other Bidder or with any competitor, (b) unless otherwise required by law, the prices that have been quoted in this Bid have not been knowingly disclosed by the Bidder, and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and (c) 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.

A Bid shall not be considered for award, nor shall any award be made where (a), (b), and (c) 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 Proposal, a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above have not been complied with, the Proposal shall not be considered for award, nor shall any award be made,

\_\_\_\_\_  
(Name of Bidder)

unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

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 a disclosure within the meaning of this Section.

6. The undersigned acknowledges the receipt of the prevailing wage rates for the Contract which are incorporated into the Contract Documents.
7. The Undersigned understands that the Owner reserves the right to accept or reject any or all Proposals and to waive any informalities in the bidding.
8. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

Addendum Number(s)	Date(s) of Addendum
_____	_____
_____	_____
_____	_____
_____	_____

9. **BASE BID No. HM.1 – Hazardous Materials**

All labor, material, services and equipment necessary for completion of the Work shown on the Drawings and in the Project Manual for the **Hazardous Materials** Contract.

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

10. **ALTERNATES:**

**Alternate #5 – Vassar Road Elementary:**

Add replacement of auditorium VAT with new VCT.

Add \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

11. **UNIT PRICES**

A. Unit Price No. 1: VAT Removal. \$/sf \_\_\_\_\_

1. Description: Removal of asbestos containing VAT tile and mastic.
2. Unit of Measurement: Square Foot.

B. Unit Price No. 2: Asbestos Containing Pipe Insulation. \$/lf \_\_\_\_\_

\_\_\_\_\_  
(Name of Bidder)

1. Description: Removals of identified asbestos containing pipe insulation.  
Unit of Measurement: Lineal Foot.

**12. ALLOWANCES**

Include an Allowance of \$10,000 for unforeseen conditions in the Base Bid as specified in Allowance Section 012100.

**13. ATTACHMENTS**

The undersigned has attached the following documents to this Bid:

- a. Bid Bond/Certified Check
- b. Contractor's Qualification Statement
- c. Iran Divestment Act Form

Seal: (If firm is a corporation)

\_\_\_\_\_  
Legal Name of firm (please type)

\_\_\_\_\_  
Address (please type)

\_\_\_\_\_  
Federal ID No. or Social Security No. (please type)

\_\_\_\_\_  
Phone No. (please type)

\_\_\_\_\_  
Name and title of signer (please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





**CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT**

As a result of the Iran Divestment Act of 2012 (the "Act"), Chapter 1 of the 2012 Laws of New York, a new provision has been added to State Finance Law (SFL) § 165-a and New York General Municipal Law § 103-g, both effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law) (the "Prohibited Entities List"). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, each Bidder/Contractor, any person signing on behalf of any Bidder/Contractor and any assignee or subcontractor and, in the case of a joint bid, each party thereto, certifies, under penalty of perjury, that once the Prohibited Entities List is posted on the OGS website, that to the best of its knowledge and belief, that each Bidder/Contractor and any subcontractor or assignee is not identified on the Prohibited Entities List created pursuant to SFL § 165-a(3)(b).

Additionally, Bidder/Contractor is advised that once the Prohibited Entities List is posted on the OGS Website, any Bidder/Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to this solicitation must certify at the time the Contract is renewed, extended or assigned that it is not included on the Prohibited Entities List.

During the term of the Contract, should the School District receive information that a Bidder/Contractor is in violation of the above-referenced certification, the School District will offer the person or entity an opportunity to respond. If the person or entity fails to demonstrate that he/she/it has ceased engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the School District shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages or declaring the Bidder/Contractor in default. The School District reserves the right to reject any bid or request for assignment for a Bidder/Contractor that appears on the Prohibited Entities List prior to the award of a contract and to pursue a responsibility review with respect to any Bidder/Contractor that is awarded a contract and subsequently appears on the Prohibited Entities List.

I, \_\_\_\_\_, being duly sworn, deposes and says that he/she is the  
\_\_\_\_\_ of the \_\_\_\_\_ Corporation and that neither  
the Bidder/ Contractor nor any proposed subcontractor is identified on the Prohibited Entities List.

\_\_\_\_\_  
SIGNED

SWORN to before me this

\_\_\_\_\_ day of \_\_\_\_\_

201\_\_\_\_

Notary Public: \_\_\_\_\_

**DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE WITH  
THE IRAN DIVESTMENT ACT**

*Bidders shall complete this form if they cannot certify that the bidder /contractor or any proposed subcontractor is not identified on the Prohibited Entities List. The District reserves the right to undertake any investigation into the information provided herein or to request additional information from the bidder.*

Name of the Bidder: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Has bidder been involved in investment activities in Iran? \_\_\_\_\_

Describe the type of activities including but not limited to the amounts and the nature of the investments (e.g. banking, energy, real estate) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If so, when did the first investment activity occur? \_\_\_\_\_

Have the investment activities ended? \_\_\_\_\_

If so, what was the date of the last investment activity? \_\_\_\_\_

If not, have the investment activities increased or expanded since April 12, 2012? \_\_\_\_\_

Has the bidder adopted, publicized, or implemented a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran? \_\_\_\_\_

If so, provide the date of the adoption of the plan by the bidder and proof of the adopted resolution, if any and a copy of the formal plan. \_\_\_\_\_

In detail, state the reasons why the bidder cannot provide the Certification of Compliance with the Iran Divestment Act below (additional pages may be attached):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I, \_\_\_\_\_ being duly sworn, deposes and says that he/she is the \_\_\_\_\_ of  
the \_\_\_\_\_ Corporation and the foregoing is true and accurate.

\_\_\_\_\_  
SIGNED

SWORN to before me this

\_\_\_\_\_ day of \_\_\_\_\_

201\_\_\_\_

Notary Public: \_\_\_\_\_

**IRAN DIVESTMENT ACT COMPLIANCE RIDER**  
**FOR SCHOOL DISTRICTS**

The Iran Divestment Act of 2012, effective as of April 12, 2012, is codified at State Finance Law (“SFL”) §165-a and General Municipal Law (“GML”) §103-g. The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the District, from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in SFL §165-a and GML §103-g, a person engages in investment activities in the energy sector of 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 and is identified on a list created pursuant to paragraph (b) of subdivision three of Section 165-a of the SFL and maintained by the Commissioner of the Office of General Services.

**A bid or proposal shall not be considered for award nor shall any award be made where the bidder or proposer fails to submit a signed and verified bidder’s certification.**

Each bidder or proposer must certify that it is not on the list of entities engaged in investment activities in Iran created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the SFL. In any case where the bidder or proposer cannot certify that it is not on such list, the bidder or proposer shall so state and shall furnish with the bid or proposal a signed statement which sets forth in detail the reasons why such statement cannot be made. The District may award a bid to a bidder who cannot make the certificate on a case by case basis if:

- (1) The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
- (2) The District makes a determination that the goods or services are necessary for the District to perform its functions and that, absent an exemption, the District would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.







# AIA® Document A305® – 2020 Exhibit A

## General Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by \_\_\_\_\_ and dated \_\_\_\_\_ the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_.  
(In words, indicate day, month and year.)

### § A.1 ORGANIZATION

#### § A.1.1 Name and Location

§ A.1.1.1 Identify the full legal name of your organization.

§ A.1.1.2 List all other names under which your organization currently does business and, for each name, identify jurisdictions in which it is registered to do business under that trade name.

§ A.1.1.3 List all prior names under which your organization has operated and, for each name, indicate the date range and jurisdiction in which it was used.

§ A.1.1.4 Identify the address of your organization's principal place of business and list all office locations out of which your organization conducts business. If your organization has multiple offices, you may attach an exhibit or refer to a website.

#### § A.1.2 Legal Status

§ A.1.2.1 Identify the legal status under which your organization does business, such as sole proprietorship, partnership, corporation, limited liability corporation, joint venture, or other.

- .1 If your organization is a corporation, identify the state in which it is incorporated, the date of incorporation, and its four highest-ranking corporate officers and their titles, as applicable.
- .2 If your organization is a partnership, identify its partners and its date of organization.
- .3 If your organization is individually owned, identify its owner and date of organization.

#### ADDITIONS AND DELETIONS:

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

- .4** If the form of your organization is other than those listed above, describe it and identify its individual leaders:

**§ A.1.2.2** Does your organization own, in whole or in part, any other construction-related businesses? If so, identify and describe those businesses and specify percentage of ownership.

**§ A.1.3 Other Information**

**§ A.1.3.1** How many years has your organization been in business?

**§ A.1.3.2** How many full-time employees work for your organization?

**§ A.1.3.3** List your North American Industry Classification System (NAICS) codes and titles. Specify which is your primary NAICS code.

**§ A.1.3.4** Indicate whether your organization is certified as a governmentally recognized special business class, such as a minority business enterprise, woman business enterprise, service disabled veteran owned small business, woman owned small business, small business in a HUBZone, or a small disadvantaged business in the 8(a) Business Development Program. For each, identify the certifying authority and indicate jurisdictions to which such certification applies.

**§ A.2 EXPERIENCE**

**§ A.2.1** Complete Exhibit D to describe up to four projects, either completed or in progress, that are representative of your organization's experience and capabilities.

**§ A.2.2** State your organization's total dollar value of work currently under contract.

**§ A.2.3** Of the amount stated in Section A.2.2, state the dollar value of work that remains to be completed:

**§ A.2.4** State your organization's average annual dollar value of construction work performed during the last five years.

**§ A.3 CAPABILITIES**

**§ A.3.1** List the categories of work that your organization typically self-performs.

**§ A.3.2** Identify qualities, accreditations, services, skills, or personnel that you believe differentiate your organization from others.

§ A.3.3 Does your organization provide design collaboration or pre-construction services? If so, describe those services.

§ A.3.4 Does your organization use building information modeling (BIM)? If so, describe how your organization uses BIM and identify BIM software that your organization regularly uses.

§ A.3.5 Does your organization use a project management information system? If so, identify that system.

#### § A.4 REFERENCES

§ A.4.1 Identify three client references:

*(Insert name, organization, and contact information)*

§ A.4.2 Identify three architect references:

*(Insert name, organization, and contact information)*

§ A.4.3 Identify one bank reference:

*(Insert name, organization, and contact information)*

§ A.4.4 Identify three subcontractor or other trade references:

*(Insert name, organization, and contact information)*







# AIA® Document A305® – 2020 Exhibit B

## Financial and Performance Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by and dated the day of in the year  
(In words, indicate day, month and year.)

### § B.1 FINANCIAL

#### § B.1.1 Federal tax identification number:

§ B.1.2 Attach financial statements for the last three years prepared in accordance with Generally Accepted Accounting Principles, including your organization's latest balance sheet and income statement. Also, indicate the name and contact information of the firm that prepared each financial statement.

§ B.1.3 Has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, been the subject of any bankruptcy proceeding within the last ten years?

§ B.1.4 Identify your organization's preferred credit rating agency and identification information.

(Identify rating agency, such as Dun and Bradstreet or Equifax, and insert your organization's identification number or other method of searching your organization's credit rating with such agency.)

### § B.2 DISPUTES AND DISCIPLINARY ACTIONS

§ B.2.1 Are there any pending or outstanding judgments, arbitration proceedings, bond claims, or lawsuits against your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, or any of the individuals listed in Exhibit A, Section 1.2, in which the amount in dispute is more than \$75,000?  
(If the answer is yes, provide an explanation.)

§ B.2.2 In the last five years has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management:  
(If the answer to any of the questions below is yes, provide an explanation.)

.1 failed to complete work awarded to it?

.2 been terminated for any reason except for an owners' convenience?

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- .3 had any judgments, settlements, or awards pertaining to a construction project in which your organization was responsible for more than \$75,000?
- .4 filed any lawsuits or requested arbitration regarding a construction project?

**§ B.2.3** In the last five years, has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management; or any of the individuals listed in Exhibit A Section 1.2:

*(If the answer to any of the questions below is yes, provide an explanation.)*

- .1 been convicted of, or indicted for, a business-related crime?
- .2 had any business or professional license subjected to disciplinary action?
- .3 been penalized or fined by a state or federal environmental agency?



# AIA® Document A305® – 2020 Exhibit D

## Contractor's Past Project Experience

	1	2	3	4
PROJECT NAME				
PROJECT LOCATION				
PROJECT TYPE				
OWNER				
ARCHITECT				
CONTRACTOR'S PROJECT EXECUTIVE				
KEY PERSONNEL (include titles)				
PROJECT DETAILS	Contract Amount  Completion Date  % Self-Performed Work	Contract Amount  Completion Date  % Self-Performed Work	Contract Amount  Completion Date  % Self-Performed Work	Contract Amount  Completion Date  % Self-Performed Work
PROJECT DELIVERY METHOD	<input type="checkbox"/> Design-bid-build <input type="checkbox"/> Design-build <input type="checkbox"/> CM constructor <input type="checkbox"/> CM advisor <input type="checkbox"/> Other:	<input type="checkbox"/> Design-bid-build <input type="checkbox"/> Design-build <input type="checkbox"/> CM constructor <input type="checkbox"/> CM advisor <input type="checkbox"/> Other:	<input type="checkbox"/> Design-bid-build <input type="checkbox"/> Design-build <input type="checkbox"/> CM constructor <input type="checkbox"/> CM advisor <input type="checkbox"/> Other:	<input type="checkbox"/> Design-bid-build <input type="checkbox"/> Design-build <input type="checkbox"/> CM constructor <input type="checkbox"/> CM advisor <input type="checkbox"/> Other:
SUSTAINABILITY CERTIFICATIONS				



Request for Clarification of Bid Documents

Date: \_\_\_\_\_

Send To: Rhinebeck Architecture & Planning, 21 East Market Street Rhinebeck, NY 12572

Attn. Mr. John Sharkey

e-mail: [jsharkey@rhinebeckarchitecture.com](mailto:jsharkey@rhinebeckarchitecture.com)

Spec. Sect.: \_\_\_\_\_ Dwg. #: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contractor phone #: \_\_\_\_\_ Contractor e-mail: \_\_\_\_\_

Request:


Signed: \_\_\_\_\_

Date: \_\_\_\_\_

\* Submit all questions via email

\*\* All questions will be answered in the form of an addendum.

\*\*\* No questions will be answered 7 days prior to the bid date.





# AIA® Document A310™ – 2010

## Bid Bond

**CONTRACTOR:**

*(Name, legal status and address)*

**SURETY:**

*(Name, legal status and principal place of business)*

**OWNER:**

*(Name, legal status and address)*

Wappingers Central School District  
25 Corporate Park Drive  
Hopewell Junction, NY 12533

**BOND AMOUNT: \$****PROJECT:**

*(Name, location or address, and Project number, if any)*

Wappingers CSD

2023 District Wide Renovations Phase 2

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

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

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    ,

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Contractor as Principal)

\_\_\_\_\_  
(Seal)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Seal)

\_\_\_\_\_  
(Title)

Init.

/





# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Payment Bond

**CONTRACTOR:**

(Name, legal status and address)

**SURETY:**

(Name, legal status and principal place of business)

**OWNER:**

(Name, legal status and address)

Wappingers Central School District  
25 Corporate Park Drive  
Hopewell Junction, NY 12533

**CONSTRUCTION CONTRACT**

Date:

Amount: \$

Description:

(Name and location)

Wappingers CSD 2023 District Wide Renovations - Phase 2

(Row deleted)

**BOND**

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 18

**CONTRACTOR AS PRINCIPAL**

Company: (Corporate Seal)

**SURETY**

Company: (Corporate Seal)

Signature: \_\_\_\_\_

Name and

Title:

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

Signature: \_\_\_\_\_

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

**AGENT or BROKER:**
**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

Ron Broas

Wappingers Central School District  
99 Myers Corner Road, RCK Annex  
Wappingers Falls, NY 12590

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

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

Init.

§ 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 full performance of the Construction Contract, including without exception all of the terms and conditions, both express and implied, 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.

**§ 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) last occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

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

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

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

## **§ 16 Definitions**

**§ 16.1 Claim.** A written statement by the Claimant including at a minimum:

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

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

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

**§ 16.4 Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of 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 additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_

**SURETY**

Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_



# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Performance Bond

### CONTRACTOR:

(Name, legal status and address)

### SURETY:

(Name, legal status and principal place of business)

### OWNER:

(Name, legal status and address)

Wappingers Central School District  
25 Corporate Park Drive  
Hopewell Junction, NY 12533

### CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Wappingers CSD 2022 District Wide Renovations - Phase 2

### BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 16

### CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: \_\_\_\_\_

Name and

Title:

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

### SURETY

Company: (Corporate Seal)

Signature: \_\_\_\_\_

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

### AGENT or BROKER:

### OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

Ron Broas

99 Myers Corners Road RCK Annex

Wappingers Falls, NY 12590

Telephone Number: 845-298-5150

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

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

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

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

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

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

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

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

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

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

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

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

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the



Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

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

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

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

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

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

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

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

#### **§ 14 Definitions**

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_  
(Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_

**SURETY**

Company: \_\_\_\_\_  
(Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_

Init.

/





# AIA® Document A101® – 2017

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

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

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

Wappingers Central School District  
25 Corporate Park Drive  
Hopewell Junction, NY 12533

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

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

2023 Wappingers CSD District Wide Renovations Phase 2

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

Rhinebeck Architecture  
21 East Market Street  
Rhinebeck, NY 12572

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.

## TABLE OF ARTICLES

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

## 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.)*

- ☒ [ X ] The date of this Agreement.
- ☐ [ ] 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.)*

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

[ ] By the following date:

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

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

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

#### ARTICLE 4 CONTRACT SUM

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

#### § 4.2 Alternates

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

Item	Price
------	-------

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

Item	Price	Conditions for Acceptance
------	-------	---------------------------

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

Item	Price
------	-------

#### § 4.4 Unit prices, if any:

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

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

#### § 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

#### § 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 last day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 15th day of the next 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 60 ( sixty ) days after the Architect receives the Application for Payment.

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

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

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

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

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 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; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .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;
- .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
- .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 will 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% (five percent)

Init.

(Paragraphs deleted)

§ 5.1.7.1 The progress payment amount determined in accordance with Section 5.1.6 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 ninety-five percent ( 95 %) of the Contract Sum, less such amounts as the Architect determines for incomplete Work and unsettled claims; 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 Article 9 of AIA Document A201–2017.

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

## § 5.2 Final Payment

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

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

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

## § 5.3 Interest

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

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

0 % Zero

## 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.)*

### § 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

☒ Litigation in a court of competent jurisdiction

Init.



[ ] Other (Specify)

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

#### ARTICLE 7 TERMINATION OR SUSPENSION

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

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

*(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)*

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

#### ARTICLE 8 MISCELLANEOUS PROVISIONS

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

§ 8.2 The Owner's representative:

*(Name, address, email address, and other information)*

Ron Broas  
99 Myers Corners Road RCK Annex  
Wappingers Falls, NY 12590  
Telephone Number: 845-298-5150

§ 8.3 The Contractor's representative:

*(Name, address, email address, and other information)*

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

#### § 8.5 Insurance and Bonds

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

Init.

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

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–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.)*

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction  
*(Paragraphs deleted)*

.5 Drawings

Number	Title	Date
--------	-------	------

.6 Specifications

Section	Title	Date	Pages
---------	-------	------	-------

.7 Addenda, if any:

Number	Date	Pages
--------	------	-------

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

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

*(Table deleted)(Paragraphs deleted)*

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

.9 Other documents, if any, listed below:  
*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor’s bid or proposal, portions of Addenda relating to bidding or proposal*

*requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

All addenda, and the Contractor's completed bid form with attachments.

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

\_\_\_\_\_  
**OWNER** (Signature)

\_\_\_\_\_  
(Printed name and title)

\_\_\_\_\_  
**CONTRACTOR** (Signature)

\_\_\_\_\_  
(Printed name and title)

Init.





# AIA® Document A201® – 2017

## General Conditions of the Contract for Construction

### for the following PROJECT:

(Name and location or address)

2023 District Wide Renovations - Phase 2

### THE OWNER:

(Name, legal status and address)

Wappingers Central School District  
25 Corporate Park Drive  
Hopewell Junction, NY 12533

### THE ARCHITECT:

(Name, legal status and address)

Rhinebeck Architecture  
21 East Market Street  
Rhinebeck, NY 12572

### TABLE OF ARTICLES

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

#### **§ 1.1.1 The Contract Documents**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the 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.

#### **§ 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.

#### **§ 1.1.9 Owner**

Wappingers Central School District

#### **§ 1.1.10 Architect**

Rhinebeck Architecture

## **§ 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.

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

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

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

## **§ 1.3 Capitalization**

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

## **§ 1.4 Interpretation**

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

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

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

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

## **§ 1.6 Notice**

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

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

### § 1.7 Digital Data Use and Transmission

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

### § 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.

## 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.

*(Paragraphs deleted)*

§ 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 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. The Owner will obtain building permit from the New York State Education Department.

§ 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 Upon receipt of a written request therefore from the Contractor, 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 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 three-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 and other Consultant's additional services and expenses made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### ARTICLE 3 CONTRACTOR

#### § 3.1 General

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

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

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



## **§ 3.2 Review of Contract Documents and Field Conditions by Contractor**

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

**§ 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 performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume responsibility for such performance and shall bear the attributable costs for correction.

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

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

## **§ 3.3 Supervision and Construction Procedures**

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

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

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

**§ 3.3.4** The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any improvements located on the Project site. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or

Contract Time in connection with any failure by the Contractor or any Subcontractor to comply with the requirements of this Subparagraph 1.7.4.

### **§ 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** 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 substitution requirements described in the Contract Documents.

**§ 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** Substitutions of Materials and Equipment. Whenever a material, article, device, piece of equipment or type of construction is identified on the Drawings or Specifications by reference to a manufacturer's or vendor's names, trade names, catalog numbers, or similar specific information, it is so identified for the purpose for establishing a standard of quality, and such identifications shall not be construed as limiting competition. Any material, article, device, piece of equipment or type- of construction of other manufacturers or vendors that will perform equally the duties imposed by the general design will be equally acceptable provided the material, article, device, piece of equipment or type of construction so proposed is completely described in applications for approval of substitutions (as specified in Division One Section "Product Requirements". submitted to the Architect and is, in the opinion of the Architect and Owner of equal substance, appearance, and function. No substitute material shall be purchased or installed by the Contractor without the Architect's written approval. Material that, in the Architect's opinion, is inferior to that specified or is unsuited for the intended use will be rejected. The decision by the Architect regarding acceptance of equals shall be final.

### **§ 3.5 Warranty**

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

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

### **§ 3.6 Taxes**

**§ 3.6.1** The Owner is a tax exempt organization and will take title to materials used in the Project in order to permit tax exemption.

**§ 3.6.2** The Owner will furnish a certificate of the Owner's Tax Exemption Number to the Contractor for use in purchasing tangible personal property required for the Project.

**§ 3.6.3** This exemption shall not apply to machinery, equipment, tools, and other items purchased, leased, rented, other otherwise acquired for the Contractor's use even though the machinery, equipment, tools or other items are used either in part or entirely on the Work. This exemption shall apply only to materials fully incorporated into the Work of the Contract as accepted and approved by the Architect.

### **§ 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. The Owner will obtain the building permits from the New York State Education Department.

**§ 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, any of its Subcontractors or any sub-subcontractors performs Work knowing or should have known 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, losses and expenses 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 3 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.

**§ 3.7.6** If any work is required to be inspected or approved by any public authority, the Contractor shall cause such inspection or approval to be performed. No inspections performed or failed to be performed by the Owner hereunder shall be a waiver of any of the Contractor's obligations to obtain such inspections or approvals nor be construed as an approval or an acceptance of the work requiring such inspections or approvals.

### **§ 3.8 Allowances**

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

**§ 3.8.2** Unless otherwise provided in the Contract Documents,

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



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

### § 3.9 Superintendent

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

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

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 Contractor's Construction and Submittal Schedules

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

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

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

### § 3.11 Documents and Samples at the Site

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

### § 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

**§ 3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect or other Consultants as required, and the said shop Drawings, Product Data, Samples and similar submittals comply with the requirements of the work and the Contract Documents.

**§ 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.

**§ 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.

### **§ 3.13 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.

### **§ 3.16 Access to Work**

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

### **§ 3.17 Royalties, Patents and Copyrights**

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

### **§ 3.18 Indemnification**

**§ 3.18.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, 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, 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, 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.

**§ 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 Administration of the Contract**

**§ 4.2.1** The Architect will provide administration of the Contract 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, and his consultants, as appropriate, 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 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 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. The Architect shall be entitled to rely upon professional certification of performance characteristics of materials, systems or equipment submitted for review where required by the Contract Documents.

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

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

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

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

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

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

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

## **ARTICLE 5 SUBCONTRACTORS**

### **§ 5.1 Definitions**

**§ 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.

**§ 5.1.2** 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

objection to any such proposed person or entity 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.

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made an objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made an 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 an objection to such substitution without notifying the Owner and/or Architect..

### **§ 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.

### **§ 5.4 Contingent Assignment of Subcontracts**

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

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

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

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

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

## **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

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

**§ 6.1.1** The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the

Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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

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

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

## **§ 6.2 Mutual Responsibility**

**§ 6.2.1** The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents. If such separate contractors initiate legal or any other proceedings against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at its own expense and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and costs, or other costs which the Owner has incurred over and above those paid directly to Contractor.

**§ 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.

**§ 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 clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 General

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

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

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

### § 7.2 Change Orders

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

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

### § 7.3 Construction Change Directives

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

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

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

- .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 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;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.



§ 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 in writing of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining any 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.

§ 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.

§ 7.3.11 In Subparagraph 7.3.7 the allowance for combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

§ 7.3.11.1 For the Contractor, for Work performed by the Contractor's own forces, mark-up shall not exceed 5 percent of the value of materials and labor for overhead, and an additional 5 percent of the value of materials, labor and overhead for profit.

§ 7.3.11.2 For the Contractor, for Work performed by the Contractor's Subcontractor, 5 percent of the amount due to the Subcontractor.

§ 7.3.11.3 For each Subcontractor, or Sub-subcontractor involved, for Work performed by that Subcontractor's own forces, mark-up shall not exceed 5 percent of the value of materials and labor for overhead, and an additional 5 percent of the value of materials, labor and overhead for profit.

§ 7.3.11.4 For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractor, 5 percent of the amount due the Sub-subcontractor.

§ 7.3.11.5 Cost to which overhead and profit are to be applied shall be determined in accordance with Subparagraph 7.3.7.

§ 7.3.11.6 In order to facilitate checking of quotations for extras and credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemized of costs including labor, materials and subcontracts. Labor and materials shall be itemization in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving more than five hundred (\$500) dollars be approved without such itemization.

#### **§ 7.4 Minor Changes in the Work**

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

### **ARTICLE 8 TIME**

#### **§ 8.1 Definitions**

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

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

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

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

#### **§ 8.2 Progress and Completion**

**§ 8.2.1** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work. The Contractor and all Subcontractors acknowledge that the Owner can tolerate disruption of this premises for only a limited period. Neither the Contractor nor any Subcontractor or supplier may make any claim for damages based on a delay or alleged delay caused by the Owner. The Contractor's, Subcontractor's or Supplier's sole compensation for any delay shall be an extension of time when properly applied for in accordance with the provisions herein and only as approved in writing by the Owner and Architect. All of the dates provided for in any of the schedules approved by the Owner, including all milestone and submittal dates, as well as any other dates set out in the Contract Documents, shall be considered "Time of the Essence" and may not be changed or modified without the Owner's specific written approval. Failure to meet a scheduled date shall be considered a breach of contract.

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

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

#### **§ 8.3 Delays and Extensions of Time**

**§ 8.3.1** If the Contractor is materially delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; fire, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. However, to the extent that the effects of any such delay upon the Project Schedule are reasonably capable of being ameliorated by the acceleration of the Work, the Owner may direct Contractor to take the necessary steps to accelerate the Work. In such event, the Owner shall reimburse the Contractor for its documented additional costs arising directly from the acceleration (exclusive of home office overhead).

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

**§ 8.3.3** Notwithstanding any to the contrary in the Contract Documents, the Contractor's sole remedy for any delay in the commencement, prosecution or completion of the Work hindrance, obstruction in the performance of the Work, loss of productivity, or such other similar claims (collectively referred to in this paragraph 8.3.1 as delays) whether or not such delays are foreseeable, shall be an extension of time in which to complete the work if permitted under paragraph 8.3.1. In no event shall the Contractor be entitled to any other compensation or recovery of any damages

under or pursuant to this paragraph in connection with any delay, including, without limitation, consequential damages, lost opportunity costs, impact damages, or other similar remuneration.

## **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**

**§ 9.2.1** 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 10 days of Notice of Award, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

**§ 9.2.2** The work of this contract is governed by the New York State Education Department (NYSED) which has assigned a project number to the work at each building. The Contractor shall identify by NYSED Project Number the values of the work in each buildings on the Schedule of Values and other submittals relating to costs.

### **§ 9.3 Applications for Payment**

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

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

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

**§ 9.3.2** 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.

**§ 9.3.4** When the work, or major portions thereof, as contemplated by the terms of the Contract are substantially completed, the Contractor shall submit the Owner a requisition for payment of the remaining amount of the Contract balance. Upon receipt of such requisition, the Owner will approve and promptly pay the remaining amount of the Contract balance less two times the estimated cost to the Owner to complete any remaining items and two times the amount necessary to satisfy any claims, liens or judgments which have not been suitably discharged. Any claim, liens and judgments referred to in this clause shall pertain to the Project and shall be filed in accordance with the terms of the contract and applicable laws.

#### **§ 9.4 Certificates for Payment**

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

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

**§ 9.4.3** Notwithstanding the issuance of a certificate for payment, the Owner shall withhold from the Progress Payment an amount sufficient to satisfy any claims, liens or judgments which have not been suitably discharged and less any retained amount as set forth elsewhere in the Contract Documents. For purposes of this Subparagraph, the amount sufficient to satisfy a lien against the Contractor which have not been suitably discharged by law, shall be 200 percent of the lien or liens filed against said Contractor.

#### **§ 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

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



.7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

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

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

## § 9.6 Progress Payments

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

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

§ 9.6.3 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.

§ 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 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.

§ 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.

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

§ 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.

*(Paragraphs deleted)*

§ 9.6.9 Notwithstanding any provision to the contrary, payment shall be made in strict compliance with Section 106-b of the General Municipal Law.

## **§ 9.8 Substantial Completion**

**§ 9.8.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. Providing, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project. The Contractor shall secure and deliver to the Owner written warranties and guarantees from its Subcontractors, Sub-subcontractors and suppliers bearing the date of Substantial Completion or some other date as may be agreed to by the Owner and stating the period of warranty of all work, whether performed by it or by its Subcontractors at any tier. Submission of Warranties shall not be required for Substantial Completion.

**§ 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** Within two weeks of receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. The cost of additional services required by the Architect and his Consultants to perform additional inspections shall be deducted from payments to the Contractor. The payments shall be sufficient to increase the total payments to 95% of the contract sum, less two times such amounts as Architect shall determine for incomplete work and unsettled claims.

**§ 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. The payment shall be sufficient to increase the total payments to 100 percent of the Contract Sum, less two times such amounts as the Architect shall determine for incomplete work and unsettled claims.

## **§ 9.9 Partial Occupancy or Use**

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

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

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

#### § 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will within two weeks make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. 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. The final determination that the Work has been completed shall be made by the Owner.

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

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

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

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

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

#### ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

##### § 10.1 Safety Precautions and Programs

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



## **§ 10.2 Safety of Persons and Property**

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

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

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

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

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

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

**§10.2.9** The Contractor acknowledges that the labor law of the State of New York and the regulations promulgated thereunder, places upon both the Owner and the Contractor certain duties and that liability for failure to comply therewith is imposed on both the Owner and the Contractor regardless of their respective fault. The Contractor agrees that, as between the Owner and the Contractor, the Contractor is solely responsible for compliance with all such laws and regulations imposed for the protection of persons performing in the contract. The Contractor shall indemnify and hold harmless the Owner of, and from any and all liability for violation of such laws and regulations and shall defend any claim of actions which may be brought against the Owner as the result thereof. In the event that the Contractor shall fail to refuse to defend any such action, the Contractor shall be liable to the Owner for all costs to the Owner in defending such claim or action, and all costs to the Owner, including attorney's fees, in recovering such defense costs from the Contractor.

### **§ 10.3 Hazardous Materials and Substances**

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

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

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

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

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

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

### **§ 10.4 Emergencies**

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

## **ARTICLE 11 INSURANCE AND BONDS**

### **§ 11.1 Contractor's Insurance and Bonds**

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

Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

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

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

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

## **§ 11.2 Owner's Insurance**

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

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

**§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

## **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals

and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

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

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

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

#### **§11.5 Adjustment and Settlement of Insured Loss**

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

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

#### **§ 11.6 PERFORMANCE BOND AND PAYMENT BOND**

**§ 11.6.1** The Owner shall require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. The Contractor shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum as security for the faithful performance of this Contract and also a Labor and Material Payment Bond in an amount not less than one hundred percent (100%) of the Contract Sum as security for the payment of all persons performing labor on the Project under this Contract. The Performance Bond and Labor and Material Payment Bond may be in one or in separate instruments in accordance with local law. The Bond shall in all respects conform to the requirements of the laws of the State of New York and shall name the Owner as obligee, shall be in a form satisfactory to Owner, shall be issued by an AM Best rated "A" or "A+" carrier licensed to do business in the State of New York and be automatically increased in the amount of any additive Change Orders or Construction Change Directives signed by the Owner upon 30 days notice to the surety.

**§ 11.6.2** The Contractor shall deliver the required bonds to the Owner no later than the date of execution of the Contract.



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

§ 11.6.4 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 permit a copy to be made.

§ 11.6.5 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.

## **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 or Contract Sum.

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

### **§ 12.2 Correction of Work**

#### **§ 12.2.1 Before Substantial Completion**

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

#### **§ 12.2.2 After Substantial Completion**

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

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

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

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

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

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

### **§ 12.3 Acceptance of Nonconforming Work**

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

## **ARTICLE 13 MISCELLANEOUS PROVISIONS**

### **§ 13.1 Governing Law**

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.

### **§ 13.1 GOVERNING LAW**

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

**§ 13.1.2** Claims, disputes or other matters in question between the parties to this Agreement arising out of relating to this Agreement or breach thereof shall be subject to and decided by a court having jurisdiction in the State of New York, County of Dutchess unless the parties mutually agree otherwise.

**§ 13.1.3** The Contractor shall at all times observe and comply with all Federal, State and Local Laws and all Laws, Ordinances and Regulations of the Owner, in any manner affecting the work and all such orders decreed as exist at present and those which may be enacted later, by bodies or tribunals having jurisdiction or authority over the work, and the contractor shall indemnify and save harmless the Owner and all his officers, agents, or servants against any claim or liability arising from, or based on, a violation of any such law, ordinances, regulation, order or decree, whether by himself or by his employee or agents.

**§ 13.1.4** The Contractor specifically agrees, as required by Labor Law, Section 220-d, as amended, that:

.1 No laborer, workman or mechanic in the employ of the Contractor, subcontractor or other person doing or contracting to do the whole or any part of the work contemplated by the Contract, shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week, except in the emergencies set forth in the Labor Law.

.2 The wages paid for a legal day's work shall not be less than the prevailing rate of wages as defined by law.

.3 The minimum hourly rate of wages to be paid shall not be less than that stated in the Specifications, and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of this Contract. The Labor Law provides that the Contract may be forfeited and no sum paid for any work done thereunder on a second conviction for willfully paying less than:

(a) The stipulated wage scale as provided in Labor Law, Section 220, Subdivision 3, as amended; or

(b) The stipulated minimum hourly wage scale as provided in Labor Law, Section 220-d, as amended.

.4 Wage rates stated in this specification are included as a convenience to the Contractor. New Wage Rates may be issued as they become available for the State of New York.

.5 The Contractor shall post, and shall require each subcontractor to post in a prominent and accessible place in the worksite a legible statement of all wage rates and supplements to be paid or provided, in accordance with the requirements of this Contract, for the various classes of mechanics, laborers, and workers employed on the project. .6

The Contractor and each subcontractor shall submit to the Owner a transcript of each original payroll record for work on the project, subscribed and affirmed as true under penalties of perjury, the first such submittal being made within thirty (30) days of issuance of the Contractors or subcontractors first payroll, and subsequent submittals being made every thirty (30) days thereafter.

§ 13.1.5 The Contractor specifically agrees, as required by the provisions of the Labor Law, Section 220-e, as amended, that:

.1 In hiring of employees for the performance of work under this Contract or any subcontract hereunder, or for the manufacture, sale or distribution of materials, equipment or supplies hereunder, no Contractor, Subcontractor nor any person acting on behalf of such Contractor or Subcontractor, shall by reason or race, creed, color, 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.

.2 No Contractor, Subcontractor, nor any amount payable to the Contractor by the Owner under this Contract, a maximum penalty as allowed by law for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract, and

.3 There may be deducted from the amount payable to the Contractor by the Owner under this Contract, a maximum penalty as allowed by law for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract, and

.4 This Contract may be cancelled or terminated by the Owner, and all monies due or to become due hereunder, may be forfeited for a second or any subsequent violation of the terms or conditions of this section of the Contract, and

.5 The aforesaid provisions of this section covering every Contract for or on behalf of the Owner, the State or a municipality for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

§ 13.1.6 The Contractor specifically agrees, as required by the New York State Education Department, to abide by the provisions of the Labor Law, Sections 222 and 222-a, in reference to preference of New York State citizens, and the elimination of dust hazards, respectively.

§ 13.1.7 The Contractor specifically agrees, as required by the New York State Education Department, to abide by the provisions for the General Municipal Law, Section 109, in reference to non-assignment of public contracts.

§ 13.1.8 During the performance of this Contract, the Contractor agrees as follows

.1 In accordance with the Human Rights Law, NYS Executive Law, Article 15, The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, marital status or military status.

.2 If directed to do so by the Owner or the State Commissioner of Human Rights, the Contractor will send to each labor union or representative of workers with which the Contractor has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commissioner of Human Rights, advising such labor union or representative of the Contractor's agreement under clauses (a) through (g) (hereinafter called "non-discrimination clauses"). If the Contractor was directed to do so by the Owner as part of the bid or negotiation of this Contract, the Contractor shall request such labor union or representative to furnish a written statement that such labor union or **representative** will not discriminate because of race, creed, color, sex, national origin, sexual orientation, military status, age, disability or marital status, and that such labor union or representative will cooperate, within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses and that it consents and agrees that recruitment, employment and the terms and conditions of employment under this Contract shall be in accordance with the purposes and provisions of these non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the Contractor shall promptly notify the Owner and the State Commissioner of 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 Commissioner of Human Rights setting forth the substance of the provisions of clauses (a) and (b) and such provisions of the Stat's law against discrimination and the State Commissioner of Human Rights 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, color, sex, national origin, age disability, sexual orientation, military status, or marital status.

.5 The Contractor will comply with the provisions of Sections 290-299 of the Executive Law and with the Civil Rights Law, will furnish all information and reports deemed necessary by the State Commissioner of Human Rights under these non-discrimination clauses and such sections of the Executive Law, and will permit access to the Contractor's books, records and accounts by the Owner, the State Commissioner of Human Rights, the Attorney General and the Industrial Commissioner 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 cancelled, terminated or suspended, in whole or in part, by the Owner upon the basis of a finding made by the State Commissioner of Human Rights that the Contractor has not complied with these non-discrimination clauses, and the Contractor may be declared ineligible for future contracts made by or in behalf of the Owner, the State or a public authority or agency of the State, until the Contractor satisfies the State Commissioner of Human Rights that the Contractor has established and is carrying out program in conformity with the provisions of these non-discrimination clauses. Such findings shall be made by the State Commissioner of Human Rights after conciliation efforts by the Commissioner have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the Commissioner, notice thereof has been given to the Contractor and an opportunity has been afforded to the Contractor to be heard publicly in accordance with the Executive Law. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided by law.

.7 The Contractor will include the provisions of clauses .1 and .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 State Commissioner of Human Rights or the Owner 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 State Commissioner of Human Rights or the Owner, the Contractor shall promptly so notify the Owner and the Attorney General, requesting the Attorney General to intervene and protect the interests of the State of New York.

### **§ 13.2 Successors and Assigns**

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

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

### **§ 13.3 Rights and Remedies**

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

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

### **§ 13.4 Tests and Inspections**

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

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

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

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 Termination by the Contractor

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

*(Paragraphs deleted)*

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

§ 14.1.3 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor 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 days' additional 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, and costs incurred by reason of such termination.

*(Paragraph deleted)*

### § 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

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

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

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

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

### § 14.3 Suspension by the Owner for Convenience

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

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

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

### § 14.4 Termination by the Owner for Convenience

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

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

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

## 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,

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.

### **§ 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 written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

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

### **§ 15.1.4 Continuing Contract Performance**

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

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

### **§ 15.1.5 Claims for Additional Cost**

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

### **§ 15.1.6 Claims for Additional Time**

**§ 15.1.6.1** If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. 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.

*(Paragraphs deleted)*

### **§ 15.1.7 Claims for Concealed or Unknown Conditions.**

If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which 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, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 5 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if 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 an equitable adjustment 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 so notify the Owner and Contractor in writing, stating the reasons. Claims by the Contractor in opposition to such determination must be made within 10 days after the Architect has given notice of the recommendation.

### **§ 15.1.8 Injury or Damage to Person or Property.**

If the Contractor suffers injury or damage to person or property because of an act or omission of the Owner, or of others for whose acts the Owner is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the Owner within a reasonable time not exceeding 21 days after observance. The notice shall provide



sufficient detail to enable the Owner to investigate the matter. If a claim for additional cost or time is to be asserted, it shall be filed as provided in Subparagraphs 4.3.6 or 4.3.7.

**§ 15.1.9** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

**§15.1.10** The Contractor waives claims against the Owner for principal office expenses, including the compensation of personnel stationed there, except those directly assigned to the project, to the extent that such assignment, for losses of financing, business and reputation, and for loss of profit other than anticipated profits arising directly from the Work.

**§ 15.1.11 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

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

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

**§ 15.2 Initial Decision**

**§ 15.2.1** Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and 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 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.

**§ 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.

**§ 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.

**§ 15.3.3** 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.

### **§ 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.

§ 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.

**ARTICLE 16 LIQUIDATED DAMAGES**

§ 16.1 The Contractor and the Owner agree and acknowledge that uncertainty exists as to what actual damages would flow from a delay in completion of the work required by the Contract beyond the respective completion date as set forth in the Supplementary Instructions to Bidders, and the Bid form, and that such damages would be difficult to ascertain and prove. The aforementioned parties therefore agree that the amount of \$500 per day per building is their best estimate of the amount of actual damages that the Owner may sustain from a delay in the completion of the Contract. If there are delays in the completion of the Contract, then the Contractor shall be jointly and severally liable to the Owner for the liquidated damages. The agreed liquidated damages amount of \$500 per day per building is intended to be compensatory in nature, and not a penalty, and therefore the Owner shall not be entitled to collect more than \$500 per day per building liquidated damages with regard to any one calendar day. Liquidated damages shall begin to accrue when the work under the Contract is not complete by the initial completion date applicable thereto, and shall continue to accrue until the date on which the Contract is complete. Liquidated damages shall also begin to accrue when the work under the Contract is not complete by the milestone dates, as indicated on the agreed upon and approved Master Construction Schedule; these liquidated damages will be withheld from progress payments.





## **SUPPLEMENTARY CONDITIONS**

The following supplements modify the "Instruction to Bidders," AIA Document A701- 1997. Where a portion of the Instructions is modified or deleted by these Supplementary Conditions, the unaltered portions of the Instructions shall remain in effect.

### **ARTICLE 1 DEFINITIONS**

Section 1.1 Insert at the end of the last line " , sample forms, Bidding Documents, Bidding Requirements and Bidder's Bid."

## **SUPPLEMENTARY CONDITIONS**

The following supplements modify the "Standard Form of Agreement Between Owner and Contractor," AIA Document A101- 2007. Where a portion of the Agreement is modified or deleted by these Supplementary Conditions, the unaltered portions of the Agreement shall remain in effect.

Section 9.1.7 Add "Bidding Requirements and sample forms" after "Bid Documents"

## **SUPPLEMENTARY CONDITIONS**

The following supplements modify the "General Conditions of the Contract for Construction," AIA Document A201 - 2007. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

### **ARTICLE 1 GENERAL PROVISIONS**

#### **1.1 BASIC DEFINITIONS**

Subparagraph 1.1.1: Replace the last sentence in its entirety as follows:

"The Contract Documents include other documents such as Bidding Requirements (advertisements or invitation to Bid, Instructions to Bidders, Sample Forms, the Contractor's Bid or portions of addenda relating to Bidding Requirements)."

#### **1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

Add the following to the end of Subparagraph 1.2.1:

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

1. The Agreement.
2. Addenda, with those of later date having precedence over those of earlier date.
3. The Supplementary Conditions.
4. The General Conditions of the Contract for Construction.
5. Drawings and Specifications.

In the case of an inconsistency between Drawings and Specifications within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.

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Contractor acknowledges and agrees that the Contract Documents are adequate and sufficient to provide for the completion of the Work, and include all work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in accordance with all applicable laws, codes and industry standards."

1.2.2. At the end, add the following sentence:

"Contractor represents that the Subcontractors, manufacturers and suppliers engaged or to be engaged by it are and will be familiar with the requirements for performance by them of their obligations."

Add Paragraph 1.2.4:

"§1.2.4 Execution of the Contract by the Contractor is also a representation that said Contract Documents are full and complete, are sufficient to have enabled the Contractor to determine the cost of the Work therein to enter into the Contract and that the Contract Documents are sufficient to enable it to construct the Work outlined therein, and otherwise to fulfill all its obligations hereunder, including, but not limited to, Contractor's obligation to construct the Work for an amount not in excess of the Contract Sum on or before the date(s) of Substantial Completion established in the Agreement. The Contractor further acknowledges and declares that it has visited and examined the site, examined all physical, legal, and other conditions affecting the Work and is fully familiar with all of the conditions thereon and thereunder affecting the same. In connection therewith, Contractor specifically represents and warrants to Owner that it has, by careful examination, satisfied itself as to: (1) the nature, location, and character of the Project and the site, including, without limitation, the surface conditions of the site and all structures and obstructions thereon and thereunder, both natural and man-made, and all surface and subsurface water conditions of the site and the surrounding area; (2) the nature, location, and character of the general area in which the Project is located, including without limitation, its climatic conditions, available labor supply and labor costs, and available equipment supply and equipment costs; and (3) the quality and quantity of all materials, supplies, tools, equipment, labor, and professional services necessary to complete the Work in the manner and within the cost and time frame required by the Contract Documents."

"In connection with the foregoing, and having carefully examined all Contract Documents, as aforesaid, and having visited the site, the Contractor acknowledges and declares that it has no knowledge of any discrepancies, omissions, ambiguities, or conflicts in said Contract Documents and that if it becomes aware of any such discrepancies, omissions, ambiguities, or conflicts, it will promptly notify Owner's representative and Architect of such fact. Contractor agrees to call to Owner's representative and Architect's attention anything of any nature in the Contract Documents, including, without limitation, the Drawings and Specifications, and any other drawings, plans, sketches, instructions, information, requirements, procedures and other data supplied to Contractor (by the Architect, Owner or any other party) which it regards in its opinion as an experienced and qualified contractor as unsuitable, improper or inaccurate in connection with the purposes for which such data is furnished. Nothing shall excuse or detract from the Contractor's responsibilities or obligations hereunder in a case where such data is furnished, unless the Contractor advises Owner's representative and Architect in writing that in its opinion as an experienced and qualified contractor such data and any requests made therein for action are unsuitable, improper or inaccurate, and Owner confirms in writing that it wishes the Contractor to proceed in accordance with the data as originally given."

"Further, Contractor recognizes the extra degree of care required under the site construction circumstances with respect to safety, protection of pedestrians, cleanliness of the site, health and other laws, and protection of existing utilities, adjacent streets, and property. In arriving at the Contract Sum and the Contract Time, Contractor has, as an experienced and prudent contractor, exercised its best judgment and expertise to include the impact of such circumstances upon the Contract Sum and the Contract Time."

Add Subparagraph 1.2.5:

"§1.2.5 During the course of Work, should any errors, omissions, ambiguities, discrepancies or conflicts be found on the Drawings or in the Specifications, to which the Contractor has failed to call attention before submitting his/her Bid, the Architect shall interpret the intent of the Drawings and Specifications

and the Contractor hereby agrees to abide by the Architect's interpretation and agrees to carry out the Work in accordance with the decision of the Architect."

## 1.5. OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

### 1.5.1 Add to the beginning of the paragraph the following:

"Subject to its agreement with the Owner."

## ARTICLE 2 OWNER

## 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Delete subparagraph 2.1.2 in its entirety.

### 2.2.3 Delete Subparagraph 2.2.3 and substitute in lieu thereof the following:

"§2.2.3 The Owner shall not be responsible for furnishing surveys (unless required for the execution of the work and requested by the contractor in writing, and agreed to by the Owner) or other information as to the physical characteristics of, legal limitations of or utility locations for the Project site, but shall furnish or cause to be furnished to the Contractor a legal description of the Project site, which shall not constitute one of the Contract Documents. Contractor shall confirm the location of each utility, shall excavate and dispose of each on-site utility and shall cap each off-site utility as required by the Work and as may be included in the Specifications. Neither the Owner nor the Architect shall be required to furnish Contractor with any information concerning subsurface characteristics or conditions of the areas where the Work is to be performed. When the Owner or Architect has made investigations of subsurface characteristics or conditions of the areas where the Work is to be performed, such investigations, if any, were made solely for the purposes of Owner's study and Architect's design. Neither such investigations nor the records thereof are a part of the Contract between Owner and Contractor. Owner has made available to Contractor, and the Contractor has studied the result of such test borings and information that it has as to subsurface conditions and site geology, if any. Owner does not assume any responsibility whatsoever with respect to the sufficiency or accuracy of borings made, or of the logs of test borings, or of other investigations, or of the interpretations made thereof, and there is no warranty or guaranty, express or implied, that the conditions indicated by such investigations, borings, logs or information are representative of those existing throughout the Project site, or any part thereof, or that unforeseen developments may not occur. At Owner's request, the Contractor shall make available to the Owner the results of any site investigation, test borings, analyses, studies or other tests conducted by or in possession of the Contractor or any of its agents. The Contractor represents that it is familiar with the Project site and has received all information it needs concerning the conditions of the Project site. The Contractor represents that it has inspected the location of the Work and has satisfied itself as to the condition thereof, including, without limitation, all structural, surface and subsurface conditions which could have been reasonably discovered or foreseen. The Contractor shall undertake such further investigations and studies as may be necessary or useful to determine surface and subsurface conditions. In connection with the foregoing, Contractor shall be solely responsible for ascertaining the locations of (and shall locate prior to performing any Work), all utility lines, telephone company lines and cables, sewer lines, water pipes, gas lines, electrical lines, including, without limitation, all buried pipelines and buried telephone cables, by reference to the General Contractor reports, diagrams, maps and markings of such locations, and shall perform the Work in such a manner so as to avoid damaging any such lines, cables, pipes, and pipelines. Based upon the foregoing inspections, understandings, agreements and acknowledgments, the Contractor agrees and acknowledges (i) that the Contract Sum is just and reasonable compensation for all the Work, including all foreseen and foreseeable risks, hazards and difficulties in connection therewith, (ii) that the Contract Time is adequate for the performance of the Work and (iii) that the Work shall not result in any lateral or vertical movement of any structure. The Contractor shall have no claims for surface or subsurface conditions encountered which could have been reasonably discovered or foreseen. The Contractor shall exercise special care in executing subsurface work in proximity of known subsurface utilities, improvements and easements."

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Add the following Subparagraph 2.2.3.1 to Subparagraph 2.2.3:

"§2.2.3.1 Site investigation reports, including soil boring logs and similar data, included in the Project Manual are intended to represent only conditions found at the locations indicated at the time the investigations were conducted. The data on indicated subsurface conditions are not intended as representations or warranties of their accuracy or of the continuity of such conditions. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn therefrom by the Contractor."

Add the following Subparagraph 2.2.4.1 to Subparagraph 2.2.4:

"§2.2.4.1 The Contractor shall, within 21 days of receipt of any information furnished by the Owner pursuant to this Paragraph, verify and confirm the accuracy of information so furnished. In the event of any inaccuracies, the Contractor shall promptly notify the Owner, who shall correct any such inaccuracy. Failure to notify the Owner within the said 21 days shall act to bar any claims by the Contractor arising from the inaccuracy of any such information."

## 2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 In the second line delete the word "repeatedly". In the second line after the words "Contract Documents" insert:

"or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to be able to complete the Work within the Contract Time or fails to remove and discharge (within ten (10)days) any lien by anyone claiming by, through, or under Contractor, or disregards the instructions of Architect or Owner's representative when based on the requirements of the Contract Documents,...."

At the end of the Subparagraph, delete the clause ", except to the extent required by Subparagraph 6.1.3".

## 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

Delete subparagraph 2.4.1 in its entirety and replace it with the following:

Add the following new Paragraph 2.5 to Article 2:

### "2.5 ADDITIONAL RIGHTS

§2.5.1 The rights stated in Article 2 shall be in addition to, and not in limitation of, any other rights of the Owner granted in the Contract Document or at law or in equity."

## ARTICLE 3 CONTRACTOR

### 3.1 GENERAL

Add the following Subparagraph 3.1.1.1 to 3.1.1:

"§3.1.1.1 Where the term "Prime Contractor" is used in the General Conditions, Supplementary Conditions, and other Contract Documents, it shall be interpreted in accordance with Subparagraph 6.1.2.1."

### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add new Subparagraph 3.2.5 to Paragraph 3.2:

"§3.2.5 Should any words or numbers that are necessary to a clear understanding of the Work be illegible or omitted, or should an error, or discrepancy occur in any of the Contract Documents, the Contractor

shall immediately notify the Architect of such omission, error, or discrepancy, and the Contractor shall not proceed with that portion of the Work until clarification is received. If the Contractor proceeds without so notifying the Architect, the Contractor shall be responsible for the cost of correcting same, including any resulting damage. Should the Specifications and Drawings fail to particularly describe the material or kind of goods to be used in any place, then it shall be the duty of the Contractor to make inquiry of the Owner's representative and Architect as to what materials or kinds of goods to be used. In the event Contractor fails to make such inquiry, the contract documents should be deemed to provide that the material that would normally be used in such place should be expected to produce first quality finished Work shall be considered a part of the Contract."

### 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 In the second sentence, before the word "unless" insert "including coordination of the duties of all trades within each contract."

Add the following Subparagraph 3.3.1.1 to 3.3.1:

"§3.3.1.1 The Contractor shall, in addition to requirements specified in 3.3.1 above:

- .1 review any specified construction or installation procedure, including those recommended by manufacturers,
- .2 advise the Architect:
  - .1 if the specified procedure deviates from good construction practice,
  - .2 if following the procedure will affect any warranties, including the Contractor's general warranty, or
  - .3 of any objections the Contractor may have to the procedure; and
- .3 propose any alternative procedure which the Contractor will warrant."

Add the following provision as a new Subparagraph 3.3.4:

"§3.3.4 If any of the Work is required to be inspected or approved by any public authority, the Contractor shall cause such inspection or approval to be performed. No inspection performed or failed to be performed by the Owner hereunder shall constitute a waiver of any of the Contractor's obligations hereunder or be construed as an approval or acceptance of the Work or any part thereof."

Add the following provision as a new Subparagraph 3.3.5:

"§3.3.5 The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent prosecution of the Work and the Contractor shall exercise all rights available to it and all duties required of it to maintain the progress of the work during the duration of the project."

Add the following provision as a new Subparagraph 3.3.6:

"§3.3.6 The Contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery conditions and that they provide materials on time. Each Prime Contractor shall coordinate its own Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The Contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations, and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation.

§3.3.6.1 If the Contractor has engaged the services of workers and/or subcontractors who are members of trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage or cost to the Owner and without recourse to the Architect or the Owner, any conflict between its agreement with the Owner and any agreement or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the work of any particular trade.

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§3.3.6.2 In case the progress of the capital improvement work to be performed by the Contractor is effected by any undue delay in furnishing or installing any items or materials or equipment required pursuant to its agreement with the Owner because of a conflict involving any such labor agreement or regulation, the Owner may require that other material or equipment of equal kind and quality be provided pursuant to a Change Order of Construction Change Directive but in no case shall the amount of such change be charged by the Contractor to the Owner as an additional cost to perform the capital improvement work pursuant to its contract.

§3.3.6.3 The Contractor shall ensure that its work continues uninterrupted during the pendency of a labor dispute.

§3.3.6.4 The Contractor shall be liable to the Owner for all damages suffered by the Owner occurring as a result of work stoppages, slowdowns, disputes or strikes."

Add the following provision as a new Subparagraph 3.3.7:

"§3.3.7 The Contractor shall enforce strict discipline and good order among the Contractor's employees and its Subcontractors' work forces and other persons carrying out the performance of its work. The Contractor shall not permit employment of unfit, disorderly or incompetent persons or persons not skilled in tasks assigned to them. The Owner reserves the right to object to any person to be hired or who is employed by the Contractor. Upon the request of the Owner, said person shall be removed from the Project and not again be assigned to perform the Contractor's work without the written permission of the Owner."

3.3.7 Add new subparagraph:

"§3.3.7 The Contractor shall attend progress meetings with the Owner's Representative and such other persons the Owner may wish to have present. The progress meetings shall include all key personnel on the job, including the Contractor and Subcontractors, or other persons in charge of various phases of the work. The Contractor's representative must be authorized to act on behalf of the Prime Contractor and must be fully informed in matters relative to Project through day-to-day operations, correspondence, directives, change orders and other communications."

### 3.4 LABOR AND MATERIALS

3.4.1 At the end add the following sentence:

"The Contractor shall check all materials and labor entering into the Work and shall keep full detailed logs and accountings thereof, and shall daily deliver the same to the Owner's representative on a weekly basis."

Add the following Subparagraph 3.4.2.2 to 4.3.2:

"§3.4.2.2 By making requests for substitution based on Subparagraph 3.4.2 above, the Contractor:

- .1 represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
- .2 certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently becomes apparent; and
- .3 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
- .4 will reimburse Owner for additional costs from claims by other Prime Contractors resulting from incorporation of requested substitution; and



- .5 will compensate the Owner for any additional costs for the services of the Architect and/or Construction Manager and/or attorney review as a result of the substitution."

3.4.4 Add the following provision as a new Subparagraph 3.4.4:

"§3.4.4 Materials shall conform to manufacturer's standards in effect at the date of execution of the Agreement and shall be installed in strict accordance with manufacturer's directions. The Contractor shall, if required by the Owner's representative or Architect, furnish satisfactory evidence as to the kind and quality of any materials. All packaged materials shall be shipped to the site in the original containers clearly labeled, and delivery slips shall be submitted with bulk materials identifying thereon the source, and warranting quality and compliance with Contract Documents."

3.4.5 Add the following provision as a new Subparagraph 3.4.5:

"§3.4.5 When the Contract Documents require the Work, or any part of same, to be above the standards required by applicable laws, ordinances, rules, and regulations, and other statutory provisions pertaining to the Work, such Work shall be performed and completed by the Contractor in accordance with the Contract Documents."

3.5 WARRANTY

3.5. After, "good quality and new", in the second line add, "and of recent manufacture."

3.5.1 Add new subparagraph:

"§3.5.1 The Contractor and/or its successor and assigns will be responsible for and shall make correct any defects due to faults in labor and materials which may occur within one (1) year after Final Completion payment has been made, except where sections of the specifications call for a longer period of time. The cost of correcting such defective work, including the cost of all damages of any kind sustained by the Owner, shall be borne by the Contractor at its sole cost and expense. All corrections to defective work shall be made at the convenience of the Owner."

3.5.2 Add new subparagraph:

"§3.5.2 The warranty provided in Paragraphs 3.5. and 3.5.1 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law. The warranties required under the Contract Documents shall be extended to include the performance of any and all items of work specified under the proprietary, patented, and other specified method as well as procedures specifically required by the Contract Documents, thereby not relieving the Contractor of its general warranty obligations."

3.5.3 Add new subparagraph:

"§3.5.3 The Contractor shall deliver to the Owner upon completion of all work under this contract, his/her written guarantee made out to the Owner and in a form satisfactory to the Owner, guaranteeing (and he/she does hereby so guarantee) all of the work under the contract to be free from faulty materials, and free from improper workmanship, and guarantee against injury from proper and usual wear, and aging. This guarantee shall be made to cover (and does cover) a period of one (1) year from the date of Final Completion of all work under the contract, or for a longer period where so stipulated in the Contract Documents."

3.5.4 Add new subparagraph:

"§ 3.5.4 The warranties set forth herein shall survive expiration and/or termination of this Contract."

3.5.5 Add new subparagraph:

"§3.5.5 The Contractor warrants good title to all materials, supplies and equipment installed or incorporated in the Work."

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### 3.6 TAXES

Add the following Subparagraph 3.6.2.1 to 3.6.2:

"§3.6.2.1 The Owner is exempt from payment of FEDERAL, STATE, LOCAL TAXES, and from payment of SALES AND COMPENSATING USE TAXES of the State of New York and of Cities and Counties on all materials and supplies sold to the Owner pursuant to the provisions of this Contract. These taxes are not to be included in bids. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by, or to the Contractor or a subcontractor; and the Contractor and his/her subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property."

### 3.7 PERMITS, FEES AND NOTICES

3.7.2 At the end add the following language:

"Contractor shall pay any costs or fees incurred in such compliance and any fines or penalties imposed for violation thereof by Contractor and any costs or fees incurred by Owner due to any such violation."

3.7.3 At the end, add the following language:

"It shall be the obligation of the Contractor to review the Contract Documents to determine and to notify the Owner's representative and the Architect of any discrepancy between building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine. The Contractor shall not violate any zoning, setback or other locational requirements of applicable laws, codes and ordinances, or of any recorded covenants of which the Contractor has knowledge. If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, rules or regulations, the Contractor promptly shall notify the Owner and Architect in writing, and necessary changes shall be accomplished by appropriate Modification."

3.7.4 At the end add the following language:

"If the Contractor, any of its Subcontractors or, any Sub-subcontractors, performs Work (including, without limitation, the installation of any materials or equipment) that it knows or reasonably should have known would be contrary to laws, statutes, ordinances, building codes, and rules and regulations, the Contractor shall assume full responsibility for such Work and shall bear all costs attributable to the correction thereof or related thereto (including all fines and penalties)."

3.7.7 Add new subparagraph:

"§ 3.7.7 In the event any violations are placed upon the premises by any public authority as a result of the Contractor's fault, in connection with the Work, the Contractor shall be solely responsible therefore and shall bear all costs attributable thereto. Final payment in an amount at least sufficient to correct such violations as determined by the Architect shall be withheld until all such violations are cured of record."

### 3.8 ALLOWANCES

Delete subparagraph 3.8.2 in its entirety and replace it with the following:

#### 3.8.2 MATERIAL AND LABOR ALLOWANCE

The Contractor shall include in the Base Bid amount all material and labor allowances as defined in SECTION 01020 ALLOWANCES. Overhead and profit for these allowances shall be included in the base bid amount and are not part of the allowances. Allowances shall be adjusted as required for field directed additional work. In the event the total of field directed work under the Contract does not exceed the total amount of the allowance, the difference shall be credited to the Owner by Change Order. Allowances shall be used only upon written authorization of the Construction Manager.

### 3.9 SUPERINTENDENT

Delete Subparagraph 3.9.1 in its entirety and add the following new Subparagraph 3.9.1:

"3.9.1 Prior to starting Work, Contractor shall designate the Project Manager, Superintendent, and other key individuals who shall be assigned to the Project through and including Final Completion. The Contractor shall employ a competent, full-time superintendent and such necessary assistants who shall be in attendance at each project site whenever and wherever work is in progress to provide for the expeditious completion of the work, including completion of the punch list. To the extent work is being performed contemporaneously at different facilities within the School District, the Contractor shall assign different superintendents for each facility at which work is being performed. Said representatives shall be qualified in the type of Work to be undertaken. Should a representative leave Contractor's employ, Contractor shall promptly designate a new representative. Owner shall have the right, at any time, to direct a change in Contractor's representatives if their performance is unsatisfactory. In the event of such demand, Contractor shall, within seven (7) days after notification thereof, replace said individual(s) with an individual satisfactory to Owner, in Owner's sole discretion. If said replacement is disapproved, the Contract may, at Owner's option, be terminated for cause. The Superintendent shall represent Contractor, and communications given to the Superintendent shall be as binding as if given to Contractor. Owner shall have no obligation to direct or monitor Contractor's employees."

The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor."

Add the following provision as a new Subparagraph 3.9.2:

"§3.3.9 The Contractor's supervisory personnel, including superintendents and their assistants, shall be versed in the English language. In the event the Contractor's supervisory personnel, superintendents and/or their assistants are not versed in the English language, the Contractor shall employ the services of a full-time on-site interpreter to facilitate communications with such supervisory personnel, superintendents and/or assistants."

Add the following provision as a new Subparagraph 3.9.3:

"§3.9.3 Prior to the commencement of work, the Contractor shall provide the Construction Manager with a written list of the names, addresses and telephone numbers of the members of its organization who can be contacted in the event of an off-hours emergency at the building site, including cellular telephone numbers and personal/home telephone numbers. List of subcontractors, sub-subcontractors, suppliers and vendors with names, addresses, telephone numbers, and descriptions of the work they shall perform or furnish. The name, address and telephone number of the bonding company for the Prime Contractor employed by the Prime. This list shall also include the name, address and telephone number of each bonding company's primary contact representative for this project."

### 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Amend Subparagraph 3.10.3 to read as follows:

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

3.10.4 Add new subparagraph:

"§ 3.10.4 The Contractor shall monitor the progress of the work for conformance with the requirements of the construction schedule and shall promptly advise the Owner's Representative of any delays or potential delays."

3.10.5: Add new subparagraph:

"§3.10.5 In the event the Owner or Owner's Representative determines that the performance of the Work, as of a Milestone Date, has not progressed or reached the level of completion required by the Contract Documents, the Owner shall have the right to order the Contractor to take corrective measures necessary

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to expedite the progress of construction, including, without limitation, (1) working additional shifts or overtime, (2) supplying additional manpower, equipment, and facilities and (3) other similar measures (hereinafter referred to collectively as Extraordinary Measures). Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the construction schedule.

3.10.6. Add new subparagraph:

"§ 3.10.6 The Contractor shall not be entitled to an adjustment in the Contract Sum in connection with Extraordinary Measures required by the Owner under or pursuant to this Paragraph 3.10.5, if such extraordinary Measures are attributable in whole or in part to the Contractor's failure to progress the performance of the Work in accordance with the Construction Schedule on any Milestone Date.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

§3.11. On the fourth line after the word "selections" add "(all changes and selections to be approved by the Owner and the Architect in advance)". At the end of the Subparagraph after the word "Work" insert the following:

", signed by the Contractor, certifying that they show complete and exact 'as-built' conditions, stating sizes, kind of materials, vital piping, conduit locations and similar matters."

### 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

Delete Subparagraph 3.12.2 and substitute the following:

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

3.12.5.1 Add new sub paragraph:

"§3.12.5.1 The Contractor shall submit to the Architect all other shop drawings and schedules in sufficient time to allow at least ten (10) working days for the Architect's review. Approval signatures of contractors and all sub-contractors affected by the work shown therein must appear on all shop drawings before submission to Architect. A copy of Shop Drawings shall be provided for Owner's review as requested."

Add the following new Subparagraphs 3.12.10.1 and 3.12.10.2 to 3.12.10:

"§3.12.10.1 Services or certifications provided in accordance with Paragraph 3.12.10 shall be provided by a design professional properly licensed to practice in New York State by the New York State Education Department."

§3.12.10.2 Submit requests for clarification, additional information, and other information regarding performance and design criteria to Architect through the Contractor in accordance with Subparagraph 3.2.1 above.

§3.12.10.3 Comply with requirements specified in Section 01300 - Submittals for all submittals related to services or certifications provided in accordance with Paragraph 3.12.10."

3.12.11 Add the following:

"§3.12.11 When professional certification of performance criteria of materials, systems or equipment is required of the Contractor by the Contract Documents, the Architect shall be entitled to rely in a reasonable and professional fashion upon the accuracy and completeness of such calculations and certifications, provided, however, if Architect, in Architect's reasonable and professional judgment considers it advisable, Architect shall verify the accuracy and completeness of any or all such calculations and/ or certifications. In the event any or all such calculations and/or certifications are found to be inaccurate and/or incomplete Contractor shall assume full responsibility and bear all costs attributable or

related thereto, including, without limitation, the expense of Architect's and Owner's representative additional services associated with the verification of such calculations and/or certifications and the expense of Architect's additional services made necessary by the failure of such calculations and/or certifications to be accurate and/or complete."

### 3.13 USE OF SITE

3.13.1 Add the following provision as a new Subparagraph 3.13.1:

"§3.13.1 The Contractor shall assure free, convenient, unencumbered and direct access to properties neighboring the Project site for the owners of such properties and their respective tenants, agents, invitees and guests."

3.13.2. Add new subparagraph:

"§3.13.2 The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents."

3.13.4 Add new subparagraph:

"§3.13.4 The responsibility for the safe working conditions at the site shall be the Contractor's alone; the Architect, Owner's Representative and Owner shall not be deemed to have any responsibility or liability in connection herewith."

13.3.5 Add new subparagraph:

"§13.3.5 If the Owner's facilities will remain in operation during the course of the entire construction operation, all Contractors performing work on this Contract shall schedule their work so as not to interfere with any traffic to and from the required areas of use. The Contractor shall insure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Contractor shall be responsible for maintaining all traffic, and shall provide all barriers and protection as required to safeguard the work and the public and the occupants of the building during construction.

The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract Documents, Contractor shall minimize any interference with the occupancy or use of (1) any areas and buildings adjacent to the site of the Work or (2) the Building in the event of partial occupancy, as more specifically described in Paragraph 9.9.

The Contractor shall comply with all fire code regulations during construction. They include vehicular parking, smoke partitions, rescue window obstructions, use of extension cords."

3.13.6 Add new subparagraph:

"§ 3.113.6 The Contractor shall provide full and free access for the Architect, Owner's Representative, Owner and/or their representatives, to inspect job materials, equipment, fabrication, facilities and storage locations at and away from the job site."

3.13.7 Add new subparagraph: "RULES OF CONDUCT"

3.13.7.1 Add new subparagraph:

"§3.13.7.1 No smoking is allowed anywhere on school property per law. Violators are subject to a \$1,000 fine and/or banishment from the property."

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3.13.7.2 Add new subparagraph:

"§3.13.7.2 No drinking of alcoholic beverages or use of controlled substances allowed on the grounds. No reporting to work impaired by alcohol or controlled substances allowed. The Contractor bears the responsibility of determining if its, or its subcontractors, employees are impaired which would jeopardize the safety of the public, the employees of other Contractors and their Subcontractors, the Owner, Architect, and Construction Manager."

3.13.7.3 Add new subparagraph:

"§3.13.7.3 All Contractors, subcontractors, suppliers and their employees are to refrain from using indecent language. All doing so will be removed from the site. Artwork and decoration found on vehicles belonging to Contractors or Subcontractor's employees parked on or near the school property and which contain indecent language or pictures shall either be covered or removed from the location. Under no circumstances are Contractor's employees to communicate with students."

3.13.7.4 Add new subparagraph:

"§3.13.7.4 All construction personnel to wear photo ID badges. Photo ID badges are to be provided by the Contractor and receive Owner's approval."

3.13.7.5 Add new subparagraph:

"§3.13.7.5 The use of radios, tape players and the like is prohibited within the job site when Owner's facilities are open."

### 3.15 CLEANING UP

Amend Subparagraph 3.15.2 to add as follows:

"3.15.2 If the Contractor fails to clean up at any time during the Construction Period as provided in the Contract Documents within 36 hours after notification by Owner, the Owner shall do so and the cost thereof shall be charged to the Contractor."

### 3.18 INDEMNIFICATION

Amend Subparagraph 3.18.1 to read as follows:

"3.18.1 To the fullest extent permitted by law and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor in accordance with Paragraph 11.3, the Contractor shall defend and indemnify and hold harmless..."

§3.18.1 Insert the words "and costs, including fees of consultants" after the words "attorney's fees."

3.18.1 Add at the end of the subparagraph:

"The Contractor's indemnity obligations under this paragraph 3.18.1 shall, but not by way of limitation, specifically include all claims and judgments which may be made or rendered against the Owner, Construction Manager, the Architect, the Architect's consultants, and agents and employees of any of them under any applicable statute, rule or regulation including, but not limited to, the New York State Occupational Safety and Health Act and the federal Occupational Safety and Health Act and from violation of any public or municipal laws, ordinances and requirements of governing authorities."

Add the following new Subparagraph 3.18.1.1 to Subparagraph 3.18.1:

"§3.18.1.1 This indemnification shall not be construed to indemnify any indemnitee from its own negligence. To the extent any party indemnified hereunder is negligent, this provision shall not apply to such party, but it shall continue to be effective as to all other parties not so negligent."



**ARTICLE 4**  
**ADMINISTRATION OF THE CONTRACT**

**4.1 ARCHITECT**

4.1.2 Delete the word "Contractor", and insert after the second instance of the word "Architect" the following: "and prior notification to Contractor."

4.1.3. Delete subparagraph 4.1.3 and substitute in lieu thereof the following:

"In case of termination of employment of the Architect, the Owner shall appoint an Architect whose status under the Contract Documents shall be that of the former Architect."

**4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT**

Add the following Subparagraphs 4.2.4.1 and 4.2.4.2 to 4.2.4:

"§4.2.4.1 Any communications between the Architect and the Contractor's subcontractors shall be confirmed in writing to the Contractor."

Add the following Subparagraph 4.2.7.1 to 4.2.7:

"§4.2.7.1 The Architect's review of Contractor's submittals shall be limited to an initial submittal and 2 re-submittals. If the Architect is required to review additional submittals because the initial submittal and 2 re-submittals failed to conform to the information given, and the design concept expressed in, the Contract Documents, the amount of compensation paid to the Architect by the Owner for additional services shall be deducted from the payments to the Contractor."

4.2.11 Delete Subparagraph 4.2.11 and substitute in lieu thereof the following:

"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 subject to Paragraph 4.3 here below subject to claims. Upon receipt of such request from either the Owner or Contractor, the Architect shall promptly notify the non-requesting party in writing of the details of such request. The Architect's response to such requests will be made (after notifying the non-requesting party as provided in the preceding sentence) with reasonable promptness. Should a conflict be discovered within Contract Documents of equal priority the CONTRACTOR SHALL BE DEEMED TO HAVE AGREED TO PERFORM THE MOST STRINGENT OR HIGHEST QUALITY WAY OF PERFORMING THE WORK unless it shall have asked for and obtained a decision, in writing, approved by Owner, from the Architect before entering into the Contract."

Add the following provision as a new Sub-paragraph 4.2.15:

"§4.2.15 In reviewing the quality and progress of the Work and submittals received from the Contractor, the Architect is acting solely for the convenience of the Owner in following the Work. Neither the Owner nor Architect has any responsibility to assist the Contractor in the supervision or performance of the Work. Unless otherwise expressly agreed in writing by Owner in each instance, no action, approval or omission to act or failure to advise the Contractor as to any matter by the Owner or Architect shall in any way relieve the Contractor from its responsibility for the performance of the Work in strict accordance with the Contract Documents."

**4.3 CLAIMS AND DISPUTES**

4.3.1 On the first and second line delete "or interpretation". On the third line delete "and matters in question".

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Add the following new subparagraph 4.3.1.1:

"§ 4.3.1.1 Claims by the contractor must be made by written notice in accordance with the following procedures.

1. The Contractor must submit a written claim concerning a matter properly noticed in accordance with the time requirements of this Contract set forth in paragraph 4.3 and elsewhere.
2. Failure by the Contractor to furnish the required claim documentation within the time set forth above shall constitute waiver of the Contractor's right to compensation or additional time for such claim.
3. Contractor shall furnish three (3) certified copies of the required claim documentation. The claim documentation shall be complete when furnished. The evaluation of the Contractor's claim will be based, among other things upon the Owner project records and the Contractor's furnished claim documentation.
4. Claim documentation shall conform to Generally Accepted Accounting principles and shall be in the following format:
  - A. General Introduction
  - B. General Background Discussion
  - C. Issues
    1. Index of Issues (listed numerically)
    2. For each issue
    3. Background
    4. Chronology
    5. Contractor's position (reason for Owner's potential liability)
    6. Supporting documentation of merit or entitlement
    7. Supporting documentation of damages
    8. Begin each issue on a new page
  - D. *All critical path method schedules, both as-planned, monthly updates, schedule revisions, and as-built along with the computer disks of all schedules related to the claim.*
  - E. *Productivity exhibits (if appropriate)*
  - F. *Summary of Issues and Damages*
    - a. Supporting documentation of merit for each issue shall be cited by reference, photocopies, or explanation. Supporting documentation may include, but shall not be limited to, general conditions; general requirements; technical specifications; drawings; correspondence; conference notes; shop drawings and submittals; shop drawing logs; survey books; inspection reports; delivery schedules; test reports; daily reports; subcontracts; fragmentary CPM schedules or time impact analyses; photographs; technical reports; requests for information; field instructions; and all other related records necessary to support the Contractor's claim.
    - b. *Supporting documentation of damages for each issue shall be cited, photocopies, or explained. Supporting documentation may include, but shall not be limited to, any or all documents related to the preparation of submission of the bid; certified, detailed labor records including labor distribution reports; material and equipment procurement records; construction equipment ownership cost records or rental records, Subcontractor vendor files and cost records; service cost records, purchase orders; invoices; project as-planned and as-built cost records; general ledger records; variance reports; accounting adjustment records; and any other accounting materials necessary to support the Contractor's claim.*
5. Each copy of the claim documentation shall be certified by a responsible office of the Contractor in accordance with the requirements of these Contract Documents."

Add the following Subparagraphs 4.3.7.1.1 and 4.3.7.1.2 to 4.3.7.1:

"§4.3.7.1.1 An application for extension of time must set forth in detail the nature of each alleged cause of delay, the dates upon which such cause of delay began and ended, the number of days attributable to

each of such causes, and the probable effect of such causes on the previously approved progress schedule.

§4.3.7.1.2 Failure to strictly comply with these requirements may, at the discretion of the Owner, be deemed sufficient cause to deny any extension of time."

Add the following Subparagraph 4.3.7.2.1 to 4.3.7.2.

"§4.3.7.2.1 In planning its construction schedule within the agreed Contract Time, it shall be assumed that the Contractor has anticipated the amount of adverse weather conditions normal to the site of the Work for the season or seasons of the year involved. Only those weather delays attributable to other than normal weather conditions will be considered by the Architect."

Add a new Section 4.4 RESOLUTION OF CLAIMS AND DISPUTES

"§ 4.4 No Estoppel. "Neither the Owner nor any department, officer, agent or employee thereof, shall be bound, precluded or estopped by a determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this Contract by the Owner, or any officer, agent or employee of the Owner, either before or after the final completion and acceptance of the Work and payment therefor: (1) from showing the true and correct classification, amount, quality or character of the Work actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular matter, or that the Work or any part thereof does not in fact conform to the requirements of this Contract; or (2) from demanding and recovering from the Contractor any overpayments made to him, or such damages as it may sustain by reason of the Contractor's failure to perform each every part of this Contract in strict accordance with its terms."

4.4.1 "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. The sole remedy against the Owner 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. The Contractor expressly agrees not to make and hereby waives any claim for damage for delay, including, but not limited to, those resulting from increased labor or materials costs; directions given or not given by the Owner, Construction Manager or Architect, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and request for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Construction Manager, Architect, or any other contractor on the project, whether or not foreseeable or anticipated. The Contractor agrees that its sole right and remedy therefor shall be an extension of time, if appropriate. IT IS EMPHASIZED THAT NO MONETARY RECOVERY MAY BE OBTAINED BY THE CONTRACTOR FOR DELAY AGAINST THE OWNER, CONSTRUCTION MANAGER, OR ARCHITECT BASED ON ANY REASON AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME."

## ARTICLE 5 SUBCONTRACTORS

### 5.1 DEFINITIONS

5.1.1 and 5.1.2 In the first sentence replace the words "perform a portion of the Work at the site" with "provide material and/or labor for the project on or off the site, or to otherwise furnish labor, material or other services with respect to a portion of the Work."

Add the following Subparagraph 5.1.3 to 5.1:

"§5.1.3 The term "Installer" used in the Contract Documents is a Subcontractor or Sub-subcontractor responsible for the direct provision and installation of a product, material, system or other item specified in the Contract Documents."

### 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.1: Replace the first sentence of this paragraph with the following:

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"As soon as practicable after award of the Contract, but no more than fifteen (15) days after receipt of the official notice of award of the Contract, the Contractor shall furnish the Architect, in writing, with (1) the name, trade, and subcontract amount of each subcontractor and (2) the names of all persons or entities proposed as manufacturers of the products identified in the Specification and, where applicable, the name of the installing subcontractor." Add at the end of the paragraph "Copies of all Subcontractor contracts are to be provided to the Owner's Representative as requested."

Add the following Subparagraphs 5.2.1.1, 5.2.1.2 and 5.2.1.3 to 5.2.1:

"§5.2.1.1 Include addresses, telephone numbers and e-mail addresses for each Subcontractor in written list of Subcontractors specified in Paragraph 5.2.1 above to be submitted after award of the Contract.

5.2.3 Replace the second sentence in its entirety as follows:

"No increase in the Contract Sum shall be allowed where a sub-contractor is rejected by the Construction Manager, Architect or Owner who is deemed unqualified to perform the particular work subcontracted by the Contractor or having too many current projects handled by insufficient personnel."

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

Add the following Subparagraph 6.1.3.1 to 6.1.3:

"6.1.3.1 The Contractor shall provide for coordination of its activities, and those of its subcontractors, with the activities of each Prime Contractor, and shall promptly report any conflicts or other coordination problems that are identified to the Architect".

6.1.5 Add new subparagraph:

"§6.1.5 The Contractor accepts assignment of, and liability for, all purchase orders and other agreements for procurement of materials and equipment that are identified as part of the Contract Documents. The Contractor shall be responsible for such pre-purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation and testing of items covered in any assigned purchase orders or agreements. All warranty and correction of the Work obligations under the Contract Documents shall also apply to any pre-purchased items, unless the Contract Documents specifically provide otherwise."

### 6.2 MUTUAL RESPONSIBILITY

Amend 6.2.2 to read as follows:

"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 report to the separate contractor and the Architect apparent discrepancies or defects..."

Add the following Subparagraph 6.2.2.1 to 6.2.2:

"§6.2.2.1 The Contractor shall promptly correct discrepancies or defects in his/her work identified by separate contractors or Architect as affecting proper execution and results of the work of the separate contractor or Owner's own forces."

Subparagraph 6.2.3 Replace the second sentence in its entirety:

"Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefore, but in no event shall the Owner bear such costs."

## ARTICLE 7 CHANGES IN THE WORK

### 7.2 CHANGE ORDERS

Add Subparagraph 7.2.2 to read as follows:

"§7.2.2 Methods used in determining adjustments to the Contract Sum shall include those listed in Subparagraph 7.3.3. and 7.3.6., unless otherwise specified."

### 7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.1: Add at the end of the subparagraph:

"No change in Contract Time shall be allowed for Construction Change Directives performed by Contractor, except for substantial changes in scope determined by the Owner. In the case of increased scope, it is expected that Construction Change Directive Work shall be performed by increased manpower."

Add the following Subparagraphs 7.3.12 and 7.3.13:

"§7.3.12 Lump sum adjustment described in Subparagraph 7.3.3.1 above shall be substantiated by submitting to the Architect for evaluation evidence of actual costs for the following:

- .1 costs described in Subparagraph 7.3.6. above, including labor and other costs of subcontractors, itemized by trades,
- .2 and costs of power and consumable supplies for operation of power equipment.
- .3 rental value of equipment and machinery. Rental equipment for outside work shall include "beyond the usual customary only."

§7.3.13 Under no circumstances shall the Contractor be entitled to be reimbursed for overtime, except when specifically approved by the Owner in writing and not as an Extraordinary Measure and in such event the Contractor shall be paid for by the Owner on the basis of premium payment only, plus the cost of insurance and taxes based on the premium payment period. Overhead and profit will not be paid by the Owner for overtime."

### 7.4 MINOR CHANGES IN THE WORK

Amend the first sentence of Subparagraph 7.4.1 to read as follows:

"7.4.1 The Architect and Owner will have authority...."

7.4.1 Add to the end of the first sentence "all such minor changes must be reviewed with the Owner prior to the issuance of the order by the Architect."

## ARTICLE 8 TIME

8.1.3 Add at the end of the subparagraph:

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"Work remaining to be completed after Substantial Completion shall be limited to items which can ordinarily be completed within the period between the payments at the time of substantial and final payment."

8.1.5 Add new subparagraph:

"§8.1.5 The Date of Final Completion of the Work is the date all of the Work required under the Contract Documents is completed, and all applicable licenses, permits, certificates warranties, build outs, operating materials, training, approvals or other items have been obtained by the Contractor and delivered to the Owner to the extent provided for in the Owner Contractor Agreement."

8.2 PROGRESS AND COMPLETION

Add the following Subparagraph 8.2.2.1. to 8.2.2:

"§8.2.2.1 Contractor shall not commence work on the site until two certified copies of all insurance policies as indicated in Article 11, attesting that the required coverage is in force, have been received and accepted by the Owner."

Add the following Subparagraph 8.2.3.1. to 8.2.3:

"§8.2.3.1 Contractor shall cooperate with the Owner, Architect, Engineer, and other Contractors on the Project, making every reasonable effort to reduce the contract time."

8.2.4 Add new subparagraph:

"§8.2.4 Milestone Dates are dates critical to the Owner's operations that establish when a part of the work is to commence or be complete. All Milestone Dates are of the essence and shall have the same meaning as Substantial Completion."

8.2.5 Add new subparagraph:

"§8.2.5 The Contractor may request access to the site during times beyond the work hours permitted. Approval is solely at the discretion of the Owner. If approval is given, the Contractor is responsible for paying all additional costs incurred by the Owner, Architect and Owner's Representative for providing the site to the Contractor during the additional time periods."

8.3 DELAYS AND EXTENSIONS OF TIME

In the first sentence of Subparagraph 8.3.1, delete the words "or by changes ordered in the work, or by labor disputes", "pending mediation and arbitration" "and for such reasonable time as the Architect may determine." After, "Contract Time shall be extended by Change Order" add "to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and if performance of the Work is not, was not or would not have been delayed by any other cause for which the Contract is not entitled to an extension in the Contract Time under the Contract Documents. " Add the following:

"The Contractor agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (1) is not caused or could not have been anticipated by the Contractor, (2) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, (3) is of a duration not less than (1) day and (4) the Contractor has made all reasonable effort to recover the alleged lost time. No extension of time will be granted for changes in Work for labor disputes, picketing, hand billing, refusal to deliver or stoppages not authorized by the Owner."

Add the following Subparagraphs 8.3.1.1, 8.3.1.2, 8.3.1.3 and 8.3.1.4 to 8.3.1:

"§8.3.1.1 Extension of time, if requested by the Contractor, shall only be considered after the Contractor has made reasonable effort to recover the lost time.



§8.3.1.2 An extension, or extensions, of time may be granted subject to the provisions of this article, but only after written application therefor by the Contractor in accordance with Subparagraph 4.3.7.

§8.3.1.3 An extension of time shall be only for the number of days of delay which the Architect may determine to be due solely to the causes set forth in the application for extension of time. The Contractor shall not be entitled to receive a separate extension of time for each one of several causes of delay operating concurrently; but if at all, only the actual period of delay as determined by the Architect."

§8.3.1.4: All costs for expedited material procurement to meet the schedule shall be the responsibility of the Contractor."

Add Subparagraph 8.3.4:

§8.3.4: "If the Contractor submits a progress report indicating, or otherwise expresses an intention to achieve, completion of the Work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Owner to the contractor for any failure of the Contractor to so complete the Work shall be created or implied."

Add the following Subparagraph 8.3.5:

"§8.3.5 When the Contract Time has been extended, as provided under this paragraph 8.3, such extension of time shall not be considered as justifying extra compensation to the Contractor for administrative costs or other similar reasons."

8.4 Add new paragraph DAMAGES"

Add new subparagraphs:

"§8.4.1 Contractor realizes that time is of the essence on this Contract and the completion date for any work or the date of Substantial and Final Completion shall be no later than the date indicated in these Contract Documents. The Contractor understands that substantial disruption of the School District educational process will occur if the project is not completed by the date of Substantial and Final Completion. In the event the Contractor fails to complete any work or substantially and finally complete the work under this contract by said schedule date, the Contractor shall be responsible for all actual costs incurred by the Owner that result from Contractor's said failure including but not limited to, the leasing of temporary classroom facilities, split school sessions, labor costs (including union negotiations, grievances, or disputes), attorney's fees, financing costs, fines and other costs. Such amounts shall be subtracted from the Payment due the Contractor (or, if the amount due Contractor as Payment is insufficient, any deficiency shall be paid by the Contractor to the Owner), except in cases where a delay is due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including, acts of God, or of the public enemy, acts of the Government, in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, freight embargoes, or delays of Subcontractors or suppliers due to such causes. Delay in acquisition of materials other than by reason of freight embargoes will not constitute a delay excusable under this provision unless approved by the Owner in writing."

"§8.4.2 Within five (5) calendar days from the occurrence of any such delay, the Contractor shall notify the Owner in writing of the cause of the delay. The Owner will ascertain the facts and extent of the delay, and extend the time for completing the Work when in the Owner's judgment the findings of fact justify such an extension. However, such extension will not preclude the Owner from seeking reimbursement from the Contractor for expenses incurred by it as a result of the extension of time. Owner's findings of fact will be final and binding in any litigation."

"§8.4.3 The Contractor shall be liable for all additional costs incurred by the Owner to provide staff and Architect and Owner's Representative personnel as required to make facilities accessible to the Contractor, any additional work incurred by the delay and to perform inspections during off hours. In the event that Substantial and Final Completion date is not met, inspections will be performed once each week unless the Owner or the Architect determines, at their sole discretion, that additional inspections are needed. All costs incurred by the Owner, Owner's Representative, Architect, Construction Manager and

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the cost of additional inspections, will be subtracted from payment due the Contractor. If the amount due the Contractor for payment is insufficient, any deficiency shall be paid by the Contractor to the Owner."

## ARTICLE 9 PAYMENTS AND COMPLETION

### 9.3 APPLICATIONS FOR PAYMENT

In the second sentence of Subparagraph 9.3.1, delete the words "if required."

Add the following Subparagraphs 9.3.1.3., and 9.3.1.4, to 9.3.1:

"§9.3.1.3 Submit applications for payment at monthly intervals, unless otherwise approved by Construction Manager and Architect, using AIA Document G702, "Application and Certification for Payment."

§9.3.1.4 "Applications for Payment must be accompanied by any and all releases of liens for previous applications from Contractor and his subcontractors and a sworn and notarized statement that all subcontractors have been paid to at least 95% of previously requisitioned sums."

Add the following Subparagraphs 9.3.2.1 and 9.3.2.2 to 9.3.2:

"§9.3.2.1 Procedures required by Owner shall include, but are not necessarily limited to, submission by the Contractor to the Architect of bills of sale and bills of lading for such materials and equipment, provision of opportunity for Architect's visual verification that such materials and equipment are in fact in storage, and, if stored off-site, submission by the Contractor of verification that such materials and equipment are stored in a bonded warehouse.

§9.3.2.2 All such materials and equipment, including materials and equipment stored on-site but not yet incorporated into the Work, upon which partial payments have been made shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation into the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible. The Contractor is to provide proof of insurance naming the Owner as additional insured with all payment applications requesting payment for stored materials."

9.3.3. Replace the first sentence as follows:

"The Contractor warrants and agrees that title to all Work will pass to the Owner either by incorporation in the construction or upon receipt of payment therefor by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances whatsoever, that the vesting of such title shall not impose any obligations on Owner or relieve Contractor of any of its obligations under the Contract, that the Contractor shall remain responsible for damage to or loss of the Work, whether completed or under construction, until responsibility for the work has been accepted by Owner in the manner set forth in the Contract Documents, and that all Work covered by an Application for Payment will have been acquired by the Contractor or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. Nothing contained herein shall be construed as a limitation on the furnishing of lien waivers as may be required by the Owner."

9.3.3. Add the following to the end of this subparagraph:

"Notwithstanding the foregoing, the Owner reserves the right to settle any disputed mechanic's or material men's lien claim by payments to the lien claimant or by such other means as the Owner, in the Owner's sole discretion, determines is the most economical or advantageous method of settling the dispute. The Contractor shall promptly reimburse the Owner, upon demand, for any payments to be made."

9.3.3.1 Add new subparagraph:

"§9.3.3.1 The Contractor shall save and keep the Owner and the Owner's property free from all liens and claims, legal or equitable, arising out of Contractor's work hereunder. In the event any such lien is filed by anyone claiming by, through or under the Contractor, the Contractor shall remove and discharge same within ten (10) days of the filing thereof.

9.3.3.2 Add new subparagraph:

"§9.3.3.2 The Owner shall release any payments withheld due to a lien or claim of lien if the Contractor obtains security acceptable to the Owner or a lien bond which is: (1) issued by a surety acceptable to the Owner, (2) in form and substance satisfactory to the Owner, and (3) in an amount required by law. The cost of any premiums incurred in connection with such bonds and security shall be the responsibility of the Contractor and shall not be part of, or cause any adjustment to, the Contract Sum."

9.3.4. Add the following provision as a new Subparagraph 9.3.4.1:

"§9.3.4.1 The Owner reserves the right, exercisable, however, only if deemed necessary in Owner's reasonable opinion, to insure continuous progress of the Work, to make the whole or any part of any payment required hereunder jointly to Contractor and any Subcontractor or materialman entitled to any payment for any work done or materials or equipment supplied in connection with completion of the Work, and any payments so made by the Owner shall be credited toward any amount payable by the Owner to the Contractor under the Contract."

9.3.5 Add new subparagraph:

"§9.3.5 Each Application for Payment shall be accompanied by the following, all in form and substance satisfactory to the Owner."

§9.3.5.1 "A current Contractor's lien waiver and duly executed and acknowledged sworn statement showing all Subcontractors and material men with whom the contractor has entered into subcontracts, the amount of each such subcontract, the amount requested for any Subcontractor and material men in the requested progress payment and the amount to be paid to the Contractor from all such Subcontractors and material men."

§9.3.5.2 All Applications for Payment must be accompanied with certified payrolls for all Contract Work performed. In addition, each Contractor and sub-contractor shall submit to the Owner within thirty days after issuance of its first payroll, and every thirty days thereafter, a transcript of the original payroll record, as provided by the NYS Labor Law, subscribed and affirmed as true under penalties of perjury. The Owner shall be required to receive and maintain such payroll records. The original payrolls or transcripts shall be preserved for three years from the completion of the Work on the awarded project. An out of state contractor must post a wage rate schedule at the job site."

§9.3.5.3 Duly executed waivers of mechanic's and material men's liens from all Subcontractors and, when appropriate, from material men 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"

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

9.4 CERTIFICATES FOR PAYMENT

9.4.1 First sentence, replace "within seven days" with "within ten (10) business days.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Amend Subparagraph 9.5.1.6 to read as follows:

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“6 reasonable evidence that the Work will not be completed within the Contract Time, and/or that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or...”

Amend Subparagraph 9.5.1.7 to read as follows:

“7 failure to carry out the Work in accordance with the Contract Documents.”

Add Subparagraph 9.5.1.8 to read as follows:

“8 any other reason deemed necessary by the Architect to protect the Owner, pursuant to the Contract Documents.

Add Subparagraph 9.5.1.9 to read as follows:

“9 failure of the Contractor to provide or maintain the executed Performance and Payment Bonds and/or a current Certificate of Insurance.”

“9.5.3. Add the following to Subparagraph 9.5.3:

“If the Contractor disputes any determination by the Architect with regard to any Certificate of Payment, the Contractor nevertheless expeditiously shall continue to proceed with the Work.”

9.5.4. Add the following provision as a new Subparagraph 9.5.4:

“The Owner shall not be deemed to be in breach of this Contract by reason of the withholding of any payment pursuant to any provision of the Contract Documents provided the Architect has approved the Owner's action or the Work for which payment is being withheld shall have been rejected by any governmental authority or the Owner or the Contractor has not submitted a payment application in accordance with this Contract or otherwise has breached the terms of this Contract.”

9.6.2 Add the following to the end of this subparagraph

“Also comply with paragraph entitled “Payment by Contractors to Subcontractors” contained in Section 106-b of the New York General Municipal Law.”

9.6.3 Delete “will” and substitute “may” After “on request” add “in writing by a Subcontractor to the Owner”.

## 9.8 SUBSTANTIAL COMPLETION

Amend Subparagraph 9.8.1 to read as follows:

“9.8.1 Substantial Completion is the stage in the progress of the Project when the Project or designated portion thereof is sufficiently complete in accordance with the Contract Documents and when all required occupancy permits, if any, have been issued so the Owner can occupy or utilize the Project for its intended use. The Contractor shall secure and deliver to the Owner written warranties and guarantees from its Subcontractors, Sub-subcontractors and suppliers bearing the date of Substantial Completion or some other date as may be agreed to by the Owner and stating the period of warranty as required by the Contract Documents. The Contractor is responsible for the warranty of all Work, whether performed by it or by its Subcontractors at any tier. The Work will not be considered suitable for Substantial Completion review until all Project systems included in the Work are operational as designed and scheduled, all designated or required governmental inspections and certifications have been made and posted, designated instruction of Owner's personnel in the operation of systems has been completed, and all final finishes within the Contract are in place. In general, the only remaining work shall be minor in nature, so that the Owner [and/or Owner's tenants] could occupy the building on that date and the completion of the Work by the Contractor would not materially interfere or hamper the Owner's (or Owner's tenants') (or those claiming by, through or under Owner) normal business operations. As a further condition of Substantial Completion acceptance, the Contractor shall certify that all remaining Work will be completed

within thirty (30) consecutive calendar days or as agreed upon following the Date of Substantial Completion."

9.8.3.1 Add a new subparagraph:

"For any uncompleted work at the time of Substantial Completion, the Owner will retain the monetized value of the remaining work, i.e. "punch list", times 200 percent as determined by the Architect and 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 which will be released upon notification by the Contractor to the Architect that the Work has been completed to the Architect satisfaction."

9.9.1 After "warranties required by the Contract Documents. add:

"Such occupancy does not relieve the Contractor from completing the Work within the time period specified."

9.9.2 Add at the end of the subparagraph:

", and in order to prepare a complete punch list of omissions of materials, faulty workmanship, or any items to be repaired torn out or replaced."

9.9.3 Add to the end of this subparagraph "Further such occupancy alone shall not determine when substantial completion and the performance have been reached."

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Add the following:

" If, as a result of the Architect's inspection, it is determined that the work is not complete and in accordance with the Contract Documents, the Architect shall notify the Owner, the CM and the Contractor in writing of this opinion. This notice will include the Final Inspection Report documenting the conditions of the work and will be considered a formal notice to the Contractor of their failure to fulfill the terms and conditions of their contract."

Add the following Subparagraphs 9.10.1.1 and 9.10.1.2 to 9.10.1:

"9.10.1.1 If the Work is not accepted by the Owner after final inspection and additional time is required to complete items identified during the final inspection, the date starting the one-year correction period described in Article 12.2 shall be set by the Architect at his discretion, but not later than the date of the final Certificate for Payment.

9.10.1.2 If the Architect is required to perform additional final inspections because the Work fails to comply with the certifications of the Contractor identified in Division 1, the amount of compensation paid to the Architect by the Owner for additional services shall be deducted from the final payment to the Contractor."

9.10.2 Revise as follows:

"In the fourteenth line of the paragraph, delete the word "and," and immediately prior to the end of the first sentence, insert the following "(6) a Punch List Item Letter stating that all items on the punch list have been completed to the Owner's satisfaction, all site documents, all procedures manuals and spare parts, all equipment guarantees and warranties, Contractor Affidavit of Release of Liens, complete set of shop Drawings and a set of as-built drawings in red ink or other reproducible color except black and."

Delete from the second sentence: "If a Subcontractor refuses to furnish a release or waiver required by the Owner" and substitute the following: "If a Contractor refuses to furnish such releases or waivers as required by the Owner to satisfy the Owner that there are no outstanding liens,"

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Add the following Subparagraphs to 9.10.2:

"§9.10.2.1 In addition to the submittals required in Subparagraph 9.10.2 above, the Contractor shall submit separate release or waivers of liens for each subcontractor, material supplier, and others with lien rights against the property of the Owner, and shall submit a list of such parties."

9.10.6 Add the following new subparagraph:

"§9.10.5 In the event the Contractor does not achieve final completion within thirty (30) days after the date of substantial completion, allowing for any approved extensions of the contract time, Contractor shall not be entitled to any further payment and Contractor hereby agrees that such failure to complete the work within the time set forth above shall constitute a waiver of all claims by the Contractor to any money that may be due. This provision shall not operate as a waiver by the Owner of any claims or remedies of any nature against the Contractor arising out of the Contract."

9.10.6 Add the following new subparagraph:

"§9.10.6 If the Architect or Construction Manager is required to perform additional final inspections because the Work fails to comply with the certifications of the Contractor, the amount of compensation paid to the Architect and the Construction Manager by the Owner for additional services will be deducted from the final payment to the Contractor."

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Subparagraphs 10.2.2.2 to 10.2.2:

"§10.2.2.2 The Contractor agrees, in order that the Work will be completed with the greatest degree of safety, to conform to the requirements of the Occupational Safety and Health Act of 1970 (OSHA), as amended and the Construction Safety Act of 1969 as amended, including all standards and regulations that have been or shall be promulgated by governmental authorities. Contractor shall hold the Owner, Construction Manager, Architect and all their employees, consultants and representatives harmless from any and all claims, damages, losses, suits, obligations, fines, penalties, costs, charges and expenses which may be imposed upon or incurred by or asserted against any of them by reason of any act or omission of the Contractor or its subcontractors or any person or firm directly or indirectly employed by the Contractor with respect to violations of the above Acts."

10.2.4.1 Add new subparagraph:

"§10.2.4.1 When use or storage of hazardous materials or equipment or unusual construction methods are necessary to promulgate the Work, the Contractor shall give the Owner reasonable advance notice, and shall maintain on the site, a full set of safety instructions relating to all such materials."

10.2.9. Add the following provision as a new Subparagraph 10.2.9:

"§10.2.9 Contractor shall protect adjoining private or municipal property and shall provide barricades, temporary fences, and covered walkways required to protect the safety of passersby, as required by prudent construction practices, local building codes, ordinances or other laws, or the Contract Documents."

10.2.10 Add new subparagraph:

"§10.2.10 The Contractor shall promptly report in writing to the Owner, Construction Manager and Architect all accidents arising out of or in connection with the Work which cause death, person injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately by telephone or messenger to the Construction Manager."



10.2.11. Add new subparagraph:

"§10.2.11 The Contractor shall take all necessary precautions to insure against fire during construction and be responsible to ensure that the area within contract limits is kept orderly and clean and that combustible rubbish shall be stored on the site in such a manner and at such locations as designated by Owner to:

- a. Provide and maintain adequate fire protection. The fire protection shall be adequate at all times, and shall be subject to applicable codes and regulations.
- b. Comply with regulations, OSHA standards, and codes of local Fire Marshall, agencies, and departments having jurisdictions."

10.2.12 Add new subparagraph:

"§10.2.12 During construction, the General Contractor shall be responsible for maintaining a watertight structure. The Contractor shall be responsible for temporary roofing, tarps, and other protection at roofs, cavity walls, etc. Should the Contractor fail to provide adequate protection, causing flooding, damage, or other disturbance to the existing building, Contractor shall be responsible for all costs associated with clean up and repairs. Inasmuch as flooding and damage have safety implications to the general public, clean up and repairs may be made by the Owner without warning to the Contractor. Administration costs incurred by the Owner, Construction Manager and Architect will also be back charged to the Contractor. The Contractor, by entering into contract with the Owner agrees to be liable for these costs."

10.3 HAZARDOUS MATERIALS

Delete Subparagraph 10.3.2 in its entirety and add the following new Subparagraph 10.3.2:

"10.3.2 The Owner shall retain 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 verify that it has been rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. The Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up, which adjustments shall be accomplished as provided in Article 7."

Delete Subparagraph 10.3.3.

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Add to subparagraph 11.1.5

"The Contractor and all of its Subcontractors, shall submit Worker's Compensation Form certifying they carry Worker's Compensation Insurance to a public center equity."

### 11.3 PROPERTY INSURANCE

Delete entire Article.

11.3.2 Boiler and Machinery Insurance: Delete this Article in its entirety.

### 11.4 PERFORMANCE BOND AND PAYMENT BOND

Replace 11.4.2 with:

"The Contractor shall deliver the required bonds to the Owner prior to beginning construction activity at the site, but no later than 7 days of issuance of the Notice of Award of Contract/Notice to Proceed, on AIA Document A312, Performance Bond and Labor and Material Payment Bond. These Bonds shall remain for a period not less than two (2) years following the date of Substantial Completion or the time required to resolve any items of incomplete work and the payment of any disputed amounts, whichever period is longer."

11.4.6 Add new subparagraph:

"If the surety on any Bond furnished by Contractor is declared a bankrupt or becomes insolvent or it's right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of the above paragraphs. Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which must be acceptable to the Owner. The work on the site shall stop with no additional compensation to the Contractor until the substitute bond is received."

11.4.7 Add new subparagraph:

"The premium on all Bonds shall be paid by the Contractor."

11.4.8 Add new subparagraph:

"Every Bond under this Paragraph 11.4.1 must display the Number. A rider including the following provisions shall be attached to the Performance Bond:

- (1) Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents. Such addition, alteration, change,
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extension of time, or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.

- (2) the Owner, and the Owner shall have thirty (30) days from time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first Surety further agrees that in event of any default by the Owner in the performance of the Owner obligations to the Contractor under the contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to class postage prepaid, to Lender and the Owner.
- (3) Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner.

#### 11.4.9 Add new subparagraph:

"The Contractor shall keep the surety informed of the progress of the Work, and where necessary, obtain the Surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communication with the Surety. The Owner may, in the Owner's sole discretion, inform Surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Work."

### ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

#### 12.2 CORRECTION OF WORK

##### 12.2.2 AFTER SUBSTANTIAL COMPLETION

Amend first sentence in Subparagraph 12.2.2.1 to read:

"12.2.2.1 In addition to the Contractor's obligations under Paragraph 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 Subparagraph 9.8.4, Subparagraph 9.9.1 or Subparagraph 9.10.2, or by terms of an applicable..."

##### 12.2.2.4 Add new subparagraph:

"The obligations under Paragraph 12.2 shall cover any repairs or replacement to any part of the Work or other property caused by defective Work."

##### 12.2.6 Add new subparagraph:

"The Contractor shall deliver to the Owner, before final payment is made on the Contract, all required written guarantees/warranties in form acceptable to Architect and Owner's Representative properly sworn to and signed by a responsible officer of the Contractor, warranting all work and materials included in its Contract against all defects not due to ordinary wear and use for a period of one (1) years, or as amended in the Contract Documents, from the Date of Substantial Completion."

### ARTICLE 13 MISCELLANEOUS PROVISIONS

#### 13.1 GOVERNING LAW

##### 13.1.3.1 Add the following provision as a new Subparagraph 13.1.3.1:

"Historical lack of enforcement of any law, local or otherwise, shall not constitute a waiver of Contractor's responsibility for compliance with such law in a manner consistent with the Contract Documents unless and until the Contractor has received written consent for the waiver of such compliance from the Owner and the agency responsible for the law enforcement."

13.1.9 Add a new paragraph as follows:

"13.1.9 All notices to be given hereunder shall be in writing and may be given, served or made by (1) depositing the same in the United States mail addressed to the authorized representative (as specified below) of the party to be notified, post-paid and registered or certified, return receipt requested; or (2) depositing the same for overnight delivery (pre-paid by and billed to the party giving notice) with a nationally recognized overnight delivery service addressed to the authorized representative of the party to be notified; or (3) delivering the same in person to the authorized representative of the party to be notified; or (4) facsimile, to the attention of the authorized representative of the party being notified, with the required of a facsimile confirmation. Notices deposited in the United States mail shall be effective, unless otherwise stated in the Specifications, from and after the fourth (4<sup>th</sup>) day next following the date deposited in a United States mail receptacle or when actually received, whichever is earlier. Notices transmitted by overnight delivery shall be effective the business day next following posting. Notices delivered in person shall be effective immediately. Facsimile notices shall be effective as of the time received, as shown on a printed facsimile confirmation. All notices to be given to the parties hereto shall be sent to or made at the following address:

.1 – The Owner:

Wappingers Central School District Attn: \_\_\_\_\_

.2 – The Architect:

.4 – The Contractor

Name, address and contact as indicated on the Contract."

13.4.1 Insert the following in front of the first sentence:

"Except as expressly provided in the Contract Documents, duties."

### 13.5 TESTS AND INSPECTIONS

13.5.3 At the end of the subparagraph add the following:

"The Contractor agrees that the cost of testing services required for the convenience of the Contractor in his scheduling and performance of the Work, and the cost of testing services relating to remedial operations performed to correct deficiencies in the Work shall be borne by the Contractor."

13.5.7 Add new subparagraph:

"Upon request the Contractor shall deliver test samples of any of the materials specified in these specifications to an independent testing agency. The Owner shall pay for the test of samples, which are found to conform to the specifications. The Contractor shall pay for the tests of samples, which do not conform to the specifications. This shall not relieve the Contractor of his/her obligations to perform specific tests described elsewhere in these specifications."

13.5.8 Add new subparagraph:

"Where the specifications require part of the work to be specially tested and approved, it shall not be tested or covered up without timely notice thereof or consent thereto. Should any part of the work be covered up without notice, approval or consent, such part of the work shall be uncovered for examination at the Contractor's expense if the Owner shall so require."

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## 13.6 INTEREST

Add to Subparagraph 13.6.:

"13.6. ", but in no event will such interest exceed the rate of 2 percent per annum."

## 13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.7. In the fourth line delete ",but in any case not more than 10 years after the date of substantial Completion of the Work."

Add the following provision as a new Subparagraph 13.7.1:

"Notwithstanding any provision of Subparagraph 13.7. to the contrary, no applicable statute, of limitations shall be deemed to have commenced with respect to any portion of the Work which is not in accordance with the requirements of the Contract Documents, which would not be visible or apparent upon conducting a reasonable investigation, and which is not discovered by the owner until after the date which, but for this Subparagraph 13.7.1, would be the date of commencement of the applicable statute of limitations; the applicable statute of limitations instead shall be deemed to have commenced on the date of such discovery by, the Owner."

Add the following Paragraph 13.8 to Article 13:

## "13.8 WAGE RATES

13.9.1 Contractor shall comply with Prevailing Wage Rates as issued by the State of New York Department of Labor for the location and duration of this Project. Contractor is advised to regularly review "Prevailing Wage Schedules/Updates" available on the "Prevailing Wage/Public Work" link on State of New York Department of Labor "Business in New York" web page ([www.labor.state.ny.us](http://www.labor.state.ny.us)) to identify and implement any applicable changes to Prevailing Wage Rates during the Project."

Add the following Paragraphs to Article 13:

"13.10.1 Entire Agreement. The Contract Documents contain the entire agreement between Contractor and Owner, and no oral statements or prior written matter not specifically incorporated in the Contract Documents shall be of any force or effect. The Contract may not be modified except by a written document executed by both parties. In the event of any conflict or discrepancy between the Contract Documents, the order of precedence shall be: first, the Agreement, including minutes, if any, of any pre-award conferences; second, this Supplement to General Conditions; third, the General Conditions; fourth, the Drawings; and lastly, the Specifications.

13.10.2 Venue. The parties hereto hereby consent that the venue of any action under the Contract shall be in the County Office where the Owner is located; provided, however, that venue of such action is legally proper in such county.

13.10.3 Severability. If a court of competent jurisdiction determines that any provision of the Contract is invalid or unenforceable, then the invalidity or unenforceability of that provision shall not affect the validity or enforceability of any other provision of the Contract, and all other provisions shall remain in full force and effect.

13.10.4 Ambiguities. The parties acknowledge that each party and, if it so chooses, its counsel have reviewed and revised the Contract and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Contract or any amendments or exhibits thereto.

13.10.5 Section Headings. All section headings in the Contract are for convenience of reference only and are not part of the Contract, and no construction or inference shall be derived therefrom. Wherever required by the context, any gender shall include the other gender, the singular shall include the plural,

and the plural shall include the singular. Each defined term herein may be used in its singular or plural form whether or not so defined.

13.10.6 Vested rights. Termination of the Contract for any reason whatsoever shall not affect any right or obligation of any party which is accrued or vested prior to such termination, and any provision of the Contract relating to any such right or obligation shall be deemed to survive the termination of the Contract."

#### ARTICLE 14

#### TERMINATION OR SUSPENSION OF THE CONTRACT

##### 14.1. TERMINATION BY THE CONTRACTOR

14.1 Revise "30 days" to read "90 days".

14.1.2 In the second line, change the word "seven" to read "thirty" and place a period after "executed" in the third line and delete the remainder of the paragraph.

14.1.3 In the first line, replace "60" with "90" and in the second line, replace "seven" with "thirty."

##### 14.2. TERMINATION BY THE OWNER

14.2.1. Replace this Subparagraph, as follows:

"14.2.1. The Owner may terminate the Contract in event the Contractor:

- .1 refuses or fails to supply sufficient skilled workers or suitable materials or equipment to complete the Work in a diligent, efficient, timely, workmanlike, skillful, and careful manner;
  - .2 refuses or fails to correct deficient work performed by it;
  - .3 fails to make prompt payments to subcontractors for labor, materials, and/or equipment in accordance with the respective agreements between the Contractor and the Subcontractors;
  - .4 disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction;
  - .5 disregards the instructions of the Architect or the Owner (when such instructions are based on the requirements of the Contract Documents);
  - .6 is adjudged a bankrupt or insolvent, or, makes a general assignment for the benefit of Contractor's creditors, or a trustee or receiver is appointed for Contractor or for any of its property, or files a petition to take advantage of any debtor's act or to reorganize under bankruptcy or similar laws;
  - .7 breaches any warranty made by the Contractor under or pursuant to the Contract Documents;
  - .8 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract Documents;
  - .9 fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents ;
-



- .10 fails to keep the Project free from strikes, work stoppages, slowdowns, lockouts or other disruptive activity;
- .11 or otherwise does not fully comply with the Contract Documents.

14.2.2.1 Add at the end of the sentence "and take possession of materials stored off-site by the Contractor."

14.2.2.3 Add after "expedient" in the first line: "and the Contractor will be back charged for costs incurred by the Owner."

14.2.4.1 Add new subparagraph:

"The contractor shall be responsible for the Owner's costs of finishing the Work include, without limitation, all reasonable attorney's fees, additional title costs, insurance, additional interest because of any delay in completing the Work, and all other direct and indirect and consequential damages incurred by the Owner by reason of the termination of the Contractor as stated herein."

Add the following new Subparagraph 14.2.5:

"14.2.5 It is recognized that: (1) if an order for relief is entered on behalf of Contractor pursuant to Title 11 of the United States Code, (2) if any other similar order is entered under any other debtor relief laws, (3) if Contractor makes a general assignment for the benefit of its creditors, (4) if a receiver is appointed for the benefit of its creditors, or (5) if a receiver is appointed on account of its insolvency, any such event could impair or frustrate Contractor's performance of the Contract. Accordingly, it is agreed that upon the occurrence of any such event, Owner shall be entitled to request of Contractor or its successor in interest adequate assurance of future performance in accordance with the terms and conditions of the Contract. Failure to comply with such request within ten (10) days of delivery of the request shall entitle Owner to terminate the Contract and to the accompanying rights set forth above in Subparagraphs 14.2.1 through 14.2.4 hereof. In all events pending receipt of adequate assurance of performance and actual performance in accordance therewith, Owner shall be entitled to proceed with the Work with its own forces or with other contractors on a time and material or other appropriate basis, the cost of which will be back charged against the Contract Sum."

14.3.2 Delete in its entirety.

#### 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Amend Subparagraph 14.4.3 to read:

"14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and reasonable costs incurred by reason of such termination. Contractor's entitlement to payment shall be predicated on its performance of such Work in accordance with the Contract Documents and as certified to by the Architect and Construction Manager. The Contractor shall be entitled to no other payment and waives any claim for damages."

14.4.4 Add new paragraph 14.4.4:

"14.4.4 Upon receipt of the Owner's written notice of termination for convenience, the Contractor shall:

- .1 Immediately cease operations as directed by the Owner.
- .2 Take the appropriate 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 the termination stated in the notice, terminate all existing Subcontracts, and purchase orders and enter into no further subcontracts and purchase orders."

14.5 Add new paragraph: " LIMITATION OF OWNER LIABILITY"

14.5.1 Add new subparagraph:

"The Owner shall not be responsible for damages or for loss of anticipated profits on Work not performed on account of any termination of the Contractor by it under this Section."

## ARTICLE 15 CLAIMS AND DISPUTES

Section 15.1 Claims: Add "Article 15 in its entirety shall be read and applied in conjunction and conformity with Section 4.3 herein."

Section 15.1.2 Add at the end of this section and in conformance with new subparagraph 4.3.1.1.

Section 15.2.6.1 Replace the second sentence with "Both parties must mutually agree to mediation to resolve the dispute."

Section 15.3.1 In the second line, insert "upon the mutual consent of both parties" before "shall" .

Section 15.3.2 Insert "Upon the mutual consent of both parties" before "the" in the first line. In the third line before "request" insert "mutually agreed upon." In the fifth line insert "mutually agreed upon" after "filing of".

Section 15.4.1 In the first line, replace "selected" with "mutually agreed to select."

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**SUPPLEMENTARY CONDITIONS - ATTACHMENT NO. 1**

Accord Certificate of Insurance 25-S

<b>ACORD. CERTIFICATE OF INSURANCE</b>		(ISSUE DATE (MM/DD/YY))
PRODUCER	<b>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</b>	
<b>COMPANIES AFFORDING COVERAGE</b>		
INSURED	COMPANY LETTER	<b>A</b>
	COMPANY LETTER	<b>B</b>
	COMPANY LETTER	<b>C</b>
	COMPANY LETTER	<b>D</b>
	COMPANY LETTER	<b>E</b>
<b>COVERAGES</b>		
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		
CO LTR	TYPE OF INSURANCE	POLICY NUMBER      POLICY EFFECTIVE DATE (MM/DD/YY)      POLICY EXPIRATION DATE (MM/DD/YY)      LIMITS
GENERAL LIABILITY		GENERAL AGGREGATE \$
COMMERCIAL GENERAL LIABILITY		PRODUCTS-COMP/OP AGG. \$
CLAIMS MADE      OCCUR.		PERSONAL & ADV. INJURY \$
OWNER'S & CONTRACTOR'S PROT.		EACH OCCURRENCE \$
		FIRE DAMAGE (Any one fire) \$
		MED. EXPENSE (Any one person) \$
AUTOMOBILE LIABILITY		COMBINED SINGLE LIMIT \$
ANY AUTO		
ALL OWNED AUTOS		BODILY INJURY (Per person) \$
SCHEDULED AUTOS		
HIRED AUTOS		BODILY INJURY (Per accident) \$
NON-OWNED AUTOS		
GARAGE LIABILITY		PROPERTY DAMAGE \$
EXCESS LIABILITY		EACH OCCURRENCE \$
UMBRELLA FORM		AGGREGATE \$
OTHER THAN UMBRELLA FORM		
WORKER'S COMPENSATION		STATUTORY LIMITS
AND		EACH ACCIDENT \$
EMPLOYERS' LIABILITY		DISEASE—POLICY LIMIT \$
		DISEASE—EACH EMPLOYEE \$
OTHER		
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS		
CERTIFICATE HOLDER	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.  _____ AUTHORIZED REPRESENTATIVE	
ACORD 25-S (7/90)		©ACORD CORPORATION 1990

## **SUPPLEMENTARY CONDITIONS - ATTACHMENT NO. 2**

AIA Document G715 - Supplemental Attachment for Accord Certificate of Insurance

### **Supplemental Attachment**

for Accord Certificate of Insurance 25-S (7/90).

#### **AIA Document G715 - Electronic Format**

(This document replaces AIA Document G705, Certificate of Insurance.)

PROJECT:

INSURED:

#### **A. General Liability**

Yes No N/A

1. Does the General Aggregate apply to this Project only?

[ ] [ ] [ ]

2. Does this policy include coverage for:

a. Premises - Operations?

[ ] [ ] [ ]

b. Explosion, Collapse and Underground Hazards?

[ ] [ ] [ ]

c. Personal Injury Coverage?

[ ] [ ] [ ]

d. Products Coverage?

[ ] [ ] [ ]

e. Completed Operations?

[ ] [ ] [ ]

f. Contractual Coverage for the Insured's obligations in A201?

[ ] [ ] [ ]

3. If coverage is written on a claims-made basis, what is the:

a. Retroactive Date?

b. Extended Reporting Date?

#### **B. Worker's Compensation**

1. If the Insured is exempt from Worker's Compensation statutes, does the Insured carry the equivalent Voluntary Compensation coverage?

Yes [ ] No [ ] N/A [ ]

#### **C. Final Payment Information**

1. Is this certificate being furnished in connection with the Contractor's request for final payment in accordance with the requirements of Subparagraphs 9.10.2 and 11.1.3 of AIA Document A201, General Conditions of the Contract for Construction?

Yes [ ] No [ ] N/A [ ]

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION. AUTHENTICATION OF THIS ELECTRONICALLY DRAFTED AIA DOCUMENT MAY BE MADE BY USING AIA DOCUMENT D401.

This document replaces AIA Document G705, Certificate of Insurance.

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2. If so, and if the policy period extends beyond termination of the Contract for Construction, is Completed Operations coverage for this Project continued for the balance of the policy period?

Yes [ ] No [ ] N/A [ ]

**D. Termination Provisions**

1. Has each policy shown on the certificate and this Supplement been endorsed to provide the holder with 30 days notice of cancellation and/or expiration? List below any policies which do not contain this notice.

Yes [ ] No [ ] N/A [ ]

**E. Other Provisions**

\_\_\_\_\_  
Authorized Representative

\_\_\_\_\_  
Date of Issue

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- Excess Insurance  
\$1,000,000; \$3,000,000; \$5,000,000 (or higher) each Occurrence and Aggregate depending on the type and size of the project. Excess coverage shall be on a follow-form basis.

V. Contractor acknowledges that failure to obtain such insurance on behalf of the school constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the school. The contractor/permittee is to provide the school with a certificate of insurance, evidencing the above requirements have been met, prior to the commencement of work or use of facilities.

**UNIFORM SAFETY STANDARDS FOR SCHOOL CONSTRUCTION AND MAINTENANCE PROJECTS  
(SECTION 155.5 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION)**

- (a) Monitoring of construction and maintenance activities. **The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy** and shall be monitored during construction or maintenance activities for safety violations by school district personnel. It is the responsibility of the board of education or board of cooperative educational services to assure that these standards are continuously maintained when the building or any portion thereof is occupied.
- (b) Investigation and disposition of complaints relating to health and safety received as a result of construction and maintenance activities. Boards of education and boards of cooperative educational services shall follow procedures established under section 155.4(d)(7).
- (c) Pre-construction testing and planning for construction projects.
  - (1) Boards of education and boards of cooperative educational services shall assure that proper planning is made for safety of building occupants during construction. For all construction projects for which bids are issued on or after September 30, 1999, such boards shall assure that safety is addressed in the bid specifications and contract documents before contract documents are advertised for bid. **School areas to be disturbed during renovation or demolition have been tested for lead and asbestos.** Appropriate procedures to protect the health of building occupants are included in the final construction documents for bidding.
  - (2) Boards of education and boards of cooperative educational services shall establish procedures for involvement of the health and safety committee to monitor safety during school construction projects. The health and safety committees in school districts other than in cities with one million inhabitants or more shall be expanded during construction projects to include the project architect, construction manager, and the contractors. Such committee shall meet periodically to review issues and address complaints related to health and safety resulting from the construction project. In the case of a city school district in a city of one million inhabitants or more, the board of education shall submit procedures for protecting health and safety during construction to the Commissioner for approval. Such procedures shall outline methods for compliance with section 155.5 of this Part.
  - (3) The district emergency management plan shall be updated to reflect any changes necessary to accommodate the construction process, including an updated emergency exit plan indicating temporary exits required due to construction. Provisions shall be made for the emergency evacuation and relocation or release of students and staff in the event of a construction incident.
  - (4) Fire drills shall be held to familiarize students and staff with temporary exits and revised emergency procedures whenever such temporary exits and revised emergency procedures are required.
- (d) Pre-construction notification of construction projects. The board of education or board of cooperative educational services shall establish procedures for notification of parents, staff and the community in advance of a construction project of \$10,000 or more to be conducted in a school building while the building is occupied. Such procedures shall provide notice at least two months prior to the date on which construction is scheduled to begin, provided that in the case of emergency construction projects, such notice shall be provided as far in advance of the start of construction as is practicable. Such notice shall include information on the district's obligations under this section to provide a safe school environment during construction projects. Such notice requirement may be met by publication in district newsletters, direct mailings, or holding a public hearing on the project to inform parents, students, school personnel and community members.
- (e) General safety and security standards for construction projects.
  - (1) **All construction materials shall be stored in a safe and secure manner.**
  - (2) **Fences around construction supplies or debris shall be maintained.**
  - (3) **Gates shall always be locked unless a worker is in attendance to prevent unauthorized entry.**
  - (4) **During exterior renovation work, overhead protection shall be provided for any sidewalks or areas immediately beneath the work site or such areas shall be fenced off and provided with warning signs to prevent entry.**
  - (5) **Workers shall be required to wear photo-identification badges at all times for identification and security purposes while working at occupied sites.**
- (f) Separation of construction areas from occupied spaces. Construction areas which are under the control of a contractor and therefore not occupied by district staff or students shall be separated from occupied



areas. Provisions shall be made to prevent the passage of dust and contaminants into occupied parts of the building. Periodic inspection and repairs of the containment barriers must be made to prevent exposure to dust or contaminants. Gypsum board must be used in exit ways or other areas that require fire rated separation. Heavy duty plastic sheeting may be used only for a vapor, fine dust or air infiltration barrier, and shall not be used to separate occupied spaces from construction areas.

- (1) A specific stairwell and/or elevator should be assigned for construction worker use during work hours. In general, workers may not use corridors, stairs or elevators designated for students or school staff.
  - (2) Large amounts of debris must be removed by using enclosed chutes or a similar sealed system. There shall be no movement of debris through halls of occupied spaces of the building. No material shall be dropped or thrown outside the walls of the building.
  - (3) All occupied parts of the building affected by renovation activity shall be cleaned at the close of each workday. School buildings occupied during a construction project shall maintain required health, safety and educational capabilities at all times that classes are in session.
- (g) Maintaining exiting and ventilation during school construction projects. The following information shall be included in all plans and specifications for school building projects:
- (1) **A plan detailing how exiting required by the applicable building code will be maintained during construction.** The plan shall indicate temporary construction required to isolate construction equipment, materials, people, dust, fumes, odors, and noise during the construction period. Temporary construction details shall meet code-required fire ratings for separation and corridor enclosure. At a minimum, required exits, temporary stairs, ramps, exit signs, and door hardware shall be provided at all times.
  - (2) **A plan detailing how adequate ventilation will be maintained during construction.** The plan shall indicate ductwork which must be rerouted, disconnected, or capped in order to prevent contaminants from the construction area from entering the occupied areas of the building. The plan shall also indicate how required ventilation to occupied spaces affected by construction will be maintained during the project.
- (h) Fire and hazard prevention. Areas of buildings under construction that are to remain occupied shall maintain a certificate of occupancy. In addition, the following shall be strictly enforced:
- (1) No smoking is allowed on public school property, including construction areas.
  - (2) During construction daily inspections of district occupied areas shall be conducted by school district personnel to assure that construction materials, equipment or debris do not block fire exits or emergency egress windows.
  - (3) Proper operation of fire extinguishers, fire alarm, and smoke/fire detection systems shall be maintained throughout the project.
- (i) Noise abatement during construction and maintenance activities. **Construction and maintenance operations shall not produce noise in excess of 60 dba in occupied spaces or shall be scheduled for times when the building or affected building spaces are not occupied or acoustical abatement measures shall be taken.** Noise level measurements (dba) shall be taken with a type 2 sound level meter in the occupied space in a location closest to the source of the noise. Complaints regarding excessive noise shall be addressed through the health and safety committee. The district should anticipate those times when construction noise is unacceptable and incorporate "no work" periods into the bid specifications.
- (j) Control of chemical fumes, gases, and other contaminants during construction and maintenance projects. **The contractor shall be responsible for the control of chemical fumes, gases, and other contaminants produced by welding, gasoline or diesel engines, roofing, paving, painting, etc. to ensure they do not enter occupied portions of the building or air intakes.**
- (1) **The contractor shall be responsible to ensure that activities and materials which result in "off-gassing" of volatile organic compounds such as glues, paints, furniture, carpeting, wall covering, drapery, etc. are scheduled, cured or ventilated in accordance with manufacturers recommendations before a space can be occupied.** Manufacturers shall be contacted to obtain information regarding appropriate temperatures and times needed to cure or ventilate the product during use and before safe occupancy of a space can be assured. Building materials or furnishings which "off-gas" chemical fumes, gases, or other contaminants shall be aired out in a well-ventilated heated warehouse before it is brought to the project for installation or the manufacturer's recommended "off-gassing" periods must be scheduled between installation and use of the space. If the work will generate toxic gases that cannot be contained in an isolated area, the work must be done when school classes and programs are not in session. The building must be properly ventilated and the material must be given proper time to cure or "off-gas" before re-occupancy.

- (2) Manufacturer's Material Safety Data Sheets (MSDS) shall be maintained at the site for all products used in the project. MSDS must be provided to anyone who requests them. MSDS indicate chemicals used in the product, product toxicity, typical side effects of exposure to the product and safe procedures for use of the product.
- (k) Asbestos abatement protocols. All asbestos abatement projects shall comply with all applicable federal and State laws including but not limited to the New York State Department of Labor industrial code rule 56(12 NYCRR 56), and the federal Asbestos Hazard Emergency Response Act(AHERA),40 CFR Part 763 (Code of Federal Regulations, **Large and small asbestos projects as defined by 12 NYCRR 56 shall not be performed while the building is occupied. The term “building”, as referenced in this section and as defined by NYSED, means a wing or major section of a building that can be completely isolated from the rest of the building with sealed non combustible construction. The isolated portion of the building must contain exists that do not pass through the occupied portion and ventilation systems must be physically separated and sealed at the isolation barrier.**
- Exterior work such as roofing, flashing, siding, or soffit work may be performed on occupied buildings provided proper variances are in place as required, and complete isolation of ventilation systems and at windows is provided. Care must be taken to schedule work so that classes are not disrupted by noise or visual distraction.**
- Minor asbestos projects defined by 12 NYCRR 56 as an asbestos project involving the removal, disturbance, repair, encapsulation, enclosure or handling of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material may be performed in unoccupied areas of an occupied building in accordance with the above referenced regulations.
- (l) Lead paint. **Surfaces that will be disturbed by reconstruction have been tested to determine the presence of lead. Projects which disturb surfaces that contain lead include in the specifications a plan prepared by a certified Lead Risk Assessor of Supervisor which details provisions for occupant protection, worksite preparation, work methods, cleaning and clearance testing which are in general accordance with the HUD Guidelines.**

END OF SECTION



## **NEW YORK STATE WAGE RATE SCHEDULES**

The link to the New York State Wage Rate Schedules assigned to this project is included herein as a courtesy to Contractors and as required. The Owner and Architect do not warrant the accuracy or pertinence of the wage rates stated. It shall be the sole responsibility of each Contractor to pay rates at least equal to current and future Wage Rate Schedules, which are applicable to this project throughout the entire duration of the Contract without claiming additional costs. Wage rate updates are available at the New York State Department of Labor and at their web site at [www.labor.state.ny.us](http://www.labor.state.ny.us).

A Prevailing Rate Case Number - PRC# 2023012973 - Wappingers 2023 Phase 2 - has been assigned to the project.

To access the PDF file of the schedule, control/click on

<https://apps.labor.ny.gov/wpp/publicViewProject.do?method=showIt&id=1558675> or copy and paste into your browser.



## **PROJECT FORMS**

The following forms are to be used in the documentation of the work. Original AIA Documents shall be used.

Contractor's Qualification Statement (AIA Document A305)

Change Order (AIA Document G701)

Application and Certificate for Payment (AIA Document G702) and  
Continuation Sheet (AIA Document G703) broken out per school/SED number

Certification of Substantial Completion (AIA Document G704)

Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706)

Contractor's Affidavit of Release of Liens (AIA Document G706A)

Consent of Surety to Final Payment (AIA Document G707)

Proposal Request (AIA Document G709)

Architect's Supplemental Instructions (AIA Document G710)



Construction Change Directive (AIA Document G714)

List of Subcontractors (AIA Document G805)

Request for Clarification of Bid Documents (Division One)





 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide Renovations - Phase 2	
Building John Jay High School			
SED Project # 132101-06-0020-043		Project Address 2012 Route 52, Hopewell Junction, NY 12533	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/30/2023
Comments:			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>A. Steel Construction</b>		<b>Ch. 22</b>					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AISC 341	1705.2 2203, 2205 1705.2 2207	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input type="checkbox"/>	
a.	Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input type="checkbox"/>	
b.	Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
c.	Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		X		1705.2	<input type="checkbox"/>	
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FP-SSI 1/31/22

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INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>		<b>Ch. 19</b>					
1.	Inspection of reinforcing steel, including prestressing tendons, and verify placement.		X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2.	Inspection of reinforcing steel bar welding.			ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3.	Inspection of anchors to be installed in concrete prior to and during placement.	X		ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4.	Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5.	Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X		ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6.	Inspection of placement for proper application techniques.	X		ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7.	Inspection for maintenance of specified curing temperature and techniques.		X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8.	Inspection of prestressed concrete.	X		ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9.	Erection of precast concrete members.		X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10.	Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.		X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11	Inspection of formwork		X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction					Ch. 21		
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD		BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>L1</b> = Level 1 Inspection required for nonessential facilities. <b>L2</b> = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.			ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602	1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>							
a. Proportions of site prepared mortar and grout.		X L1 & L2			1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.		X L1 & L2			1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.		X L1 & L2			1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.		X L1			1705.4	<input type="checkbox"/>	
Grout space prior to grouting.	X L2				1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.		X L1			1705.4	<input type="checkbox"/>	
Placement of grout.	X L2				1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.	X L2				1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>							
a. Size and location of structural elements.		X L1 & L2			1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.	X L2	X L1			1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.		X L1 & L2			1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.	X L1 & L2				1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.		X L1 & L2			1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.	X L2	X L1			1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>	X L2	X L1			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.	X L1				1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.	X L1 & L2				1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.		X L1 & L2			1704.5	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413/01410
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated Construction- Level 2 Alterations and greater</b> [ per BCNYS 106 ]	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<b><u>FCNYS 701.6</u></b> <b><u>BCNYS 703.7</u></b> 19CRR-NY XXXII	<input checked="" type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide renovations - Phase 2	
Building Roy C Ketcham High School			
SED Project # 132101-06-0012-039		Project Address 99 Myers Corners Road, Wappingers Falls, NY 12590	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/30/2023
Comments:			



INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>A. Steel Construction</b>				<b>Ch. 22</b>		
1. Material verification of high-strength bolts, nuts and washers.		x	AISC 360	1705.2 2204	<input type="checkbox"/>	
2. Inspection of high-strength bolting.	x	x	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3. Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AISC 341	1705.2 2203, 2205 1705.2 2207	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4. Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5. <b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6. Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7. Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input type="checkbox"/>	
a. Structural steel	x	x	AWS D1.1, D1.3	1705.2	<input type="checkbox"/>	
b. Reinforcing steel	x	x	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	
8. Inspection of steel frame joint details.		x		1705.2	<input type="checkbox"/>	

<b>INSPECTION AND TESTING</b> <b>Continuous &amp; Periodic is as Defined by the</b> <b>BCNYS- CHAPTER 17</b> <b>All reports to be submitted to the owners</b> <b>representative for use, approval and record.</b>	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction Ch. 19</b>						
1. Inspection of reinforcing steel, including prestressing tendons, and verify placement.		X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2. Inspection of reinforcing steel bar welding.			ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3. Inspection of anchors to be installed in concrete prior to and during placement.	X		ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4. Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5. Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X		ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6. Inspection of placement for proper application techniques.	X		ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7. Inspection for maintenance of specified curing temperature and techniques.		X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8. Inspection of prestressed concrete.	X		ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9. Erection of precast concrete members.		X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10. Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.		X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11. Inspection of formwork		X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction				Ch. 21				
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD		BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.				ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602	1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>								
a. Proportions of site prepared mortar and grout.			X L1 & L2			1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.			X L1 & L2			1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.			X L1 & L2			1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.			X L1			1705.4	<input type="checkbox"/>	
Grout space prior to grouting.		X L2				1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.			X L1			1705.4	<input type="checkbox"/>	
Placement of grout.		X L2				1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.		X L2				1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>								
a. Size and location of structural elements.			X L1 & L2			1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.		X L2	X L1			1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.			X L1 & L2			1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.		X L1 & L2				1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.			X L1 & L2			1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.		X L2	X L1			1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>		X L2	X L1			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.		X L1				1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.		X L1 & L2				1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.			X L1 & L2			1704.5	<input type="checkbox"/>	



INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413/014100
5. <b>Pre-Submission:</b> <b>Inventory of all Fire-Resistant-Rated</b> <b>Construction- Level 2 Alterations and</b> <b>greater</b> [ per BCNYS 106 ]	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<u>FCNYS 701.6</u> <u>BCNYS 703.7</u> <u>19CRR-NY XXXII</u>	<input checked="" type="checkbox"/>	
6. <b>Pre-Submission:</b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide renovations - Phase 2	
Building Fishkill Elementary School			
SED Project # 132101-06-0005-021		Project Address 20 Church Street, Fishkill, NY 12524	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/30/2023
Comments: No Special Inspection Required			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
A. Steel Construction		Ch. 22					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AICS 341	1705.2 2203, 2205 1705.2 2207	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input type="checkbox"/>	
	a. Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input type="checkbox"/>	
	b. Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
	c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		x		1705.2	<input type="checkbox"/>	
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INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>				<b>Ch. 19</b>			
1.	Inspection of reinforcing steel, including prestressing tendons, and verify placement.		X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2.	Inspection of reinforcing steel bar welding.			ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3.	Inspection of anchors to be installed in concrete prior to and during placement.	X		ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4.	Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5.	Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X		ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6.	Inspection of placement for proper application techniques.	X		ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7.	Inspection for maintenance of specified curing temperature and techniques.		X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8.	Inspection of prestressed concrete.	X		ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9.	Erection of precast concrete members.		X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10.	Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.		X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11	Inspection of formwork		X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction				Ch. 21				
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD		BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.				ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602	1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>								
a. Proportions of site prepared mortar and grout.			X L1 & L2			1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.			X L1 & L2			1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.			X L1 & L2			1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.			X L1			1705.4	<input type="checkbox"/>	
Grout space prior to grouting.		X L2				1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.			X L1			1705.4	<input type="checkbox"/>	
Placement of grout.		X L2				1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.		X L2				1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>								
a. Size and location of structural elements.			X L1 & L2			1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.		X L2	X L1			1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.			X L1 & L2			1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.		X L1 & L2				1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.			X L1 & L2			1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.		X L2	X L1			1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>		X L2	X L1			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.		X L1				1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.		X L1 & L2				1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.			X L1 & L2			1704.5	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input type="checkbox"/>	
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated Construction- Level 2 Alterations and greater</b> [ per BCNYS 106 ]	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	1705.17 1705.18  <b><u>FCNYS 701.6</u></b> <b><u>BCNYS 703.7</u></b> <b>19CRR-NY XXXII</b>	<input type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input type="checkbox"/>	
7. Other:					<input type="checkbox"/>	







 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>	<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.	
School District Wappingers CSD	Project Title 2023 District Wide renovations - Phase 2
Building Main Garage #1	
SED Project # 132101-06-5007-009	Project Address 55 Major MacDonald Way, Wappingers Falls
Architect/Engineer:	
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">           Sign and Stamp:         </div> <div style="text-align: center;">  </div> </div>	
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture	<div style="display: flex; justify-content: space-between;"> <div>           Phone            845-876-2832 x317         </div> <div>           Date            10/30/2023         </div> </div>
Comments:	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>A. Steel Construction</b>	<b>Ch. 22</b>					
1. Material verification of high-strength bolts, nuts and washers.		x	AISC 360	1705.2 2204	<input type="checkbox"/>	
2. Inspection of high-strength bolting.	x	x	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3. Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AISC 341	1705.2 2203, 2205 1705.2 2207	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	051200
4. Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5. <b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6. Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7. Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input checked="" type="checkbox"/>	051200
a. Structural steel	x	x	AWS D1.1, D1.3	1705.2	<input checked="" type="checkbox"/>	051200
b. Reinforcing steel	x	x	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	
8. Inspection of steel frame joint details.		x		1705.2	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>		<b>Ch. 19</b>					
1.	Inspection of reinforcing steel, including prestressing tendons, and verify placement.		X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2.	Inspection of reinforcing steel bar welding.			ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3.	Inspection of anchors to be installed in concrete prior to and during placement.	X		ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4.	Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5.	Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X		ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6.	Inspection of placement for proper application techniques.	X		ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7.	Inspection for maintenance of specified curing temperature and techniques.		X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8.	Inspection of prestressed concrete.	X		ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9.	Erection of precast concrete members.		X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10.	Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.		X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11	Inspection of formwork		X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction				Ch. 21			
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD		BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>L1</b> = Level 1 Inspection required for nonessential facilities. <b>L2</b> = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.			ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602	1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>							
a. Proportions of site prepared mortar and grout.		X L1 & L2			1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.		X L1 & L2			1705.4 T 1705.3	<input checked="" type="checkbox"/>	42000
c. Location and placement of reinforcement, connectors, tendons, anchorages.		X L1 & L2			1705.45 2103.4 T 1705.3	<input checked="" type="checkbox"/>	42000
d. Prestressing technique.		X L1			1705.4	<input type="checkbox"/>	
Grout space prior to grouting.	X L2				1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.		X L1			1705.4	<input type="checkbox"/>	
Placement of grout.	X L2				1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.	X L2				1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>							
a. Size and location of structural elements.		X L1 & L2			1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.	X L2	X L1			1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.		X L1 & L2			1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.	X L1 & L2				1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.		X L1 & L2			1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.	X L2	X L1			1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>	X L2	X L1			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.	X L1				1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.	X L1 & L2				1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.		X L1 & L2			1704.5	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413/014100
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated Construction- Level 2 Alterations and greater</b> [ per BCNYS 106 ]	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<u>FCNYS 701.6</u> <u>BCNYS 703.7</u> <u>19CRR-NY XXXII</u>	<input checked="" type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District		Project Title	
Wappingers CSD		2023 District Wide renovations - Phase 2	
Building			
Sheafe Road Elementary School			
SED Project #		Project Address	
132101-06-0018-022		287 Sheafe Road, Wappingers Falls, NY 12590	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba):		Phone	Date
John Sharkey - Rhinebeck Architecture		845-876-2832 x317	10/30/2023
Comments:			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
A. Steel Construction		Ch. 22					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AICS 341	1705.2 2203, 2205 1705.2 2207	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	051200
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input checked="" type="checkbox"/>	051200
	a. Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input checked="" type="checkbox"/>	051200
	b. Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
	c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		X		1705.2	<input type="checkbox"/>	
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INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>		<b>Ch. 19</b>					
1. Inspection of reinforcing steel, including prestressing tendons, and verify placement.			X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2. Inspection of reinforcing steel bar welding.				ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3. Inspection of anchors to be installed in concrete prior to and during placement.	X			ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4. Verify use of required design mix.			X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5. Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X			ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6. Inspection of placement for proper application techniques.	X			ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7. Inspection for maintenance of specified curing temperature and techniques.			X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8. Inspection of prestressed concrete.	X			ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9. Erection of precast concrete members.			X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10. Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.			X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11. Inspection of formwork			X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction					Ch. 21					
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.					CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.							ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602 1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>										
a. Proportions of site prepared mortar and grout.						X L1 & L2		1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.						X L1 & L2		1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.						X L1 & L2		1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.						X L1		1705.4	<input type="checkbox"/>	
Grout space prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.						X L1		1705.4	<input type="checkbox"/>	
Placement of grout.					X L2			1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>										
a. Size and location of structural elements.						X L1 & L2		1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.					X L2	X L1		1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.						X L1 & L2		1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.					X L1 & L2			1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.						X L1 & L2		1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.					X L2	X L1		1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>					X L2	X L1		1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.					X L1			1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.					X L1 & L2			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.						X L1 & L2		1704.5	<input type="checkbox"/>	



INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated</b> <b>Construction- Level 2 Alterations and</b> <b>greater [ per BCNYS 106 ]</b>	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<u>FCNYS 701.6</u> <u>BCNYS 703.7</u> 19CRR-NY XXXII	<input checked="" type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide renovations - Phase 2	
Building Van Wyck Jr HS			
SED Project # 132101-06-0017-027		Project Address 10 Hillside Lake Road, Wappingers Falls, NY 12590	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/30/2023
Comments:			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
A. Steel Construction		Ch. 22					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AICS 341	1705.2 2203, 2205 1705.2 2207	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	051200
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input checked="" type="checkbox"/>	051200
	a. Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input checked="" type="checkbox"/>	051200
	b. Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
	c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		X		1705.2	<input type="checkbox"/>	
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INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>		<b>Ch. 19</b>					
1. Inspection of reinforcing steel, including prestressing tendons, and verify placement.			X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2. Inspection of reinforcing steel bar welding.				ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3. Inspection of anchors to be installed in concrete prior to and during placement.	X			ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4. Verify use of required design mix.			X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5. Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X			ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6. Inspection of placement for proper application techniques.	X			ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7. Inspection for maintenance of specified curing temperature and techniques.			X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8. Inspection of prestressed concrete.	X			ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9. Erection of precast concrete members.			X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10. Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.			X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11. Inspection of formwork			X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction					Ch. 21					
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.					CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.							ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602 1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>										
a. Proportions of site prepared mortar and grout.						X L1 & L2		1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.						X L1 & L2		1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.						X L1 & L2		1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.						X L1		1705.4	<input type="checkbox"/>	
Grout space prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.						X L1		1705.4	<input type="checkbox"/>	
Placement of grout.					X L2			1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>										
a. Size and location of structural elements.						X L1 & L2		1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.					X L2	X L1		1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.						X L1 & L2		1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.					X L1 & L2			1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.						X L1 & L2		1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.					X L2	X L1		1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>					X L2	X L1		1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.					X L1			1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.					X L1 & L2			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.						X L1 & L2		1704.5	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated</b> <b>Construction- Level 2 Alterations and</b> <b>greater [ per BCNYS 106 ]</b>	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<b><u>FCNYS 701.6</u></b> <b><u>BCNYS 703.7</u></b> <b>19CRR-NY XXXII</b>	<input checked="" type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <u>and</u> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide renovations - Phase 2	
Building Vassar Road Elementary School			
SED Project # 132101-06-0008-026		Project Address 174 Vassar Road, Poughkeepsie, NY 12603	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/23/2023
Comments: No Special Inspection Required			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
A. Steel Construction		Ch. 22					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AICS 341	1705.2 2203, 2205 1705.2 2207	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input type="checkbox"/>	
	a. Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input type="checkbox"/>	
	b. Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
	c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		x		1705.2	<input type="checkbox"/>	
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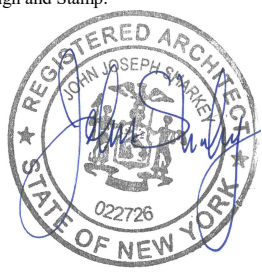


<b>INSPECTION AND TESTING</b> <b>Continuous &amp; Periodic is as Defined by the BCNYS-</b> <b>CHAPTER 17</b> <b>All reports to be submitted to the owners</b> <b>representative for use, approval and record.</b>	<b>CONTINUOUS</b>	<b>PERIODIC</b>	<b>REFERENCE STANDARD</b>	<b>BCNYS REFERENCE</b>	<b>CHECK IF REQUIRED</b>	<b>IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY</b>
<b>B. Concrete Construction</b> <span style="float: right;"><b>Ch. 19</b></span>						
1. Inspection of reinforcing steel, including prestressing tendons, and verify placement.		X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2. Inspection of reinforcing steel bar welding.			ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3. Inspection of anchors to be installed in concrete prior to and during placement.	X		ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4. Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5. Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X		ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6. Inspection of placement for proper application techniques.	X		ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7. Inspection for maintenance of specified curing temperature and techniques.		X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8. Inspection of prestressed concrete.	X		ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9. Erection of precast concrete members.		X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10. Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.		X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11 Inspection of formwork		X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction					Ch. 21					
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.					CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.							ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602 1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>										
a. Proportions of site prepared mortar and grout.						X L1 & L2		1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.						X L1 & L2		1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.						X L1 & L2		1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.						X L1		1705.4	<input type="checkbox"/>	
Grout space prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.						X L1		1705.4	<input type="checkbox"/>	
Placement of grout.					X L2			1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>										
a. Size and location of structural elements.						X L1 & L2		1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.					X L2	X L1		1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.						X L1 & L2		1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.					X L1 & L2			1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.						X L1 & L2		1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.					X L2	X L1		1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>					X L2	X L1		1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.					X L1			1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.					X L1 & L2			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.						X L1 & L2		1704.5	<input type="checkbox"/>	

INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resistance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input type="checkbox"/>	
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated Construction- Level 2 Alterations and greater</b> [ per BCNYS 106 ]	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	1705.17 1705.18  <b><u>FCNYS 701.6</u></b> <b><u>BCNYS 703.7</u></b> <b>19CRR-NY XXXII</b>	<input type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input type="checkbox"/>	
7. Other:					<input type="checkbox"/>	



 <b>NYS EDUCATION DEPARTMENT</b> <b>Office of Facilities Planning</b> <b>89 Washington Avenue, Room 1060 EBA</b> <b>Albany, NY 12234</b>		<b>STATEMENT OF SPECIAL INSPECTIONS AND TESTS</b> As required by the Building Code of NYS (2020 BCNYS) <i>Note: The code listings below are not to be considered all inclusive.</i>	
BCNYS § 1704.2.3 requires the NYS Licensed Design Professional (of record) to complete the Statement of Special Inspections and Tests. Completion of the Statement of Special Inspections & Tests, <b>and</b> ; Submission to the Office of Facilities Planning with the Construction Permit Application is a condition for issuance of the Building Permit.			
School District Wappingers CSD		Project Title 2023 District Wide Renovations - Phase 2	
Building Wappingers Jr High School			
SED Project # 132101-06-0004-036		Project Address 30 Major Macdonald Way, Wappingers Falls, NY 12590	
Architect/Engineer:			
Sign and Stamp: 			
A/E Firm (or Dba): John Sharkey - Rhinebeck Architecture		Phone 845-876-2832 x317	Date 10/30/2023
Comments:			

INSPECTION AND TESTING Continuous & Periodic as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
A. Steel Construction		Ch. 22					
1.	Material verification of high-strength bolts, nuts and washers.		X	AISC 360	1705.2 2204	<input type="checkbox"/>	
2.	Inspection of high-strength bolting.	X	X	AISC 360 ACI 318	1705.2 2204.2	<input type="checkbox"/>	
3.	Material verification of <b>Structural Steel. Open Web Steel Joist and Girders.</b> Basic protection of steel members, <b>Seismic Resistance</b>			AISC 360 ASTM A6, A514, A29 SJ100, 200 AICS 341	1705.2 2203, 2205 1705.2 2207	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	051200
4.	Spray Applied Fire Resistant Materials & Specialized Finishes			ASTM E605, E736	1705.14 1705.15	<input type="checkbox"/>	
5.	<b>Cold Formed Steel Construction-</b> load bearing. <b>Seismic Resistance</b>			AISI S100, S220, S240 ANSI/SDI -NC1.0, RD1.0, SDI-C, ASCE 7, 8 AISI S400	1704.2.5 2210 2211	<input type="checkbox"/> <input type="checkbox"/>	
6.	Material verification of weld filler materials.			AWS D1.1, D1.3	1705.2 2204.1	<input type="checkbox"/>	
7.	Inspection of welding:			ACI 318: 26.6.4	T 1705.3 2204	<input checked="" type="checkbox"/>	051200
	a. Structural steel	X	X	AWS D1.1, D1.3	1705.2	<input checked="" type="checkbox"/>	051200
	b. Reinforcing steel	X	X	AWS D1.1, D1.3	1705.3.1	<input type="checkbox"/>	
	c. Cold Formed Steel Deck			AISC S100, ASCE 7, 8	1705.2.2	<input type="checkbox"/>	

8. Inspection of steel frame joint details.		X		1705.2	<input type="checkbox"/>	
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INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.		CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>B. Concrete Construction</b>		<b>Ch. 19</b>					
1. Inspection of reinforcing steel, including prestressing tendons, and verify placement.			X	Ch. 21, 22 ACI 318; Ch 20, 25.2, 25.3, 26.6.1, 26.6.3 AISC 360	T 1705.3 1901 1905	<input type="checkbox"/>	
2. Inspection of reinforcing steel bar welding.				ACI 318, AWS D1.4	T 1705.3	<input type="checkbox"/>	
3. Inspection of anchors to be installed in concrete prior to and during placement.	X			ACI 318: 17.8.2, 17.8.2.4	T 1705.3	<input type="checkbox"/>	
4. Verify use of required design mix.			X	ACI 318: Ch. 19, 26.4.3, 26.4.4	T 1705.3 1904 1908	<input type="checkbox"/>	
5. Sampling fresh concrete: slump, air content, temperature, strength test specimens.	X			ASTM C172, C31 ACI 318: 26.5, 26.9, 26.10, 26.11	T 1705.3 1901 1905 1908	<input type="checkbox"/>	
6. Inspection of placement for proper application techniques.	X			ACI 318: 26.5	T 1705.3	<input type="checkbox"/>	
7. Inspection for maintenance of specified curing temperature and techniques.			X	ACI 318: 26.5	T 1705.3 1908 1909	<input type="checkbox"/>	
8. Inspection of prestressed concrete.	X			ACI 318: 26.10	T 1705.3	<input type="checkbox"/>	
9. Erection of precast concrete members.			X	ACI 318: 26.9	T 1705.3	<input type="checkbox"/>	
10. Verification of in-situ concrete strength prior to stressing of tendons and prior to removal of shores and forms from beams and slabs.			X	ACI 318: 26.11.2	T 1705.3	<input type="checkbox"/>	
11. Inspection of formwork			X	ACI 318: 26.11.1.2 (b)	T 1705.3	<input type="checkbox"/>	

C. Masonry Construction					Ch. 21					
INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS-CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.					CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
L1 = Level 1 Inspection required for nonessential facilities. L2 = Level 2 Inspection required for essential facilities. * In general, schools are not considered essential facilities unless they are a designated emergency shelter.							ASTM E119 UL 263 ASTM C1364 ASTM C1670 ASTM A706 ASCE 7, 8	TMS 402, 403, 404, 504, 602  1705.4 2101 1604		
1. <u>Verify to ensure compliance:</u>										
a. Proportions of site prepared mortar and grout.						X L1 & L2		1705.4 2103.2	<input type="checkbox"/>	
b. Placement of masonry units and construction of mortar joints.						X L1 & L2		1705.4 T 1705.3	<input type="checkbox"/>	
c. Location and placement of reinforcement, connectors, tendons, anchorages.						X L1 & L2		1705.45 2103.4 T 1705.3	<input type="checkbox"/>	
d. Prestressing technique.						X L1		1705.4	<input type="checkbox"/>	
Grout space prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
e. Grade and size of prestressing tendons and anchorages.						X L1		1705.4	<input type="checkbox"/>	
Placement of grout.					X L2			1705.4	<input type="checkbox"/>	
f. Grout specs prior to grouting.					X L2			1705.4	<input type="checkbox"/>	
2. <u>Inspection program shall verify:</u>										
a. Size and location of structural elements.						X L1 & L2		1704.5 1705.4	<input type="checkbox"/>	
b. Type, size, and location of anchors.					X L2	X L1		1705.4 T 1705.3	<input type="checkbox"/>	
c. Specified size, grade, and type of reinforcement.						X L1 & L2		1704.5	<input type="checkbox"/>	
d. Welding of reinforcing bars.					X L1 & L2			1704.5	<input type="checkbox"/>	
e. Cold/hot weather protection of masonry construction.						X L1 & L2		1704.5, 2104.3, 2104.4	<input type="checkbox"/>	
f. Prestressing force measurement and application.					X L2	X L1		1704.5	<input type="checkbox"/>	
3. <u>Verification accessory placement prior to grouting:</u>					X L2	X L1		1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
4. Grout placement.					X L1			1704.5	<input type="checkbox"/>	
5. Preparation of grout specimens, mortar specimens, and/or prisms.					X L1 & L2			1704.5, 2105.2.2, 2105.3	<input type="checkbox"/>	
6. Compliance with documents and submittals.						X L1 & L2		1704.5	<input type="checkbox"/>	



INSPECTION AND TESTING Continuous & Periodic is as Defined by the BCNYS- CHAPTER 17 All reports to be submitted to the owners representative for use, approval and record.	CONTINUOUS	PERIODIC	REFERENCE STANDARD	BCNYS REFERENCE	CHECK IF REQUIRED	IDENTIFY SPEC SECTION AND PROVIDE CLARIFYING NOTES IF NECESSARY
<b>D. Wood Construction</b> <span style="float: right;"><b>Ch. 23</b></span>						
1. Fabrication process of prefabricated <b>Wood Structural Elements</b> and assemblies.		X	Ch. 16 AWC, APA, CPA, DOC PS1, PS2	1704.6, 1705.5 2302, 2303 2304	<input type="checkbox"/>	
2. High-load diaphragms <b>Seismic Resistance</b>		X		1704, 1705, 1704.6 2304, 2305 2306, 2307, 2308	<input type="checkbox"/>	
<b>E. Soils</b> <span style="float: right;"><b>Ch. 18</b></span>						
1. Geotechnical Investigations, Excavations, Grading, Fill Damp-proofing/ Water-Proofing		X	ASTM, NYS DOT OSHA Appendix J- BCNYS	1704, 1706 1803, 1804, 1805	<input type="checkbox"/>	
2. <b>Flood &amp; Stormwater Hazards</b> [ per BCNYS 106 ]		X	<u>Local Highway Authority</u> <u>Flood Plain Admin.</u> Appendix G- BCNYS	1703 1610, 1611, 1612 1805.1.2.1	<input type="checkbox"/> <input type="checkbox"/>	
<b>F. Specialized Foundations- Piers, Piles</b> <span style="float: right;"><b>Ch. 16</b></span>						
1. Deep Foundation Elements: Driven Piles Cast in Place Helical Piles		X		T 1705.7 T 1705.8 1705.7 1705.8 1705.9	<input type="checkbox"/>	
<b>G. Exterior Wall Coverings</b> <span style="float: right;"><b>Ch. 14</b></span>						
1. Exterior Insulation and Finish Systems (EIFS) MCM, HPL, Other Combustible Materials		X	ASTM E2568, E2273, E2570 E2393, E84 Ch. 16 NFPA 268, 275, 285, 286	1405, 1406, 1407, 1408 1704.2, 1705.12.5 1705.16	<input type="checkbox"/>	
<b>H. Misc.</b>						
1. Access Floors and Storage Racks Other Architectural, MEP Components <b>Seismic Resitance</b>		X		1705.12	<input type="checkbox"/>	
2. In-Situ Testing		X		1604.6, 1708	<input type="checkbox"/>	
3. Pre-Construction Load Testing		X		1604.7, 1709	<input type="checkbox"/>	
4. Fire Resistant Penetrations & Joints Fire Stops Testing for Smoke Control		X	Ch. 7 ASTM E119 UL 263	1705.17 1705.18	<input checked="" type="checkbox"/>	078413
5. <b><u>Pre-Submission:</u></b> <b>Inventory of all Fire-Resistant-Rated</b> <b>Construction- Level 2 Alterations and</b> <b>greater [ per BCNYS 106 ]</b>	X		verification required EBCNYS Ch. 3 C. of E. 155 Regulations.	<u>FCNYS 701.6</u> <u>BCNYS 703.7</u> 19CRR-NY XXXII	<input checked="" type="checkbox"/>	
6. <b><u>Pre-Submission:</u></b> <b>Hazardous Material Survey</b> <b>Water Quality Survey</b>	X X		verification required <u>ACM Letter- Certificate</u> C. of E. 155 Regulations.	US-EPA NYS-DOH	<input checked="" type="checkbox"/>	
7. Other:					<input type="checkbox"/>	

CS	Cover Sheet with Index of Drawings	
A-001	Architectural Symbols/Legend/Abbreviations, Partition Types, Door Schedule and Finish Schedule	
A-002	Door and Frame Details, Window Elevations & Details	
A-003	Details, Soffits and Chases, Miscellaneous Details	
AA-000	Asbestos Abatement Notes	
WCSD-P001	Plumbing Symbols Notes and Abbreviations	
WCSD-P002	Plumbing Details	
WCSD-P801	Plumbing Schedules	
WCSD-M001	Mechanical Symbols, Notes and Abbreviations	
WCSD-M002	Mechanical Details	
WCSD-M003	Mechanical Details	
WCSD-M004	Mechanical Details	
WCSD-M005	Mechanical Details	
WCSD-M601	Mechanical Diagrams and Schedules	
WCSD-M801	Mechanical Schedules	
WCSD-M802	Mechanical Schedules	
WCSD-E001	Electrical Symbols, Notes and Abbreviations	
WCSD-E002	Electrical Details	
WCSD-E801	Electrical Schedules	
RK AA 100	Roy C. Ketcham HS First Floor Asbestos Abatement Plan	
RK AA 200	Roy C. Ketcham HS Second Floor Asbestos Abatement Plan	
RK A100.1	Roy C. Ketcham HS First Floor Plan	
RK A100.2	Roy C. Ketcham HS Second Floor Plan	
RK A101	Roy C. Ketcham HS Ceramics Classroom 236 Plans and Details	
RK A102	Roy C. Ketcham HS Art Classroom 243 Plans and Details	
RK A103	Roy C. Ketcham HS Auditorium Toilet Rooms Plans and Details	
RK P101	Roy C. Ketcham HS Plumbing Ceramics Class #236, Art Class #243	
RK P102	Roy C. Ketcham HS Auditorium Toilet Rooms	
RK P201	Roy C. Ketcham HS Plumbing Ceramics Class #236, Art Class #243	
RK P202	Roy C. Ketcham HS Auditorium Toilet Rooms	
RK M101	Roy C. Ketcham HS Mechanical Ceramics Class #236, Art Class #243	
RK M102	Roy C. Ketcham HS Mechanical Auditorium Toilet Rooms	
RK E101	Roy C. Ketcham HS Power Ceramics Class #236, Art Class #243	
RK E102	Roy C. Ketcham HS Lighting Ceramics Class #236, Art Class #243	
RK E103	Roy C. Ketcham HS Power and Lighting Auditorium Toilet Rooms	
JJ AA 100	John Jay HS First Floor Asbestos Abatement Plan	
JJ A-100	John Jay HS First Floor Plan	
JJ A-101	John Jay HS Ceramics Classroom 166 Plans and Interior Elevations	
JJ-A-102	John Jay HS Art Classroom 164 Plans and Interior Elevations	
JJ-P101	John Jay HS Plumbing Ceramics Classroom #166	
JJ-E101	John Jay HS Power Classroom #164, Classroom #166	

JJ-E102	John Jay HS Lighting Classroom #164, Classroom #166	
VW AA 100	Van Wyck Jr. HS First Asbestos Abatement Plan West	
VW AA 101	Van Wyck Jr. HS First Floor Asbestos Abatement Plan East	
VW AA 200	Van Wyck Jr. HS Second Floor Asbestos Abatement Plan	
VW A-100.1	Van Wyck Jr. HS First Floor Code Compliance Plan	
VW A-100.2	Van Wyck Jr. HS Second Floor Code Compliance Plan	
VW A-101	Van Wyck Jr. HS First Floor Plan West	
VW A-102	Van Wyck Jr. HS First Floor Plan East	
VW A-103	Van Wyck Jr. HS Second Floor Plan	
VW A-104	Van Wyck Jr. HS First Floor Plan West Reflected Ceiling Plan	
VW A-105	Van Wyck Jr. HS First Floor Plan East Reflected Ceiling Plan	
VW A-106	Van Wyck Jr. HS Second Floor Plan Reflected Ceiling Plan	
VW MD 101	Van Wyck Jr. HS First Floor Demolition Mechanical Plan West	
VW MD 103	Van Wyck Jr. HS First and Second Floor Demolition Mechanical Plan	
VW MD 104	Van Wyck Jr. HS Roof Demolition Mechanical Plan West	
VW MD 200	Van Wyck Jr. HS Basement Level Demolition Hydronic and Steam Partial Plans	
VW MD 201	Van Wyck Jr. HS First Floor Demolition Hydronic and Steam Plan West	
VW MD 202	Van Wyck Jr. HS First Floor Demolition Hydronic and Steam Plan East	
VW MD 203	Van Wyck Jr. HS Second Floor Demolition Hydronic and Steam Plan	
VW M 101	Van Wyck Jr. HS First Floor Mechanical New Work Plan West	
VW M 103	Van Wyck Jr. HS First and Second Floor New Work Mechanical Plan	
VW M 104	Van Wyck Jr. HS Roof New Work Mechanical Plan West	
VW M 200	Van Wyck Jr. HS Basement Level New Work Hydronic and Steam	
VW M 201	Van Wyck Jr. HS First Floor Hydronic and Steam Plan West	
VW M 202	Van Wyck Jr. HS First Floor Hydronic and Steam Plan East	
VW M 203	Van Wyck Jr. HS First and Second Floor Hydronic and Steam Plan	
VW M 204	Van Wyck Jr. HS Roof New Work Gas & Condensate Plan West	
VW M 401	Van Wyck Jr. HS First Floor Enlarged Mechanical Plans	
VW M 402	Van Wyck Jr. HS First Floor Enlarged Mechanical Plans, Details & Schematics	
VW ED 101	Van Wyck Jr. HS First Floor Demolition Power Plan West	
VW ED 102	Van Wyck Jr. HS First Floor Demolition Power Plan East	
VW ED 103	Van Wyck Jr. HS First and Second Floor Power Plan West	
VW ED 104	Van Wyck Jr. HS Roof Demolition Power Plan West	
VW ED 201	Van Wyck Jr. HS First Floor Demolition Lighting Plan West	
VW ED 202	Van Wyck Jr. HS First Floor Demolition Lighting Plan East	
VW ED 203	Van Wyck Jr. HS Second Floor Demolition Lighting Plan	
VW E 100	Van Wyck Jr. HS Basement Level Demolition, New Work Electrical Plan	
VW E 101	Van Wyck Jr. HS First Floor New Work Power Plan West	
VW E 102	Van Wyck Jr. HS First Floor New Work Power Plan East	
VW E 103	Van Wyck Jr. HS First and Second Floor New Work Power Plan	

VW E 104	Van Wyck Jr. HS Roof New Work Power Plan West	
VW E 201	Van Wyck Jr. HS First Floor New Work Lighting Plan West	
VW E 202	Van Wyck Jr. HS First Floor New Work Lighting Plan East	
VW E 203	Van Wyck Jr. HS Second Floor New Work Lighting Plan	
VW E 601	Van Wyck Jr. HS One Line Diagrams	
VW E 801	Van Wyck Jr. HS Schedules	
WJ AA 100	Wappingers Junior High Second Floor Asbestos Abatement Plan	
WJ A100	Wappingers Junior High School Floor Plan	
WJ A101	Wappingers Junior High School Home & Careers Room #246 Plans & Interior Elevations	
WJ M P101	Wappingers Junior High School Sanitary & Domestic Water Home & Careers #246 Plan	
WJ M 101	Wappingers Junior High School Ductwork Home & Careers #246 Plan	
WJ M 102	Wappingers Junior High School New Work Roof Mechanical Plan	
WJ E 101	Wappingers Junior High School Power & Lighting Home & Careers #246 Plan	
FE A-100	Fishkill ES Floor Plans	
FE E-101	Fishkill ES New Work Power Floor Plans	
FE E-801	Fishkill ES Electrical Schedules	
SR A-100	Sheafe Road ES Floor Plan	
SR MD 101	Sheafe Road ES Demolition Mechanical Floor and Partial Roof Plans	
SR MD 401	Sheafe Road ES Demolition Mechanical Section Plans	
SR M 101	Sheafe Road ES New Work Mechanical Floor and Partial Roof Plans	
SR M 401	Sheafe Road ES New Work Mechanical Section Plans	
SR ED 101	Sheafe Road ES Demolition Electrical Floor Plan & Partial Roof Plan	
SR E 101	Sheafe Road ES New Work Electrical Floor Plan & Partial Roof Plan	
SR E 801	Sheafe Road ES Electrical Schedules	
VR A-100	Vassar Road ES Floor Plan	
VR MD 101	Vassar Road ES Demolition Mechanical Floor Plan	
VR M 101	Vassar Road ES New Work Mechanical Floor Plan	
VR ES 101	Vassar Road ES New Work Site Power Plan	
VR ED 101	Vassar Road ES Demolition Power Floor Plan	
VR E 101	Vassar Road ES New Work Power Floor Plan	
VR E 701	Vassar Road ES Electrical Details	
MG A-100	Main Garage No. 1 Demolition Plan	
MG A-101	Main Garage No. 1 Floor Plan	
MG A-102	Main Garage No. 1 Reflected Ceiling Plan	
MG A-201	Main Garage No. 1 Exterior Elevations and Details	
MG A-202	Main Garage No. 1 Details	
MG PD-101	Main Garage No. 1 Demolition Sanitary Floor Plan	

MG PD-201	Main Garage No. 1 Demolition Domestic Water Floor Plan	
MG P-101	Main Garage No. 1 New Work Sanitary Floor Plan	
MG P-201	Main Garage No. 1 New Work Domestic Water Floor Plan	
MG P-601	Main Garage No. 1 Risers	
MG MD-101	Main Garage No. 1 Demolition Mechanical Floor Plan	
MG MD-201	Main Garage No. 1 Demolition Natural Gas & Steam Floor Plan	
MG M-101	Main Garage No. 1 New Work Mechanical Floor Plan	
MG M-201	Main Garage No. 1 New Work Natural Gas & Steam Floor Plan	
MG ED-101	Main Garage No. 1 Demolition Power First Plan	
MG ED-201	Main Garage No. 1 Demolition Lighting Floor Plan	
MG E-101	Main Garage No. 1 New Work Power Floor Plan	
MG E-201	Main Garage No. 1 New Work Lighting Floor Plan	
MG E-601	Main Garage No. 1 One Line Diagrams	
MG E-801	Main Garage No. 1 Schedules	

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1\_ RELATED DOCUMENTS

- A. Drawings and general provisions of each prime contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of but is not limited to District Wide General Work, Mechanical and Electrical renovations, asbestos removals as indicated on the drawings and in the Project Manual.

1. Project Locations:
- |  |  |
|--|--|
| Roy C. Ketcham High School (RCK)         | 99 Myers Corners Road, Wappingers Falls, NY  |
| John Jay High School (JJ)                | 2012 Route 52, Hopewell Junction, NY         |
| Wappingers Jr High School                | 30 Major MacDonald Way, Wappingers Falls, NY |
| Fishkill Elementary School (FE)          | 20 Church Street, Fishkill, NY               |
| Sheafe Road Elementary School (SR)       | 287 Sheafe Road, Wappingers Falls, NY        |
| Vassar Road Elementary School (MC)       | 174 Vassar Road, Poughkeepsie, NY            |
| Main Garage No. 1/Transportation Offices | Major MacDonald Way, Wappingers Falls, NY    |

2. Owner: Wappingers Central School District.

- B. Contract Documents, dated October 30, 2023 were prepared for the Project by Rhinebeck Architecture.

#### 1.3 CONTRACTS

- A. The Project will be constructed under five (5) Contracts as follows:

General Work – GW.2  
Plumbing Work P.2  
HVAC Work – HVAC.2  
Electrical Work – E.2:  
Hazardous Materials Abatement – HM.2

- B. Project will be constructed under multiple prime contracts as noted above in accordance with Public Bidding and Construction Laws. Prevailing wages will be required. Refer to Division One Section “Multiple Contract Summary” for additional Contract Scope information.

#### 1.4 WORK BY OWNER

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

#### 1.5 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

#### 1.6 OWNER-FURNISHED PRODUCTS

- A. Owner will furnish products indicated. The Work includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products and making building services connections.
- B. Owner-Furnished Products:
  - 1. See Division One Section “Multiple Contract Summary” for Scopes of Work for Each Contract.

#### 1.5 PRIME CONTRACTOR’S USE OF PREMISES

- A. General: During the construction period the prime Contractor shall have use of the premises for construction operations, including use of the site. Each prime contractor’s use of the premises is limited only by the Owner’s right to perform work or retain other contractors on portions of the Project.
- B. Use of the Site: Limit use of the premises to work in areas indicates. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
- C. Owner Occupancy: Allow for Owner occupancy and use by the public.
  - 1. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner’s employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
  - 2. Maintain access to existing exits, walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
    - 1. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
- D. Use of the Existing Buildings: Maintain the existing buildings in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the buildings and its occupants during the construction period.

#### 1.6 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy portions of the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner’s operations.
  - 1. The Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner occupancy.

#### 1.6 SECURITY PROVISIONS

1. All Contractors' employees shall use a single means of access and egress, except in the case of emergency, to be designated by the Owner/Architect.

1. Each Contractor and each Subcontractor shall require his employees, while on the job site, to wear, in a conspicuous location, a Photo I.D. button bearing the name of the Contractor. The buttons of each Contractor shall be numbered consecutively. An up-to-date list of all I.D. buttons, indicating the name and number for each employee, shall be furnished to the Owner.

#### 1.7 ASBESTOS AND LEAD PAINT AWARENESS REQUIREMENTS

- A. Contractor agrees not to use or permit the use of any asbestos containing material in or on any property belonging to the Owner.
- B. For purposes of this requirement, asbestos free shall mean free from all forms of asbestos, including - actinolite, amosite, anthrophyllite, chrysotile, cricidolite and tremolite, both in friable and non-friable states and without regard to the purposes for which such material is used.
- C. Hazardous Materials have been identified to be present in certain portions of the project. Refer to Information Available to Bidders Section and the Abatement Specifications sections for additional information.

#### 1.8 CONSTRUCTION TIME AND PHASING REQUIREMENTS

- A. The Contractor is advised the “time is of the essence” of the Contract as defined in Article 8 of the “General Conditions” for the completion of the construction of the facility. It is understood that the work is to be carried through to completion with the utmost speed consistent with good workmanship. Further, safe and legal ingress and egress shall be maintained at all times to and through the occupied portions of the construction site.
- B. All work and storage areas shall be completely enclosed by a fence or barricade at all times so that no student or the public can approach the area or the equipment.
- C. Should work not be complete prior to Substantial Completion date, remaining work shall be done after school hours and on weekends at no additional cost to the Owner. Temporary partitions, protection and enclosures will be provided per the contract drawings at no additional cost to the Owner.

#### 1.9 FIELD MEASUREMENTS

- A. Each Respective Contractor shall take all necessary field measurements prior to fabrication and installation of work and shall assume complete responsibility for accuracy of same.
- B. This project is a renovation and therefore necessitates additional attention to existing conditions receiving newly fabricated and installed equipment, i.e. note the requirements for field dimensioning of shop fabricated items whether or not so required by each technical section.

#### 1.10 ADDITIONAL REQUIREMENTS



- A. The following are additional general and special requirements which will govern the work of the project covered by these Documents.
1. If it appears that some of the work cannot be completed by the scheduled date, the Contractor shall increase the work force or increase the hours of work, including evenings and weekends or necessary, at no additional cost to the Owner.
  2. If the work is complete but the area is not cleaned and debris or equipment is not removed, the Owner shall have the right to prepare the area for occupancy with his own forces and deduct the costs from the Contract Amount. (If Contractor does not respond within 24 hours' notice).
  3. If the Contractor fails to staff the job adequately to meet the completion date, the Owner reserves the right to assume possession of the material and complete installation with the Owner's forces or other Contractors or to require the Contractor to work evenings and weekends.
  4. The contractor shall be responsible for temporary protection of the existing buildings during the work of this contract. Temporary protection requirements are indicated in the contract documents.
  5. In addition to the above-stated requirements for phasing of the work, the Contractors shall not perform noisy or disruptive work in areas where examinations will be conducted as scheduled by the District's published school calendar.
  6. Work in each work period shall progress at a pace in proportion to the Contract time available.
  7. The Contractor is responsible for temporary protection of all work until acceptance.
  8. The school will be closed on Saturdays, Sundays, regularly schedules district holidays, and at night after cleaning crews have finished.
  9. If any contractor wishes to work at any time when the school is normally closed, that Contractor shall arrange and pay for custodial services for the building at the applicable district pay rates.
  10. All existing conditions must be verified in the field. The Owner takes no responsibility for actual conditions found deviating from the drawings. If existing condition interferes with contract work, contractor is responsible to eliminate this condition.
  11. Contractor must plan, provide and maintain his own access, ramping, and egress as required into and out of the site, staging of trailer(s), materials, machinery, and equipment in agreement with the Owners representative. Maintain free and safe access on the jobsite for other related project personnel. Maintain safe pedestrian or vehicular traffic must be regulated by a flagman. Trucking and delivery operation should be coordinated with Owner. Contractor personnel must be on site to accept delivery.
  12. Contractor shall limit his operations including storage of materials and prefabrication to areas within the Contract Limit Lines unless otherwise permitted by the Owner.
  13. Contractor shall obtain and pay for the use of additional storage of work areas needed for operations.

14. Contractor shall assume full responsibility for the protection and safekeeping of products under this Contract stored on the site and shall insure their security.
15. Contractor shall submit a three-week schedule (man-loaded by work activity and area) each week. Contractor's representative shall attend a weekly meeting with all contractors, chaired by Owners representative, for the purpose of job coordination and sequencing.
16. Sufficient manpower shall be provided at all times to maintain progress of the job. A shortage of labor in the industry shall not be accepted as an excuse for not properly manning the job.
17. The contractor shall take special care in verifying that his equipment matches the characteristics of the power being supplied.
18. Insubordination, unsafe practices, horseplay, abusive behavior or language, wanton destruction of property, use of drugs or alcohol, possession of firearms, and solicitation shall not be tolerated. There will be no warnings, and Contractor shall designate a responsible on-site supervisor to handle any situations that may arise, including termination.
19. Each contractor is responsible to supply and install all wood blocking/bracing necessary to properly secure their work. This responsibility includes coordinating the installation in concealed areas without delaying other trades.
20. Union business shall not be conducted on site. Any Union representatives that visit the site must declare what Contractor's personnel they represent, and must be escorted by that Contractor's Union steward at all times. No visitors, sales representative or non-working personnel shall be permitted on site without prior consent of the Owners representative. No photographs shall be taken without the Owner's prior approval.
21. Organize daily clean ups, Contractors that do not clean-up will have their contract amount adjusted accordingly to cover Owners cost to self perform clean up.
22. Contractor shall provide protection from damage to adjacent and adjoining work and/or structures. Contractor shall clean, repair and/or replace any damage for which this contractor is responsible.
23. Contractor shall submit hourly rate sheets that would apply to time and material work for all pertinent trades upon Award of Contract.
24. Contractor shall examine surfaces and conditions prior to start of work. Report unacceptable conditions to the Owners representative. Do not proceed until unacceptable conditions are corrected and acceptable. Starting of work implies acceptance.
25. Building security and weather protection is the responsibility of the contractor during the execution of his contract.
26. Contractor shall coordinate with the Owner's representative for lay down areas, staging areas, and overall use of project site.
27. All contractors and their employees, subcontractors and supplier are expressly prohibited from

entering the occupied areas of the school buildings during school hours without prior written permission of the Owner and for using any of its facilities.

28. On-Site Work Hours: Limit work to normal business working hours of 7 a.m. to 6 p.m., Monday through Friday, unless otherwise indicated.

29. Weekend Hours: arrange for prior Owner approval for work on weekends.

30. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted and then only after providing temporary utility services according to requirements indicated:

- a. Notify Owner not less than two days in advance of proposed utility interruptions.
- b. Obtain Owner's written permission before proceeding with utility interruptions.

31. 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. Notify Owner not less than two days in advance of proposed disruptive operations.

32. Nonsmoking Building: Smoking is not permitted within the building or on any site owned or controlled by the Wappingers Central School District, including all project areas.

END OF SECTION 011000

## SECTION 011200 - MULTIPLE CONTRACT SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls. Contractors are required to review all Contract Documents, Specifications and Scopes of Work below for work pertaining to each contract.
- B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.
- C. Related Requirements:
  - 1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, phased construction, coordination with occupants, and work restrictions.
  - 2. Section 013100 "Project Management and Coordination" for general coordination requirements.

#### 1.3 PROJECT COORDINATION ACTIVITIES BY DISTRICT

- A. The District shall provide the following coordination activities:
  - 1. Coordinate shared access to workspaces, District property and facilities.
  - 2. Approve location of temporary facilities and controls.
  - 3. Review and approve scheduled 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 and separate contracts.

#### 1.4 PROJECT COORDINATION ACTIVITIES BY CONTRACTORS

- A. Each Contractor shall coordinate sequencing and scheduling of the Work. Include the following:
  - 1. Initial Coordination Meeting: At earliest possible date, attend a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
  - 2. Prepare a construction schedule for Contract Work.. Base schedule on Phasing Schedule. Secure time commitments for performing critical construction activities.
  - 3. Provide photographic documentation.
  - 4. Coordinate quality-assurance and quality-control services specified in Section 014000 "Quality Requirements."
  - 5. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
  - 6. Coordinate information necessary to adjust, move, or relocate existing utility structures affected by construction.
  - 7. Coordinate cutting and patching.
  - 8. Coordinate protection of the Work.
  - 9. Coordinate firestopping.
  - 10. Coordinate completion of punch list items.

## 1.5 GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each 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 contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
  2. Trenches and other excavation for the work of each contract shall be the work of each contract for its own work.
  3. Blocking, backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
  4. 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.
  5. Equipment pads for the work of each contract shall be the work of each contract for its own work.
  6. Roof-mounted equipment curbs and their installation for the work of each contract shall be the work of each contract for its own work.
  7. Painting for the work of each contract shall be the work of each contract for its own work.
  8. Cutting, Patching and restoration of existing finishes: Provided under each contract for its own work.
  9. Through-penetration firestopping for the work of each contract shall be provided by each contract for its own work.
  10. Contractors' Startup Construction Schedule: Within five working days after receiving authorization to proceed, submit a startup horizontal bar-chart schedule showing construction operations sequenced and coordinated with overall construction.
  11. Each contractor shall be responsible to mark out locations of attachments to surfaces identified as containing hazardous materials for the abatement contractor to install anchors or remove paint from the area as noted.
- B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.
- C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "Temporary Facilities and Controls," each contractor is responsible for the following:
1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.
  2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
  3. Its own field office, complete with necessary furniture, utilities, and telephone service if required.
  4. Its own storage and fabrication sheds.
  5. Temporary enclosures for its own construction activities.
  6. Staging and scaffolding for its own construction activities.
  7. General hoisting facilities for its own construction activities.
  8. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
  9. Progress cleaning of work areas affected by its operations on a daily basis.
  10. Secure lockup of its own tools, materials, and equipment behind 6 foot high chain link construction fencing.
  11. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

12. Each contractor shall provide its own sanitary facilities. Use of school facilities is not allowed.

## 1.6 GENERAL WORK CONTRACT #GW.2

- A. In addition to the General Requirements, Divisions 0 and 1, each Contract included in this bid package shall provide for proper completion of the work as indicated on all drawings and in accordance with the terms and conditions described in the following specification sections:

DIVISION 2 – EXISTING CONDITIONS  
024119 SELECTIVE DEMOLITION

DIVISION 3 - CONCRETE  
033000 CAST-IN-PLACE CONCRETE (AS IT RELATES TO THIS SCOPE)

DIVISION 4 - MASONRY  
042000 UNIT MASONRY

DIVISION 5 – METALS  
051200 STRUCTURAL STEEL  
05400 COLD FORM METAL FRAMING  
055000 METAL FABRICATIONS

DIVISION 6 - WOOD AND PLASTICS  
061000 ROUGH CARPENTRY  
062023 INTERIOR FINISH CARPENTRY  
064116 PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS AND COUNTERTOPS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION  
072124 THERMAL INSULATION  
074213.19 INSULATED METAL WALL PANELS  
075323 EPDM ROOFING  
077100 MANUFACTURED ROOF SPECIALTIES  
078413 PENETRATION FIRESTOPPING  
079200 JOINT SEALANTS

DIVISION 8 - DOORS AND WINDOWS  
081113 HOLLOW METAL DOORS AND FRAMES  
081416 FLUSH WOOD DOORS  
081613 FIBERGLASS ENTRY DOORS  
081743 FRP FLUSH DOORS AND FRAMES  
083113 ACCESS DOORS  
083613 SECTIONAL DOORS  
085500 ALUMINUM CLAD WOOD WINDOWS  
087100 DOOR HARDWARE  
088000 GLAZING

DIVISION 9 - FINISHES  
092600 GYPSUM BOARD ASSEMBLIES  
093013 CERAMIC TILE  
095110 ACOUSTICAL PANEL CEILINGS  
096519 RESILIENT TILE FLOORING AND BASE  
096773 RESINOUS FLOORING  
099000 PAINTING

DIVISION 10 - SPECIALTIES

101100 VISUAL DISPLAY BOARDS  
101419 DIMENSIONAL LETTER SIGNAGE  
102113 PLASTIC TOILET COMPARTMENTS  
102800 TOILET AND BATH ACCESSORIES  
105220 FIRE PROTECTION SPECIALTIES

DIVISION 11 - EQUIPMENT

113100 RESIDENTIAL APPLIANCES.

Temporary facilities and controls in the General Construction Contract include, but are not limited to the following:

1. Unpiped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
2. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
3. General waste disposal facilities.
4. Pest control.
5. Temporary fire-protection facilities.
6. Barricades, warning signs, and lights.
7. Site enclosure fence related to this scope of work.
8. Security enclosure and lockup.
9. Environmental protection.
10. Restoration of Owner's existing facilities used as temporary facilities.

B. Work in the General Work Contract includes, (furnish and install unless otherwise noted) but is not limited to, the following:

1. Include all General Work etc.
2. Include any cutting, core drilling, removals and patching, caulking, firestopping as required to complete your work unless otherwise noted.
3. Include removal and re-installation of any existing construction as required to install new work including ceilings and temporary support of light fixtures, smoke detectors etc. Removal all ceilings in areas scheduled to receive new ceilings.
4. Include demolition of toilet room chase walls at RCK boys and girls toilet rooms. Asbestos contractor will open sections of wall to inspect for hazardous materials.
5. Include supply and install of foundation vent infill panels at Van Wyck per Note #6 on drawing VW A-101.
6. Include removal and disposal of all existing classroom casework and upper cabinets down to base framing in rooms identified as having asbestos containing floor tile. Remove all casework complete in other areas as identified on the demolition plan. Asbestos contractor will remove and dispose of all base framing attached to VAT floors.
7. This contract to repair/patch paint walls at all locations where existing casework is removed and not covered with new casework.
8. Sawcut and patch/repair, concrete slab on grade at RCK auditorium toilet rooms, RCK Art classroom #243 and RCK Ceramics Room #236, John Jay ceramics classroom #166 and Main Garage #1 as required for plumber to install floor drain and piping. P.2 Plumbing contract will provide piping, bedding and backfill material to underside of slab including compaction.
9. Sawcut and patch/repair, concrete slab on grade RCK Ceramics Room #236 as required for electrician to install conduit to clay stations. E.2 Electrical contract will provide conduit, bedding and backfill material to underside of slab including compaction.
10. This contract to provide all steel supports for rooftop mounted equipment including RTU's, VRV, ERV units, exhaust fans etc. per details as shown on Architectural Drawing A-003. Provide layouts for confirmation with HVAC contractor. HVAC contractor to lay out openings for GW contractor to cut deck and roof openings. GW contractor to flash all equipment and curbs into

existing roofing systems. Roofs are all under warranty with the exception of Sheafe Road and Wappingers Junior High School. See drawing VW M-104, WJ M-102, SR M-101 and TO M-201 for locations of rooftop equipment.

11. Include CFMF chases as shown on detail A-1/A-003 & D-1/A-003 for Van Wyck JHS HVAC duct chases. Coordinate access panel locations at floor fire dampers with HVAC contract. HVAC contract will supply panels, this contract will install.
12. Provide all new wall steel box louvers per detail a-10/A-003.
13. Include new crawl space floor hatch in existing opening at RCK boys room as shown on detail F-14/ RK A-103.
14. Include removal of mudset wall and floor tile in RCK toilet room in preparation from new tile. Provide flash patching and slope to drain to meet drain and threshold elevations.
15. Include installation of access panels provided by MEP contractors.
16. Include cutting opening in exterior wall at Sheafe Road for new rooftop ductwork per detail L-9/SR A-100.
17. Provide all roofing work associated with EPDM flashing of new rooftop curbs. Provide 6" new 2 x 4 blocking at each new curb from deck to roof. Provide (1) pitch pocket at each piece of rooftop equipment except for exhaust fan locations. Include also the following: flashing of (2) plumbing vents at Main Garage, flashing of (2) goose neck roof penetrations at Vassar Road using pre-fabricated EPDM boots.
18. Include temporary relocation of kiln units as required to complete work in rooms and relocation to new location in room.
19. Included small aggregate infill at Main Garage recessed floor area. Coordinate pitch with new floor drains in toilet rooms.
20. Exclude: Work identified under other contracts.

## 1.7 PLUMBING WORK CONTRACT #P.2

- A. In addition to the General Requirements, Divisions 0 and 1, each Contract included in this bid package shall provide for proper completion of the work as indicated on all drawings and in accordance with the terms and conditions described in the following specification sections:

### **DIVISION 22 - PLUMBING**

220500	COMMON WORK RESULTS FOR PLUMBING
220523	GENERAL-DUTY VALVES FOR PLUMBING PIPING
220700	PLUMBING INSULATION
221116	DOMESTIC WATER PIPING
221123	DOMESTIC WATER PUMPS
221316	SANITARY WASTE AND VENT PIPING
221319	SANITARY WASTE PIPING SPECIALTIES
223300	ELECTRIC DOMESTIC WATER HEATERS
224000	PLUMBING FIXTURES

- A. Temporary facilities and controls in the Window Work Contract include, but are not limited to the following:
1. General waste disposal facilities.
  2. Pest control.
- B. Work in the Plumbing Work Contract includes, (furnish and install unless otherwise noted) but is not limited to, the following:
1. Include all Plumbing Work as shown on drawings.
  2. Provide sink templates to GC for cutting of casework countertops.
  3. GW.2 General Work contractor will cut concrete slabs on grade for installation of underslab piping shown on drawings. The contract will provide piping/bedding and backfill material to underside of concrete.



4. Plumbing work contractor to provide sanitary connection from Main Garage #1 from building to exterior structure as shown on documents including sawcutting of asphalt, back fill/compaction and new asphalt patch.
5. Include supply and installation on art/ceramic room counter and free standing sinks.
6. Provide access panels to GW contractor for installation where required.
7. Provide (6) additional roof pitch pockets in base contract for Van Wyck roof not shown on drawings.
8. Exclude: Work identified under other contracts.

## **1.8 HVAC WORK CONTRACT # HVAC.2**

- A. In addition to the General Requirements, Divisions 0 and 1, each Contract included in this bid package shall provide for proper completion of the work as indicated on all drawings and in accordance with the terms and conditions described in the following specification sections:

024119 SELECTIVE DEMOLITION  
230130 CLEANING AIR CONVEYANCE SYSTEM COMPONENTS  
230500 COMMON WORK RESULTS FOR HVAC  
230513 COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT  
230516 EXPANSION FITTINGS AND LOOPS FOR HVAC PIPING  
230517 SLEEVES AND SLEEVE SEALS FOR HVAC PIPING  
230518 ESCUTCHEONS FOR HVAC PIPING  
230519 THERMOMETERS AND GAGES FOR HVAC PIPING  
230523 GENERAL-DUTY VALVES FOR HVAC PIPING  
230529 HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT  
230548 VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT  
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT  
230593 TESTING, ADJUSTING, AND BALANCING FOR HVAC  
230713 DUCT INSULATION  
230716 HVAC EQUIPMENT INSULATION  
230719 HVAC PIPING INSULATION  
230800 COMMISSIONING OF HVAC  
230900 HVAC INSTRUMENTATION AND CONTROLS  
230913 ENCLOSED MOTOR CONTROLLERS  
230933 VARIABLE FREQUENCY DRIVES  
230993 SEQUENCE OF OPERATIONS FOR HVAC CONTROLS  
231123 FACILITY NATURAL-GAS PIPING  
232113 HYDRONIC PIPING  
232123 HYDRONIC PUMPS  
232213 STEAM AND CONDENSATE HEATING PIPING  
232300 REFRIGERANT PIPING  
232500 HVAC WATER TREATMENT  
233113 METAL DUCTS  
233300 AIR DUCT ACCESSORIES  
233423 HVAC POWER VENTILATORS  
233713 DIFFUSERS, REGISTERS, AND GRILLES  
235700 HEAT EXCHANGERS FOR HVAC  
236200 PACKAGED COMPRESSOR AND CONDENSER UNITS  
237200 AIR TO AIR ENERGY RECOVERY EQUIPMENT  
237413 PACKAGED, OUTDOOR, CENTRAL STATION AIR HANDLING EQUIPMENT  
238126 SPLIT SYSTEMS AIR CONDITIONERS  
238219 FAN COIL UNITS  
238223 UNIT VENTILATORS

- B. Temporary facilities and controls in the HVAC Work Contract include, but are not limited to the following:
1. Temporary facilities and controls that are not otherwise specifically assigned to other contracts.
  1. Unpiped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
  2. Temporary enclosure for building exterior at louver and roof openings prior to installation of HVAC equipment as required to protect interior.
  3. Excavation support and protection, unless required solely for the Work of another contract.
  4. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
  5. General waste disposal facilities.
  6. Pest control.
  7. Temporary fire-protection facilities.
  8. Barricades, warning signs, and lights.
  9. Security enclosure and lockup.
  10. Environmental protection.
  11. Restoration of Owner's existing facilities used as temporary facilities.
- C. Work in the HVAC Work Contract includes (furnish and install unless otherwise noted), but is not limited to, the following:
1. Include all HVAC Work.
  2. Include all controls work as shown on construction documents.
  3. Include any cutting, core drilling, removals and patching, caulking, firestopping as required to complete your work unless otherwise noted.
  4. Include removal and re-installation of any existing construction as required to install new work including casework, ceilings and temporary support of light fixtures, smoke detectors etc.
  5. All gas line work as shown in documents is by this contractor.
  6. Access doors for HVAC equipment access are by HVAC contract and installed by GWC contractor. Coordinate all locations with GWC including at fire dampers at shafts around duct penetrations from first to second floor at VWJHS.
  7. All new and retrofit roof curbs to be supplied and installed by HVAC contract. General Work contractor will cut openings in roof, provide blocking under curb to roof deck and flash curbs into existing roof systems. HVAC contract will remove and re-install all existing construction as required to install new steel supports and wood framing supports for all HVAC equipment including exhaust fans and MAU's.
  8. VFD's, disconnects, starters etc. supplied by HVAC Contractor shall be installed by Electrical contractor unless otherwise noted.
  9. Include removal of all HVAC rooftop equipment shown, temporary watertight protection and installation of new equipment.
  10. Install duct detectors where shown, Electrical contract to provide and wire.
  11. Include all exterior concrete pads below louvers.
  12. Provide exterior concrete pads below UV louvers.
  13. Include cutting, patching and painting all walls to match existing affected by HVAC removals unless shown under another contract.
  14. Provide ductwork coordination drawings to mechanical engineer for approval prior to fabrication.
  15. Include cutting back existing wood windows sills at new UV locations where required.
  16. Patch and paint all exposed existing wall/ ceiling surfaces affected by HVAC removals.
  17. District will hire commissioning agent, this contract shall coordinate and cooperate fully with requested submittal information and documentation.
  18. Include providing access panels to GW contractor for installation including panels to access fire/smoke dampers at all Van Wyck Chases.
  19. Include fire stop system at all ductwork/floor penetrations.

20. Include sealing up all openings resulting from duct/grille removals with construction to match existing at interior and exterior. Provide 2" thick insulated aluminum panels to infill openings at Van Wyck exterior wall above roof (4) locations. See note #8 on drawing VW MD-103 for location.
21. Include 2" thick insulated aluminum panels/caulking and sealant as required around new duct penetrations in exterior wall at Sheafe Road for new rooftop ductwork per detail L-9/SR A-100.
22. Provide prefabricated curb caps, plywood, insulation at all abandoned roof curbs, F.A.I. per detail N-17/A-003.
23. This contract to cut openings in walls as required to install new interior ductwork.
24. Provide and install all concrete slabs and stands for ground mounted ACCU units. Provide PVC enclosures for linesets into building. Provide concrete slabs under UV louvers.
25. Condensate drains for UV units etc. to exterior to be routed thru wall, with ½" PVC tubing down turned and covered with PVC lineset covers.
26. Include relocation of kiln fume hoods, ductwork modifications etc as show on documents.
27. Include all gas piping interior and rooftop.
28. Infill all RTU curbs with (2) layers 5/8" gypsum board around ductwork and to inside of curb. Provide CFMF support as required for anchorage.
29. Include cutting all wall penetrations for new vent wall caps.
30. Include all interior concrete pads for pad mounted equipment in boiler room.
31. Provide Venture Clad or equal jacket system on all exterior ductwork. Wrap all gooseneck ducts thru roof with venture clad tape.
32. Exclude: Work identified under other contracts.

#### 1.11 ELECTRICAL WORK CONTRACT # E.2

- D. In addition to the General Requirements, Divisions 0 and 1, each Contract included in this bid package shall provide for proper completion of the work as indicated on all drawings and in accordance with the terms and conditions described in the following specification sections:

##### **DIVISION 2**

024119 SELECTIVE DEMOLITION

##### **DIVISION 26 – ELECTRICAL**

260500 COMMON WORK RESULTS FOR ELECTRICAL  
260519 LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES  
260523 CONTROL-VOLTAGE ELECTRICAL POWER CABLES  
260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS  
260529 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS  
260533 RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS  
260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS  
260573 OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY  
260800 COMMISSIONING OF ELECTRICAL  
260923 LIGHTING CONTROL DEVICES  
261117 ELECTRICITY METERING  
262416 PANELBOARDS  
262726 WIRING DEVICES  
262813 FUSES  
265100 INTERIOR LIGHTING  
280500 COMMON WORK RESULTS FOR ELECTRONIC SAFETY AND SECURITY  
283100 ADDRESSABLE FIRE ALARM SYSTEM

- E. Temporary facilities and controls in the Electrical Work Contract include, but are not limited to the following:

12. Temporary facilities and controls that are not otherwise specifically assigned to other contracts.
  1. Unpiped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
  2. Temporary enclosure for building exterior, except as indicated.
  3. Excavation support and protection, unless required solely for the Work of another contract.
  4. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
  5. General waste disposal facilities.
  6. Pest control.
  7. Temporary fire-protection facilities.
  8. Barricades, warning signs, and lights.
  9. Security enclosure and lockup.
  10. Environmental protection.
  11. Restoration of Owner's existing facilities used as temporary facilities.
- F. Work in the Electrical Work Contract includes (furnish and install unless otherwise noted), but is not limited to, the following:
1. Include removal and re-installation of any existing construction as required to install new work including ceilings and temporary support of light fixtures, smoke detectors etc. Provide temporary support and re-installation of all existing electrical devices in existing ceilings to be removed and re-installed.
  2. Access doors for Electrical equipment access are by Electrical contractor and installed by General Work contractor.
  3. Include any cutting, core drilling, removals and patching, caulking, firestopping as required to complete Electrical work unless otherwise noted.
  4. VFD's, disconnects, starters etc. supplied by HVAC contractor shall be installed by Electrical contractor unless otherwise noted.
  5. All excavation/backfill for electrical items (conduits, feeders, light pole bases etc.) is by Electrical contractor.
  6. Any wood blocking or panel backboards for electrical items is by Electrical contractor.
  7. Provide and wire duct detectors (HVAC Contractor installs duct detector).
  8. Any solenoid valves supplied and installed by HVAC contractor will be wired by Electrical contractor.
  9. Include relocation of existing wall mounted clocks/emergency lights/speakers and wiremold where new soffits and shafts are scheduled to be constructed. Include extending electrical boxes 5/8" at upper section of walls in same areas where new gypsum board is shown.
  10. Include final electrical connections of all equipment provided by General Work contractor.
  11. District will hire commissioning agent, this contract shall coordinate and cooperate fully with requested submittal information and documentation.
  12. Coordinate with HVAC contractor to run all conduit for exhaust fans and rooftop equipment inside curbs.
  13. Include all interior, exterior, site and utility work associated with new service and transformer at Vassar Road Elementary
  14. Exclude: Work identified under other contracts.

## **1.12 HAZARDOUS MATERIALS WORK CONTRACT # HM.2**

- A. In addition to the General Requirements, Divisions 0 and 1, each Contract included in this bid package shall provide for proper completion of the work as indicated on all drawings and in accordance with the terms and conditions described in the following specification sections:

### **DIVISION 2 – HAZARDOUS MATERIALS**

020800 ASBESTOS ABATEMENT  
024119 SELECTIVE DEMOLITION

- B. Temporary facilities and controls in the Hazardous Materials Work Contract include, but are not limited to the following:
12. Temporary facilities and controls that are not otherwise specifically assigned to other contracts.
  1. Unpiped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
  2. Temporary enclosure for building exterior, except as indicated.
  3. Excavation support and protection, unless required solely for the Work of another contract.
  4. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
  5. General waste disposal facilities.
  6. Pest control.
  7. Temporary fire-protection facilities.
  8. Barricades, warning signs, and lights.
  9. Security enclosure and lockup.
  10. Environmental protection.
  11. Restoration of Owner's existing facilities used as temporary facilities.
- C. Work in the Hazardous Materials Work Contract includes (furnish and install unless otherwise noted), but is not limited to, the following:
1. Include removal of hazardous containing materials RCK and John Jay High Schools, Van Wyck and Wappingers Junior High Schools.
  2. Coordinate removal of asbestos containing roofing openings with GW and HVAC contractors at Van Wyck Roof.
  3. GW.2 General Work contractor will remove classroom cabinetry down to base.
  4. Include opening sections of toilet room chase wall at RCK boys and girls toilet room to inspect for hazardous materials. Include demolition and containment of walls/room if materials are found.
  5. Include removal of VAT materials up to face of cabinetry at classroom locations where cabinetry is to remain.
  6. Exclude: Work identified under other contracts.

## 1.12 PHASING SCHEDULE

- A. The following Phasing Schedule serves as a basis for bidding and construction. Each prime contractor shall coordinate activities, forward submittals, deliver materials and provide necessary manpower to meet the schedule listed below.

### **Main Garage #1 Renovations**

Start: November 4, 2024.  
Complete: April 4, 2025

### **RCK High School**

Start: June 27, 2025.  
Complete: August 22, 2025

### **JJ High School**

Start: June 27, 2025.  
Complete: August 22, 2025

### **Wappingers Junior High School**

Start: June 27, 2025.  
Complete: August 22, 2025

### **Fishkill Elementary School**

Start: June 27, 2025.

*WAPPINGERS CENTRAL SCHOOL DISTRICT  
2023 DISTRICT WIDE RENOVATIONS – PHASE 2*

Complete: August 22, 2025  
**Sheafe Road Road Elementary School**

Start: June 27, 2025.

Complete: August 22, 2025  
**Vassar Road Elementary School**

Start: June 27, 2025.

Complete: August 22, 2025  
**Van Wyck Junior High School**

Start: June 27, 2025.

Complete: August 22, 2026

Work at this school can be done on second shift and holidays in coordination with the District.

END OF SECTION



## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Allowances have been established for unforeseen conditions. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.

#### 1.3 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Provide detailed cost information for work required by unforeseen conditions and for work requested to be performed under an allowance.
- D. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### 1.4 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

#### 1.5 LUMP-SUM ALLOWANCES

- A. Allowance shall include the cost to the Contractor of specific services, products and materials ordered by Owner under allowance.
- B. Allowance amounts not used by the completion of the project will be deducted from the Contract Sum via Change Order.
- C. Allowance Authorizations shall not include OH&P markup for Prime Contractors. OH&P amounts are to be included in Base contract price.



PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 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.

3.2 SCHEDULE OF ALLOWANCES

A. General Work – GW.2 Allowance No. 1: Include an allowance of \$80,000 in the Base Bid to provide work yet to be determined and/or to provide work deemed necessary due to unforeseen conditions.

B. Plumbing Work – P.2 Allowance No. 2: Include an allowance of \$10,000 in the Base Bid to provide work yet to be determined and/or to provide work deemed necessary due to unforeseen conditions.

C. HVAC Work – HVAC.2 Allowance No. 3: Include an allowance of \$100,000 in the Base Bid to provide work yet to be determined and/or to provide work deemed necessary due to unforeseen conditions.

D. Electrical Work – E.2 Allowance No. 4: Include an allowance of \$50,000 in the Base Bid to provide work yet to be determined and/or to provide work deemed necessary due to unforeseen conditions.

E. Hazardous Material Abatement Work – HM.2 Allowance No. 5: Include an allowance of \$10,000 in the Base Bid to provide work yet to be determined and/or to provide work deemed necessary due to unforeseen conditions.

END OF SECTION 012100

## SECTION 012200 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
  - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
  - 2. Section 014000 "Quality Requirements" for general testing and inspecting requirements.

#### 1.3 DEFINITIONS

- A. Unit price is 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.

#### 1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- 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 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 an independent surveyor acceptable to Contractor.
- 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

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: VAT Removal.

1. Description: Removal of asbestos containing VAT tile and mastic.
2. Unit of Measurement: Square Foot.

B. Unit Price No. 2: Asbestos Containing Pipe Insulation.

1. Description: Removals of identified asbestos containing pipe insulation.
2. Unit of Measurement: Lineal Foot.

END OF SECTION 012200

## SECTION 012300 - ALTERNATES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

#### 1.3 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 enumerated in the Agreement.
  - 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.

#### 1.4 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

#### 3.1 SCHEDULE OF ALTERNATES

- A. **Alternate No. 1:** Van Wyck Junior High School: Add all new work in Main Office, Guidance and Health Suites including MEP upgrades and ceiling replacements.
- B. **Alternate No. 2:** Van Wyck Junior High School: Add all new work in library and adjacent work rooms including MEP upgrades and ceiling replacements.

*WAPPINGERS CENTRAL SCHOOL DISTRICT  
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- C.    **Alternate No. 3:**   Vassar Road Elementary School: Add relocation of transformer and associated electrical site work.
  
- D.    **Alternate No. 4:**   Main Garage #1: Add replacement of garage doors #18 & #19.
  
- E.    **Alternate No. 5:**   Vassar Road Elementary School: Add replacement of auditorium VAT with new VCT.

END OF SECTION 012300

## SECTION 012500 – SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Requirements governing the selection of products by each Prime Contractor is specified in Division 1 section “Product Requirements”.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. General: Use of products and systems other than those specifically listed on the specification Sections will be allowed only when a request for substitution is submitted and approved as described in Subparagraph 1.4 of this Section.
- C. Provisions of this section apply to the construction activities of each Prime Contractor.

#### 1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
  - 1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
  - 2. Revisions to the Contract Documents requested by the Contractor or Architect.
  - 3. Specified options of products and construction methods included in the Contract Documents.
  - 4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.
- B. Equivalent Products: Products that are demonstrated to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of the specified product as determined by the Architect. Equivalent products shall be submitted for review in accordance with the requirements of this section.

#### 1.4 SUBMITTALS

- A. Substitution Request Submittal: Submit substitution request to the Construction Manager for initial review and disbursement. The Architect will consider requests for substitution if received within 30 days prior to commencement of that phase of the Work in which the proposed substitution item would be used. Requests received less than 30 days prior to commencement of that phase of the Work in which the proposed substitution item would be used, may be considered or rejected at the discretion of the Architect.
  - 1. The Contractor shall mark the box on the Submittal Cover Sheet stating “This submittal contains a substitution...” when submitting submittals for the proposed substitution. The information required in this Section shall accompany each submittal.

2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
  - a. Summary statement identifying the reason the substitution is being proposed, such as reduction in construction sum or time.
  - b. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
  - c. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Contractor and separate contractors, that will be necessary to accommodate the proposed substitution.
  - d. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.
  - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
  - f. Cost information, including a proposal of the net deduct to the Contract Sum.
  - g. The Contractor's certification that all additional costs of work performed by the Contractor, and separate contractors, necessary as a result of the substitution, will be borne by the Contractor.
  - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. Architect's Action: If necessary, the Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Architect will notify the Contractor of acceptance or rejection of the substitution within 2 weeks of receipt of the request, or one week of receipt of additional information or documentation. Acceptance will be in the form of a change order. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
  - a. The Architect will not consider the request if the product or method specified cannot be provided as a result of the Contractor's failure to pursue the Work promptly or coordinate activities properly.

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

- A. Conditions: The Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements.
  1. Revisions to the Contract Documents are not required.
  2. Proposed changes are in keeping with the general intent of the Contract Documents.
  3. The request is timely, fully documented, and properly submitted.
  4. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
  5. The request is directly related to an "equivalent" clause or similar language in the Contract Documents.

6. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Contractor must assume. The Contractor's additional responsibilities may include compensation to the Architect for redesign and evaluation services, increased cost of other construction, and similar considerations.
  7. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
  9. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
  10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
  11. Where a proposed substitution involves more than one prime contractor, each contractor shall cooperate with the other contractors involved to coordinate the Work, provide uniformity and consistency, and assure compatibility of products.
- B. Consideration of Substitutions: The Owner's costs associated with the consideration (regardless of whether the substitution request is approved or denied) of substitution requests, such as architectural or engineering review services, will be borne by the Contractor submitting the substitution and shall be compensated by means of a reduction in contract sum via change order, except as indicated below:
1. Owner's costs associated with consideration of substitution requests submitted for reasons identified in items 5, 7, 8, 9, and 10 in Subparagraph 2.1.A, of this Section, will not be the responsibility of the Contractor.
- C. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptance or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 012500



## PRODUCT SUBSTITUTION REQUEST

To: Rhinebeck Architecture  
21 East Market Street  
Rhinebeck, New York 12572

Substitution Request Number \_\_\_\_\_

Date submitted \_\_\_\_\_

Submitted by: \_\_\_\_\_

Contract for: \_\_\_\_\_

Specification Section \_\_\_\_\_ Drawing No. \_\_\_\_\_ Detail No. \_\_\_\_\_

Specified Product \_\_\_\_\_

Proposed Substitution \_\_\_\_\_

Manufacturer \_\_\_\_\_ Address \_\_\_\_\_ Phone \_\_\_\_\_

Trade name \_\_\_\_\_ Model Number \_\_\_\_\_

Installer \_\_\_\_\_ Phone \_\_\_\_\_

Attachment with differences between proposed substitution and specified product per paragraph 01631-1.4 yes ☐ no ☐

Reason for not providing specified product \_\_\_\_\_

Proposed substitution affects other parts of the work No \_\_\_\_\_ Yes \_\_\_\_\_ Explain \_\_\_\_\_

Change in Contract time required No \_\_\_\_\_ Yes \_\_\_\_\_ Add/deduct \_\_\_\_\_ days

The undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: \_\_\_\_\_  
Printed Name Title firm phone

Signed by: \_\_\_\_\_

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
  - 1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

#### 1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions." form included in Section PF Project Forms.

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner's representative 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. Proposal Requests issued by Owner's representative are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Prime contractor must completely fill out and notarize the attached labor rate worksheet for each trade and classification of worker within 20 days of contract award.
  - 3. Within time specified in Proposal Request 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 and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. 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.

The allowance for the combined overhead and profit included in the total cost to the Owner for Change Orders and Construction Change Directives shall be as follows:

- a. For the Contractor, for Work provided by the Contractor's own forces, mark-up shall not exceed 5 percent of the value of materials and labor for overhead and an additional 10 percent of the value for of materials, labor and overhead for profit.
  - b. For the Contractor, for Work provided by the Contractor's Subcontractor, 10 percent of the amount due the Subcontractor.
  - c. For Each Subcontractor, or Sub-subcontractor involved, for Work performed by that Sub-contractor's own forces, mark-up shall not exceed 5 percent of the value of materials and labor for overhead and an additional 10 percent of the value for of materials, labor and overhead for profit.
  - d. For each Sub-contractor, for Work performed by the Subcontractor's Sub-subcontractors, 10 percent of the amount due the Sub-subcontractor.
  - e. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Owner's representative.
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 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.
  5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests included in Section PF Project Forms.

## 1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. 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, measure, or count.
  5. Contractor's overhead and profit, including costs for bonds & insurances, for these allowances shall be included in the values of the general requirements of contract sum and are not chargeable under allowance disbursement.
- 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. Submit claims within 21 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
  2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

#### 1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Owner's representative will issue a Change Order for signatures of Owner, Architect, Construction Manager, and Contractor on AIA Document G701 form included in Section PF Project Forms.

#### 1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Owner's representative may issue a Construction Change Directive on AIA Document G714 form included in Section PF Project Forms. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

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## SECTION 012900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

### PART 2 - RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 2.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
  - 2. Division 1 Section "Closeout Procedures" for administrative procedures for closing out the Contract.

#### 2.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
- B. New York State Education Department Project Numbers: 15 digit number assigned to each project at each District owned building by the Facilities Planning Department of the New York State Education Department. (NYSED)

#### 2.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  - 1. Correlate 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. Submittals Schedule.
  - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Provide separate Schedule of Values for each school building. Clearly indicate the SED project number on each schedule.
- B. Format and Content: Use the 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. Name of Architect.
  - c. Architect's project number.
  - d. Contractor's name and address.
  - e. Date of submittal.
  - f. NYSED Project Number
2. 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.
    - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Provide separate schedule of values for each school building. Clearly indicate the SED project number on each schedule.
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. Include evidence of insurance or bonded warehousing if required.
7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

## 2.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
  - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. 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 of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 4 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is 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, before deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit 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 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 waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
  - 1. List of subcontractors.
  - 2. Schedule of Values.
  - 3. Contractor's Construction Schedule (preliminary if not final).
  - 4. Products list.
  - 5. Schedule of unit prices.
  - 6. Submittals Schedule (preliminary if not final).



7. List of Contractor's staff assignments.
  8. List of Contractor's principal consultants.
  9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  10. Certificates of insurance and insurance policies.
  11. Initial settlement survey and damage report if required.
- H. Application for Payment at Substantial Completion: After issuing 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 Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: 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. Evidence that claims have been settled.
  8. 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.
  9. Final, liquidated damages settlement statement.

PART 3 - PRODUCTS (Not Used)

PART 4 - EXECUTION (Not Used)

END OF SECTION 012900

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. Informational Submittals
  - 2. Coordination procedures
  - 3. Requests for Information (RFI)
  - 4. Project meetings
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
  - 1. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 2. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

#### 1.3 DEFINITIONS

- A. RFI: Request from Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 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.

## 1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. 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.

1.6 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.
- 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: AIA Document G716.
  - 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 seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working 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 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 monthly.
    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 Architect within seven days if Contractor disagrees with response.
    1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
    2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- 1.7 PROJECT MEETINGS
- A. General: Architect will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
    1. Attendees: 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: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
    3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
  - B. Progress Meetings: Architect will conduct progress meetings at weekly intervals.
    1. Coordinate dates of meetings with preparation of payment requests.
    2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
    3. Attendance at Construction Progress Meetings is mandatory.
    4. 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.
5. Minutes: Entity responsible for conducting the meeting will 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100



## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Startup construction schedule.
  - 2. Contractor's construction schedule.
  - 3. Construction schedule updating reports.
  - 4. Daily construction reports.
  - 5. Material location reports.
  - 6. Site condition reports.
  - 7. Special reports.
- B. Related Requirements:
  - 1. Section 011200 "Multiple Contract Summary" for preparing a combined Contractor's construction schedule.
  - 2. Section 013300 "Submittal Procedures" for submitting schedules and reports.
  - 3. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical Activity: An activity 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. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect.



- C. 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.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  - 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.
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. Working electronic copy of schedule file, where indicated.
  - 2. PDF electronic file.
  - 3. 4 paper copies when requested.
- B. Startup construction schedule.
  - 1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Initial schedule, of size 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.
- E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost 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.
  3. Total Float Report: List of all activities sorted in ascending order of total float.
- F. Construction Schedule Updating Reports: Submit with Applications for Payment.
- G. Daily Construction Reports: Submit at weekly intervals.
- H. Material Location Reports: Submit at weekly intervals.
- I. Site Condition Reports: Submit at time of discovery of differing conditions.
- J. Special Reports: Submit at time of unusual event.
- K. Qualification Data: For scheduling consultant.

#### 1.5 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 Architect's request.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
1. Review software limitations and content and format for reports.
  2. Verify availability of qualified personnel needed to develop and update schedule.
  3. Discuss constraints, including 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.
  10. Review and finalize list of construction activities to be included in schedule.
  11. Review procedures for updating schedule.

#### 1.6 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
  1. Contract completion date 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. Comply with the following:
  1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
  2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
  5. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  1. Phasing: Arrange list of activities on schedule by phase.
  2. Work under More Than One Contract: Include a separate activity for each contract.
  3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  6. Work Restrictions: Show the effect of the following items on the schedule:

- a. Coordination with existing 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.
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.
- 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.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
- 1. Unresolved issues.
  - 2. Unanswered Requests for Information.
  - 3. Rejected or unreturned submittals.
  - 4. Notations on returned submittals.
  - 5. Pending modifications affecting the Work and Contract Time.

- F. 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.

## 2.2 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 days of date established for the 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. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

## 2.3 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 and startups.
  - 18. Partial completions and occupancies.
  - 19. Substantial Completions authorized.
- B. Material Location Reports: At weekly 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.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage 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 employs 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 and Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor 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 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, Construction Schedules, and other miscellaneous submittals.
- B. Related Sections include the following:
  - 1. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
  - 2. Division 1 Section "Closeout Procedures" for submitting warranties, Project Record Documents, and operation and maintenance manuals.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

#### 1.4 SUBMITTAL PROCEDURES

- A. General: Make all submittals to the Architect, unless indicated otherwise.
- B. Use the "Submittal Cover Sheet" provided in Section "Project Forms" for each submittal. Provide all required information.
- C. Electronic copies of the Contract Drawings will not be provided for Contractor's use in preparing submittals.
- D. 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 requires sequential activity.
  - 2. 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 reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.



- E. Submittals Schedule: Coordinate with requirements of the Construction Schedule for submittals and time requirements for scheduled performance of related construction activities.
  - 1. Schedule Updating: Revise the submittal schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- F. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Architect's receipt of submittal.
  - 1. Initial Review: Allow 14 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Allow 10 days for processing each re-submittal.
  - 4. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- G. Identification: Place a permanent label or title block on each submittal indicating name of firm or entity that prepared each submittal.
- H. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- I. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
- J. Submittal Transmittal: Transmit each required submittal from Contractor to Construction Manager using the transmittal form provided in Section "Project Forms". Submittals received without an appropriately completed transmittal or from sources other than the Contractor will be returned without action.
  - 1. Record any relevant information or requests for data on the transmittal.
  - 2. Record deviations from Contract Document requirements, if any, including minor variations and limitations. Include Contractor's stamp indicating information complies with Contract Document requirements.
  - 3. Submittals indicating less than complete review by Contractor will be returned for Contractor's compliance without review.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers and authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Use for Construction: Use only final submittals with mark indicating action taken by Architect and Construction Manager in connection with construction.
- M. Resubmission: Resubmission by the Contractor of submittals previously returned as "REJECTED" or "REVISE AND RESUBMIT" shall be complete and respond to the comments from the Architect and Construction Manager. Should submittals be rejected for the same or similar reasons on the second submission, the cost of the third submittal review shall be borne by the Contractor through a change order for the hours expended by the Architect and Construction Manager for processing and reviewing time.

## PART 2 - PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit only those Action Submittals required by individual Specification Sections.
  - 1. The submitted copies will be distributed as follows:
    - a. Six (6) copies to Architect for distribution to the Owner or appropriate consultant.
    - b. Electronic submittals are encouraged and should be sent complete with Submittal Coversheet to the Architect. (Samples and Color charts will need to be sent as originals.)
- 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 product specifications.
    - b. Manufacturer's installation instructions.
    - c. Standard color charts.
    - d. Standard product operating and maintenance manuals.
    - e. Compliance with recognized testing agency standards.
    - f. Notation of coordination requirements.
  - 4. Product Data Manual: In addition to product data submittals required by individual specification sections, compile full color product data for all products into a Product Data Manual in accordance with the requirements of Division 1 Section "Closeout Procedures"
- 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. Installation drawings indicating anchors, fasteners, required blocking and grounds.
    - d. Design calculations.
    - e. Compliance with specified standards.
    - f. Notation of coordination requirements.
    - g. Notation of dimensions established by field measurement.
  - 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."
- E. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
  - a. Generic description of Sample.
  - b. Product name or name of manufacturer.
  - c. Sample source.
  - d. Date submitted.
  - e. Submittal Number.
  - f. Sample identification number or code.
4. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
  - a. Size limitations.
  - b. Compliance with recognized standards.
  - c. Availability.
  - d. Delivery time.
5. 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, details of assembly, connections, operation, and similar construction characteristics.
6. Number of Samples for Verification: Submit three sets of Samples. Architect and Construction Manager will retain one Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
  - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
7. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
  - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

- b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- F. Application for Payment, Bonds and Insurance Certificates: Comply with requirements in General and Supplementary Conditions.
- G. Schedule of Values: Comply with requirements in Supplementary Conditions must be broken down by material, labor and separated by school (with subtotals) to permit district accounting for SED.
- H. 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. Scope of Work covered by subcontract.

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit only those Informational Submittals required by other Specification Sections.
  - 1. Number of Copies: Submit three copies of each submittal, unless otherwise indicated. Architect will not return copies.
  - 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

- I. 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.
- J. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."
- K. 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.
- L. 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.
- M. Manufacturer's 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.
- N. 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.
- O. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Provide required information on Submittal Cover Sheet including approval stamp before submitting to Architect.

### 3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Except for submittals for the record or information, where action and return is required, the Architect will review each submittal, mark to indicate action taken, and return promptly.
  - 1. Compliance with specified characteristics is the Contractor's responsibility.
- D. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
  - 1. 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.
  - 2. Final-But-Restricted Release: When the Architect marks a submittal "MAKE CORRECTIONS AS NOTED", 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.
  - 3. Returned for Resubmittal: When the Architect marks a submittal "REJECTED", or "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. Repeat if necessary to obtain different action mark.
    - a. Do not use, or allow others to use, submittals marked "Rejected", or "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
  - 4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Architect will return the submittal marked "Action Not Required."
- E. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- F. Submittals not required by the Contract Documents will not be reviewed and may be discarded.
- G. Review and action taken are only for general conformance with the information given and the design concept expressed in the Contract Documents. Review and action taken on submittals are not for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities or for substantiating instructions for the installation or performance of equipment or systems all of which remain the responsibility of the Contractor as required by the Construction Documents. The Architect's review and action taken on the Contractor's submittals shall not relieve the Contractor from any obligation contained in the Contract Documents. The Architect's review and action taken shall not constitute review or approval of any construction means, methods, techniques, sequences, or any safety precautions or procedures. The Architect's review and action taken on a specific item shall not indicate review and action taken on an assembly of which the item is a component.

END OF SECTION 013300

## SUBMITTAL COVER SHEET

### Project:

#### 2023 District Wide Renovations Phase 2

Wappingers City School District  
Wappingers Falls, New York

Architect's Project No. 2223.2

Specification Section \_\_\_\_\_

Submittal No. \_\_\_\_\_

Revision No. \_\_\_\_\_

Date Received \_\_\_\_\_

Dated Returned \_\_\_\_\_

### Contractor:

Company Name \_\_\_\_\_

Street Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone/Fax \_\_\_\_\_

Contractor's Project No. \_\_\_\_\_

\_\_\_ Product Data \_\_\_ Shop Drawings \_\_\_ Samples \_\_\_ Other

Title \_\_\_\_\_

Specification Page No. \_\_\_\_\_ Paragraph \_\_\_\_\_

Contract Drawing No. \_\_\_\_\_ Detail \_\_\_\_\_

Subcontractor \_\_\_\_\_

Manufacturer \_\_\_\_\_

☐ **This Submittal conforms fully** with the information given and the design intent expressed in the Contract Documents. This Submittal is not, in whole or in part, a substitution. The Contractor has determined and verified materials, field measurements and field construction criteria related thereto and has checked and coordinated the information contained within this submittal with the requirements of the Contract Documents.

☐ **This submittal contains a substitution** which deviates from the information given and/or the design intent expressed in the Contract Documents and an appropriately prepared request for substitution is attached (see section 01631 for requirements). The Contractor shall not be relieved of the responsibility for conformance with the Contract Documents by the Architect's review and action taken on this submittal unless the Contractor has specifically informed the Architect in writing of each and every deviation at the time of this Submittal and the Architect has given separate written approval to each specific deviation.

Contractor's Stamp

Signature \_\_\_\_\_ Date \_\_\_\_\_

### Architect:

Rhinebeck Architecture  
21 East Market Street  
Rhinebeck, New York 12572  
Tel: (845) 876-2832

### Consultants

Quality Environmental Engineering Services Technology Inc.

### Remarks:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Architect's/Engineer's Stamp

## SECTION 014000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
  - 4. Specific test and inspection requirements are not specified in this Section.

#### 1.3 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.

#### 1.4 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **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.

#### 1.5 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. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. 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.

#### 1.6 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: The Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections attached to this Section, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
  2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  6. Retesting and reinspecting corrected work.

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 - EXECUTION

##### 3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
  2. Description of the Work tested or inspected.
  3. Date test or inspection results were transmitted to Architect.
  4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

##### 3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
- 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 014100 - SPECIAL INSPECTIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Special Inspection Services.
- B. Certain structural components of the Project will be subject to the requirements for Special Inspections. Special Inspections will be applicable to the following specification sections:
  - 1. Section 055000 Metal Fabrications
  - 2. Section 078413 Penetration Firestopping
- C. The Owner will procure and bear all costs of the Project Inspector and the Independent Testing Laboratory, except as otherwise noted. The Project Inspector will be the manager of the Special Inspection process. The Project Inspector checks the certification of all other inspecting agents required by Special Inspections and coordinates their activities. The Project Inspector carries the responsibility for coordinating Special Inspections and exclusive responsibility for assuring that the inspections indicated are performed. The Statement of Special Inspections will be required by the Building Official as a condition for building permit issuance.
- D. Requirements for Special Inspections are outlined in the Statement and Schedule of Special Inspections and indicated in the specification sections.
  - 1. Specific quality-assurance and control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
- E. Special Inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.

2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Commissioning Authority, 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.

F. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 014000 "Quality Requirements" specifies requirements for inspection and testing requirements.

### 1.3 RESPONSIBILITIES

A. Contractor Responsibilities: Contractor shall provide and include in the Contract Sum, inspections, tests, and other similar quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity.

1. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
  - a. The Contractor shall correct deficiencies in work that inspections and laboratory test reports have indicated to be not in compliance with requirements.
  - b. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
2. 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.
  - a. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
  - a. Provide access to the Work.
  - b. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  - c. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  - d. Provide and maintain for the sole use of the Special Inspector or Special Inspectors adequate facilities for safe storage and proper curing of test samples on the Project Site.
  - e. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
  - f. Provide security and protection of samples and test equipment at the Project Site.
  - g. The Contractor shall designate a representative (the superintendent or an assistant to the superintendent) who shall be the direct point-of-contact with the Special Inspector during each phase of the work. Discrepancies noted during the progress of the work will be reported to the Contractor's representative for corrective action. Communications given by

the Special Inspector to the Contractor's representative shall be as binding as if given to the Contractor.

4. Statement of Responsibilities: Contractor responsible for the construction of main wind- or seismic force- resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Special Inspector prior to the commencement of work on the system or component. The Contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of Special Inspection.
5. Fabricators Certificate of Compliance: Upon completion of fabrication where structural members and assemblies are performed at the premises of a fabricator's shop, the Contractor shall obtain and submit to the Special Inspector a certificate of compliance, stating that the work was performed in accordance with the approved Contract Documents.

B. Special Inspector Responsibilities:

1. The Special Inspector shall conduct and interpret tests, state in each report whether test specimens comply with requirements, specifically state any deviations therefrom, and record work required and performed to correct deficiencies.
2. The Special Inspector will keep records of all inspection and tests which will be furnished to the Building Official, the Architect, and the Structural Engineer of Record.
3. The Special Inspector shall notify the Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services. All discrepancies will be brought to the immediate attention of the Contractor for correction. If discrepancies are not corrected, the discrepancies will be brought to the attention of the Building Official and the Structural Engineer of Record.
0. The Special Inspector shall not perform any duties of the Contractor.
1. The Special Inspector shall not release, revoke, alter, decrease or increase the Contract Document requirements.

C. Independent Testing Laboratory Responsibilities: The Independent Testing Laboratory engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the Laboratory's duties. The Laboratory shall provide qualified personnel to perform required inspections and tests.

1. Notify Architect, Construction Manager, 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. Shall not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

D. Coordination: The Contractor and each agency engaged to perform inspection, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

#### 1.4 SUBMITTALS

- A. The Special Inspector and each Independent Testing Laboratory shall submit within seven (7) days a certified written report of each inspection, test, or similar service to the Architect and the Structural Engineer of Record.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
  2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
    - a. Date of issue.
    - b. Project title and number.
    - c. Name, address, and telephone number of testing agency.
    - d. Dates and locations of samples and tests or inspections.
    - e. Names of individuals making the inspection or test.
    - f. Designation of the Work and test method.
    - g. Identification of product and Specification Section.
    - h. Complete inspection or test data.
    - i. Test results and an interpretation of test results.
    - j. Ambient conditions at the time of sample taking and testing.
    - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
    - l. Name and signature of laboratory inspector.
    - m. Recommendations on retesting.
- B. The Special Inspector shall submit a Final Report to the Architect and the Structural Engineer of Record documenting completion of all required special inspections and corrections of any discrepancies noted, which shall then be submitted to the Building Official prior to, and as a condition of, issuance of the *Certificate of Use and Occupancy*.
1. Each Independent Testing Laboratory shall submit a final report of all required special inspections and corrections of any discrepancies noted shall be submitted to the Special Inspector for inclusion in the Final Report.

#### 1.5 QUALITY ASSURANCE

- A. Qualification for Special Inspector: The Special Inspector shall be a Registered Professional Engineer, Licensed in the State of New York, experienced in performing special inspections and shall be approved by the Building Official and the Architect. The credentials of all Inspectors and testing technicians shall be provided if requested.
- B. Qualifications for Independent Testing Laboratory: Engage independent inspection and testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.
  2. Each independent Inspection and Testing Agency engaged on the Project shall demonstrate that it has the experience and capability to conduct the required field and laboratory testing without delaying the progress of the work. The minimum requirements shall be as follows:
    - a. Reinforced Concrete testing

- 1) ACI-CFTT Concrete Field Testing Technician – Grade 1
  - 2) ACI-LTT Laboratory Testing Technician – Grade 1 or 2 and Strength Testing Technician
  - 3) NICET-CT – Concrete Technician
  - b. Reinforced Concrete Inspection
    - 1) ACI-CCI Concrete Construction Inspector
    - 2) ICC-RCSI Reinforced Concrete Special Inspector
  - c. Structural Steel
    - 1) AWS-CWI Certified Welding Inspector
    - 2) AWS/AISC-CSI Certified Steel Inspector
    - 3) ICC-SWSI Structural Steel and Welding Inspector
  - d. Soils Testing
    - 1) NICET-ST- Soils Technician Level III
    - 2) NICET-GET – Geotechnical Engineering Technician Level III
  - e. Fire Resistant Penetrations & Joints, Firestops, Testing for Smoke Control
    - 1) ASTM E119 approved agency per ASTM E2174
    - 2) UL 263
- B. Pre-Construction Conference – Prior to the start of project construction, the Special Inspector shall conduct a Pre-Construction Conference to discuss the requirements for Special Inspections as well as the Administrative Procedures to be followed during the course of the project. Protocols for notification, documentation, and individual responsibilities shall be reviewed. Attendees shall include, but are not limited to:
1. Owner
  2. Owner’s Project Manager
  3. Owner’s Project Inspector
  4. Owner’s Independent Testing Agency
  5. Architect
  6. Structural Engineer
  7. Contractor’s Project Manager
  8. Contractor’s Superintendent



PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

#### 1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
  - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
  - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

#### 1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

## 1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Portable 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 and bottom rails. Provide concrete OR galvanized-steel bases for supporting posts.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- C. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.
- D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
- E. Window Temporary Protection: Provide 6 mil poly over 1/2" plywood over 3-5/8" metal studs @ 16" O.C. at all removed windows where new windows are not immediately installed.

### 2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
  - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
  - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 017700 "Closeout Procedures".
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
  - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
  - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- E. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
  - 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- F. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner. Provide portable generators for power requirements exceeding 20A.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- H. Telephone Service: Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
  - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.

2. Maintain access for fire-fighting equipment and access to fire hydrants.
- B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- C. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
  1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
  2. Remove snow and ice as required to minimize accumulations.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Remove when full. Comply with requirements of authorities having jurisdiction.
- E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
  1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- F. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- G. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

#### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
  1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
  2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
  4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- G. Site Enclosure Fence: For exterior construction activities: before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering construction areas except by entrance gates.
  - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
  - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- J. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- K. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
  - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- L. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
  - 1. Prohibit smoking in construction areas.
  - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
  - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
  - 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

### 3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
  2. Protect stored and installed material from flowing or standing water.
  3. Keep porous and organic materials from coming into prolonged contact with concrete.
  4. Remove standing water from decks.
  5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
  2. Keep interior spaces reasonably clean and protected from water damage.
  3. Periodically collect and remove waste containing cellulose or other organic matter.
  4. Discard or replace water-damaged material.
  5. Do not install material that is wet.
  6. Discard, replace, or clean stored or installed material that begins to grow mold.
  7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

### 3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. 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 01770 "Closeout Procedures."

END OF SECTION 015000

## SECTION 017100 - CLEANING UP

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF THE WORK:

A. The work of this section relates to the following:

1. Maintain all premises and public properties/roadways free from accumulations of waste, debris, dirt, mud and rubbish caused by operations on a daily basis.
2. At completion of work, remove waste materials, rubbish tools, equipment, machinery and surplus materials, and clean all sight exposed surfaces; leave project clean and ready for occupancy.
3. Remove all overspray caused by construction operations from adjacent construction, surfaces and vehicles.

B. Related Requirements Specified Elsewhere

1. Summary of work: Section 011000
2. Cleaning for Specific Products or Work: the respective sections of the specifications:

#### 1.2 SAFETY REQUIREMENTS

A. Standards: Maintain project in accord with safety and insurance standards.

B. Hazard Control/Cleaning Products

1. Store volatile waste in covered metal containers and remove from premises daily.
2. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.
2. Do not dispose of volatile waste such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
3. Do not dispose of waste into streams or waterways.

### PART 2 – PRODUCTS

2.1 Materials: Use only cleaning materials recommended by manufacturer of surface to be cleaned.



## PART 3 - EXECUTION

### 3.1 REQUIREMENTS DURING CONSTRUCTION:

- A. Execute daily cleaning to ensure that building, grounds, and public properties and roadways are maintained free from accumulations of waste materials, rubbish, dirt, mud and dust.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Each day, all contractors shall adhere to the following:
  - 1. Areas of intense activity, such as cutting, and sawing must be swept clean and reorganized at the end of each day. Utilize dust control methods such as plastic containment hut and/or wetting of surfaces.
  - 2. Areas of moderate activity such as installation of plumbing, ductwork, electrical work must be returned to good order at the end of each day.
  - 3. Debris below scaffolds (and shoring/re-shoring) must at all time, be kept sufficiently consolidated to keep walkways free of tripping hazards. These work areas must also be swept clean immediately upon removal of scaffolds.
  - 4. All swept up debris, waste materials, and packing must be removed and placed in the dumpster by the end of the workday.
  - 5. All stored material must be protected and kept in good order.
  - 6. As portions of the work are completed, all used and excess materials must be removed promptly.
  - 7. Daily Clean-up and good housekeeping is the responsibility of each contractor individually and will be monitored by the Owner's Representative. If any contractor fails to perform cleaning when directed or does not properly clean within 4 hours of being notified by Owner's Representative, the owner will hire others and charge contractor(s) accordingly.
  - 8. Contractors shall promptly comply with requests to organize scattered materials.
- D. Each Contractor is responsible for furnishing all dumpsters or other such containers as required for collection, storage and legal disposal of all debris and rubbish resultant from their construction operations. The Construction Manager shall locate, maintain and move such containers as necessary and legally dispose of waste as containers are filled. Separate and recycle as required authorities and regulations.
- E. Vacuum clean areas when ready to receive finish painting and continue vacuum cleaning on an as needed basis until building is ready for Substantial Completion or occupancy.
- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other containment resulting from cleaning process will not fall on wet, newly painted surfaces.

### 3.2 FINAL CLEANING

A. Each Contractor Shall:

1. Employ professional cleaners for final cleaning.
2. In preparation for substantial completion or occupancy, conduct final inspection of sight exposed interior and exterior surfaces, and of concealed spaces.
3. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces; polish surface so designated to shine finish.
4. Maintain cleaning until project, or portion thereof, is occupied by owner.
5. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
6. If the contractor fails to perform final cleaning when directed or does not properly clean within 4 hours of being notified by Owner's Representative, the owner will hire others and charge contractor accordingly.

B. General Contractor: shall complete the following restoration operations before requesting inspection for certification of Substantial Completion for entire Project or portion of Project:

1. Restoration of any lawn areas disturbed by construction operations. This includes repairs of any ruts / damage created by Heavy equipment, Lulls, etc.
2. Magnet sweeping of all exterior lawn areas to ensure that no stray nails / screws, etc. remain in lawn areas.
3. Hire professional cleaning company (not construction tradesmen) to thoroughly clean all surfaces, including glass, floors, carpeting, ceramic tile, doors, windows, casework, etc.
4. Wax resilient tile, linoleum, terrazzo floors using the exact same products / coats as the owner's custodial staff for compatibility purposes.
5. Power sweep all asphalt areas using a commercial street sweeper (water method)
6. Remove any stickers, protective coverings, etc.
7. Clean all casework, food service equipment, tables, equipment etc. inside and out.

C. Electrical Contractor: shall complete the following cleaning operations before requesting final inspection for certification of Substantial Completion for entire project or portion of project.

1. Clean surfaces of all electrical equipment from any dust. Remove any labels or protective films
2. Replace any burned out or nonfunctioning bulbs

D. Plumbing Contractor: shall complete the following cleaning operations before requesting final inspection for certification of Substantial Completion for entire project or portion of project.

1. Remove any stickers, protective coverings, etc.

2. Clean all drains and plumbing fixtures inside and out.

E. Mechanical Contractor: shall complete the following cleaning operations before requesting final inspection for certification of Substantial Completion for entire project or portion of project.

1. Clean all Mechanical units, including removal of any stickers, protective covering. Wipe down of all unit surfaces for clean streak free surfaces
2. Vacuum out all ductwork, grills / louvers to insure there is no construction debris or dust
3. Replace all air filters at no additional cost immediately prior to owner occupancy

### 3.3 RUBBISH REMOVAL

- A. Contractors shall comply with all Local, State and Federal Laws, Codes and Requirements regarding recycling and trash or rubbish removal.

END OF SECTION

## SECTION 017300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. Installation of the Work.
  - 4. Cutting and patching.
  - 5. Starting and adjusting.
  - 6. Protection of installed construction.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for limits on use of Project site.
  - 2. Section 017100 "Cleaning Up".
  - 3. Section 017700 "Closeout Procedures"
  - 4. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### 1.4 QUALITY ASSURANCE

- a. 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.
- 2. 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.
- B. 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.

- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place 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 materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning investigate and verify the existence and location of utilities and other construction affecting the Work.
- 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.

### 3.2 PREPARATION

- A. 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.

- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. 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."

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Each Prime Contractor shall do their own cutting and patching unless indicated otherwise on the drawings.
- B. 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.
- C. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- D. Temporary Support: Provide temporary support of work to be cut.
- E. 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.
- F. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry : Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance. At plaster ceiling patches provide Keenes cement plaster finish texture to match existing.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
- 3.5 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.

END OF SECTION 017300





## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Related Sections
  - 1. Section 017701 Checklist for Project Closeout

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
  - 5. Repair of the Work.
- B. Related Requirements:
  - 1. Section 017100 "Cleaning Up"
  - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.3 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.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

#### 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

## 1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 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 Owner. Label with manufacturer's name and model number where applicable.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 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. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 6. Complete final cleaning requirements, including touchup painting.
  - 7. 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 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
  - 2. Results of completed inspection will form the basis of requirements for final completion.

## 1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
  2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report.
  5. Submit record of Owner training session for installed work.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

## 1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.

## 1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 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

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. Refer to Section 017100 "Cleaning Up" for final cleaning requirements.

### 3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that 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.

END OF SECTION 017700

SECTION 017701 - CHECKLIST FOR PROJECT CLOSEOUT AND PROCESSING OF FINAL  
PAYMENT

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 PROCEDURES

- A. Retainage will not be released until all items indicated are received in accordance with Section 01 77 00 - EXECUTION AND CLOSEOUT REQUIREMENTS.

B. Close-Out Submittals:

1. ☐ Wage & Supplements Verification Form (copy for contractor and subcontractors attached).
2. ☐ Three (3) bound, hard cover, 3-ring binder with of Operation and Maintenance Manuals information, indexed and tabbed by section . (3 electronic disks of same info)
3. ☐ Manufacturers instruction books, diagrams, spare parts lists covering all equipment.
4. ☐ Instruction of Owner's Representative in care and maintenance of new equipment. (sign in sheets)
5. ☐ Certificates of compliance and inspection. (Where applicable – roofing, electric, etc.)
6. ☐ Spare parts and Maintenance Materials. (Receipt signed by CM and Owner ).
7. ☐ Evidence of compliance with requirements of governing authorities (Certificates of Inspection Electrical, etc).
8. ☐ Certificates of insurance for products and completed operations.
9. ☐ Notarized statement on letterhead that only non-asbestos materials were installed on this project.
10. ☐ Fully executed certificate of substantial completion: AIA G704.
11. ☐ Contractor's written one-year warranty and extended warranties ( hardcopies plus 3 electronic copies on disks)
12. ☐ Project Record Documents. ( all approved submittals , Hard copy and 2 disks )
13. ☐ As-Built Drawings (Hard copy & 3 electronic copies on disks)
14. ☐ Training sessions videotaped by contractor (3 electronic copies on disks)

C. Evidence of Payments and Release of Liens:

1. ☐ Contractor's Affidavit of Payment of Debts and Claims: AIA G706.
2. ☐ Contractor's Affidavit of Release of Liens - AIA G706A with:
3. ☐ Separate written releases of waivers and liens for subcontractors, suppliers, and others with lien rights against the property of owner, together with a list of those parties. ( AIA G706A from subcontractors is acceptable )
4. ☐ Consent of Surety to Final Payment: AIA G707.

**Contractor Wage and Supplement Certification**

I \_\_\_\_\_ am an officer  
of \_\_\_\_\_ (Prime Contractor  
and am duly authorized to make this affidavit for the Public Contract for the Hudson City School District.  
That I fully comprehend the terms and provisions of section 220-1 of the Labor Law.  
That I have been issued a copy of the schedule of Wages and Supplements, as specified in the project  
manual.  
That I agree to pay the applicable Prevailing Wage and will pay or provide the supplements specified.

Contractor

Signature

\_\_\_\_\_

Print Name

\_\_\_\_\_

President

\_\_\_\_\_

ACKNOWLEDGMENT:

STATE OF NEW YORK  
COUNTY OF \_\_\_\_\_

:SS.:

\_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ before me personally came  
\_\_\_\_\_ to me known and known to me to be the person described in and who  
executed the foregoing instrument and acknowledged that he executed the same.

Notary Public

County

\_\_\_\_\_

\_\_\_\_\_

**Subcontractor Wage and Supplement Certification**

That I am an officer of \_\_\_\_\_ and am duly authorized to make  
this affidavit on behalf of the Subcontract to \_\_\_\_\_

(Prime Contractor) on Public Contract for the Hudson City School District.

That I fully comprehend the terms and provisions of section 220-1 of the Labor Law.

That I have been issued a copy of the schedule of Wages and Supplements, as specified in the project  
manual.

That I agree to pay the applicable Prevailing Wage and will pay or provide the supplements specified.

Subcontractor

Signature

\_\_\_\_\_

Print Name \_\_\_\_\_

President \_\_\_\_\_

ACKNOWLEDGMENT:

STATE OF NEW YORK  
COUNTY OF \_\_\_\_\_

:SS.: \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ before me personally came  
\_\_\_\_\_ to me known and known to me to be the person described in and who  
executed the foregoing instrument and acknowledged that he executed the same.

Notary Public

County \_\_\_\_\_

\_\_\_\_\_  
**END OF SECTION**





## SECTION 017823 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation manuals for systems, subsystems, and equipment.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Manual Content: Submit manual content formatted and organized as required by this Section.
- B. Format: Submit operations and maintenance manuals in the following format:
  - 1. One paper copy and annotated PDF electronic files and directories of each submittal.
  - 2. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
  - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual prior to commencing demonstration and training.

### PART 2 - PRODUCTS

#### 2.1 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. service and lubrication requirements
  - 7. Demonstration and training video recording, if available.
- E. 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.
- F. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- G. 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

#### 3.1 MANUAL PREPARATION

- A. 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.
- B. 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.
- C. 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.

END OF SECTION 017823

## SECTION 017839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Requirements:
  - 1. Section 017700 "Closeout Procedures" for general closeout procedures.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of record Drawings as follows:
    - a. Initial Submittal:
      - 1) Submit PDF electronic files of scanned record prints.
      - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit PDF electronic files of scanned record prints and 1 set of prints.
      - 2) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Product Data: Submit one paper copy and annotated PDF electronic files 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.
- C. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy and annotated PDF electronic files and directories of each submittal.

## PART 2 - PRODUCTS

### 2.1 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 where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.
    - e. Cross-reference record prints to corresponding archive photographic documentation.
  - 2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Changes made by Change Order.
    - d. Changes made following Architect's written orders.
    - e. Details not on the original Contract Drawings.
    - f. Field records for variable and concealed conditions.
    - g. Record information on the Work that is shown only schematically.
  - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - 6. 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, as follows:
  - 1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
  - 2. Format: Annotated PDF electronic file.
  - 3. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  - 4. Refer instances of uncertainty to Architect for resolution.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Format: Annotated PDF electronic file.
2. 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.
3. Identification: As follows:
  - a. Project name.
  - b. Date.
  - c. Designation "PROJECT RECORD DRAWINGS."
  - d. Name of Architect.
  - e. Name of Contractor.

## 2.2 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 and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.
  1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

## 2.3 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 PDF electronic file 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

### 3.1 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's reference during normal working hours.

END OF SECTION 017839

## SECTION 017900 - DEMONSTRATION AND TRAINING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video recordings.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. 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.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies 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 in-



formation as the corresponding video recording. Include name of Project and date of video recording on each page.

3. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
4. At completion of training, submit complete training manual(s) for Owner's use prepared and bound in format matching operation and maintenance manuals.
5. Submit 3 copies of training DVD

#### 1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.
- D. 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. Inspect and discuss locations and other facilities required for instruction.
  2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
  3. Review required content of instruction.
  4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

#### 1.6 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

#### 2.1 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:
1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - 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.
  4. Operations: Include the following, as applicable:
    - a. Startup procedures.
    - b. Equipment or system break-in procedures.
    - c. Routine and normal operating instructions.
    - d. Regulation and control procedures.
    - e. Control sequences.
    - f. Safety procedures.
    - g. Instructions on stopping.
    - h. Normal shutdown instructions.
    - i. Operating procedures for emergencies.
    - j. Operating procedures for system, subsystem, or equipment failure.
    - k. Seasonal and weekend operating instructions.
    - l. Required sequences for electric or electronic systems.
    - m. Special operating instructions and procedures.

5. Adjustments: Include the following:
  - a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
  - a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
  - a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
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

#### 3.1 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.

#### 3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, sub-systems, and equipment not part of a system.
  1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.

2. Owner will furnish an instructor to describe Owner's operational philosophy.
  3. Owner will furnish Contractor with names and positions of participants.
- C. 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, through Architect with at least seven days' advance notice.
- D. 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.

### 3.3 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. ( provide 3 copies )
  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:
    - a. Name of Contractor/Installer.
    - b. Business address.
    - c. Business phone number.
    - 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.
    - a. Produce segments to present a single significant piece of equipment per segment.
    - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.

- c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
  - 1. Furnish additional portable lighting as required.
- E. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
- F. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

END OF SECTION 01790

## SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Basis of Design documentation is included by reference for information only in division 23.

#### 1.2 SUMMARY

- A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.
- B. Related Sections:
  - 1. Division 23 Section "Commissioning of HVAC" for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
  - 2. Division 26 Section "Commissioning of Electrical Systems" for commissioning process activities for electrical systems, assemblies, equipment, and components.
  - 3. Division 28 Section "Commissioning of Electronic Safety and Security" for commissioning process activities for electronic safety and security systems, assemblies, equipment, and components.

#### 1.3 DEFINITIONS

- A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. CxA: Commissioning Authority.
- D. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

#### 1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to,

representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.

B. Members Appointed by Owner:

1. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. The HVAC Contractor will engage a third party CxA for the job.

C. Members Appointed by the Owner:

1. Representatives of the facility user and operation and maintenance personnel.
2. Architect and engineering design professionals.
3. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process.

## 1.5 OWNER'S RESPONSIBILITIES

- A. Provide the BOD documentation to the CxA and each Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities as needed.
- C. Provide the BoD documentation, prepared by Architect and approved by Owner, to the CxA and each Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

## 1.6 EACH CONTRACTOR'S RESPONSIBILITIES

- A. Each Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
  1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
  2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
  3. Attend commissioning team meetings held on a biweekly basis during summer months and as needed.
  4. Integrate and coordinate commissioning process activities with construction schedule.
  5. Review and accept construction checklists provided by the CxA.
  6. Complete electronic construction checklists as Work is completed and provide to the Commissioning Authority on a weekly basis.
  7. Review and accept commissioning process test procedures provided by the Commissioning Authority.
  8. Complete commissioning process test procedures.

## 1.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.

- B. Provide commissioning plan.
- C. Convene commissioning team meetings.
- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the specifications. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 019113





**SECTION 020800 – ASBESTOS ABATEMENT**

AT: WAPPINGERS CENTRAL SCHOOL DISTRICT  
ROY C. KETCHAM HIGH SCHOOL - SED# 13-21-01-06-0-012-039  
JOHN JAY HIGH SCHOOL - SED# 13-21-01-06-0-020-043  
VAN WYCK JR. HIGH SCHOOL - SED# 13-21-01-06-0-017-027  
WAPPINGERS JR. HIGH SCHOOL - SED# 13-21-01-06-0-004-036  
FISHKILL ELEMENTARY SCHOOL - SED# 13-21-01-06-0-005-021  
SHEAFE ROAD ELEMENTARY SCHOOL - SED# 13-21-01-06-0-018-022  
VASSAR ROAD ELEMENTARY SCHOOL - SED# 13-21-01-06-0-008-026  
TRANSPORTATION/MAIN GARAGE #1 - SED# 13-21-01-06-5-007-009

OWNER: WAPPINGERS CENTRAL SCHOOL DISTRICT  
25 CORPORATE PARK DRIVE  
HOPEWELL JUNCTION, NEW YORK 12533

CONSULTANT: QUALITY ENVIRONMENTAL SOLUTIONS  
& TECHNOLOGIES, INC.  
1376 ROUTE 9  
WAPPINGERS FALLS, NEW YORK 12590



**SPECIFICATION DATED: October 30, 2023**

Design conforms to all applicable provisions of the NYS Uniform Fire Prevention and Building Code, NYS Energy Conservation Construction Code and Education Department Building Standards.



## SECTION 020800 – ASBESTOS ABATEMENT PROCEDURES

### PART I – GENERAL

#### 1.01 DESCRIPTION

- A. All work under this contract shall be performed in strict accordance with the specifications and all applicable laws for asbestos removal projects. The Abatement Contractor shall furnish all labor, materials, supervision, services, insurance and equipment necessary for the complete and total removal of Asbestos-containing Materials (ACM) as described herein, in attachments to the specification, Job Specific Variance(s) and/or as directed by Wappingers CSD (here-in-after the "Owner") and/or the Owners Representative(s) to support the ***Wappingers CSD – 2023 District Wide Renovations Phase 2.***
- B. Abatement Contractor shall provide for personnel air monitoring to satisfy OSHA regulation 29 CFR Parts 1926.1101(f). All work performed shall be in strict accordance with applicable provisions and regulations promulgated under New York State Department of Labor, Industrial Code 56 (ICR-56).
- C. The Abatement Contractor shall satisfy the requirements for asbestos projects issued by the New York State Department of Labor concerning licensing and certification; notification; equipment; removal and disposal procedures; engineering controls; work area preparation; decontamination and clean-up procedures; and personnel air monitoring.
- D. The Abatement Contractor shall be responsible for submittal of asbestos project notification(s) and applicable fees to EPA and NYSDOL concerning this project. Project notification(s) shall be made for the cumulative total of ACM to be removed as required by ICR-56-3.4. Work practices for each individual work area established shall be consistent with the quantity of ACM contained within that work area as defined in ICR-56-2.
- E. The scope of work under this contract shall include the following:
  - 1. All asbestos-containing materials (ACM) shall be removed in accordance with these specifications. The Abatement Contractor is responsible for field verification of estimated quantities, locations and other site conditions that may affect work.
  - 2. All fixed objects remaining within the work area(s) shall be protected as required by Title 12 NYCRR Section 56-7.10(b) and as described in these specifications.
  - 3. The containerization, labeling and disposal of all asbestos waste in accordance with applicable city, state and federal regulations and these specifications.
  - 4. The Abatement Contractor will be responsible for repairing all building components damaged during abatement including, but not limited to, ceiling tiles, ceiling finishes, wall finishes and/or floor finishes, etc.

5. The Abatement Contractor shall be responsible for any and all demolition required to access materials identified in scope of work and on associated drawings.
6. Concealed conditions that are exposed and may require additional work shall be brought to the attention of the Owner(s) immediately. The Abatement Contractor shall not abate these areas without written notice to proceed. If the Abatement Contractor removes additional asbestos prior to the order to proceed the additional work will not be acknowledged.
7. Permissible working hours shall be Monday through Friday 7:00 A.M. to 4:00 P.M. and/or as defined by the Owner(s) and/or Owner's Representative(s). Holidays shall be considered weekends and not included for working days. Upon written approval from the Owner, the Abatement Contractor may work past these hours. The Abatement Contractor will incur any and all costs associated for work performed beyond the defined schedule including, but not limited to: abatement activities, project/air monitoring, custodial/staffing labor, overtime, mobilizations, etc.
8. The buildings will be turned over to the Abatement Contractor as is. At that time, all electrical services and HVAC systems in the proposed work areas will be shut down. Electricity and water supply will be maintained in the building for use by the Abatement Contractor. The Abatement Contractor is responsible for securing all power in the work area(s) and establishing all temporary GFCI hookups necessary to complete his work.
9. The Abatement Contractor shall remove all identified Asbestos-containing Materials (ACM) to building substrate(s); in areas indicted. Subsequent to final air clearances, the substrate(s) shall be washed with a neutralizing agent to prepare the substrate to accept new floor covering and eliminate residual odors.
10. The Abatement Contractor must coordinate location of waste containers with the Facility and the Owner. Deliveries and storage of equipment must be coordinated with the Facility and the Owner.
11. All "Large" and "Small" asbestos abatement projects, as defined by 12 NYCRR56 shall not be performed while the building is occupied. The term "building" means a wing or major section of a building that can be completely isolated from the rest of the building with sealed non-combustible construction. The isolated portion of the building must contain exists that do not pass through the occupied portion(s) and ventilation systems must be physically separated and sealed at the isolation barriers.

## **1.02 PRE-CONTRACT SUBMITTALS**

Within three (3) days after bids are opened, the three (3) apparent low bidders shall be required to submit the following documentation:

A. Resume's: Shall include the following:

1. Provide a list of projects of similar nature performed within the past two (2) years and include the dollar value of all projects. Provide project references to include owner, consultant, and air monitoring firms' name, contact person, address, and phone number, include location of project and date of completion.
2. Abatement Contractor license issued by New York State Department of Labor for asbestos work in accordance with ICR-56-3.
3. A list of owned equipment available to be used in the performance of the project.
4. The number of years engaged in asbestos removal.
5. An outline of the worker training courses and medical surveillance program conducted by the Abatement Contractor.
6. A standard operating procedures manual describing work practices and procedures, equipment, type of decontamination facilities, respirator program, special removal techniques, etc.
7. Documentation to the satisfaction of the Owner pertaining to the Abatement Contractor's financial resources available to perform the project. Such data shall include, but not be limited to, the firm's balance sheet for the last fiscal year.

**B. Citations/Violations/Legal Proceedings**

1. Submit a notarized statement describing any citations, violations, criminal charges, or legal proceedings undertaken or issued by any law enforcement, regulatory agency, or consultant concerning performance on previous asbestos abatement contracts. Briefly describe the circumstances citing the project and involved persons and agencies as well as the outcome of any actions.
2. Answer the question: "Has your firm or its agents been issued a Stop Work order on any project within the last two years?" If "Yes" provide details as discussed above.
3. Answer the question: "Are you now, or have you been in the past, a party to any litigation or arbitrations arising out of your performance on Asbestos Abatement Contracts?" If "Yes" provide details as discussed in 1. above.
4. Describe any liquidated damages assessed within the last two years.

**C. Preliminary Schedule**

1. Provide a detailed schedule including work dates, work shift times, estimate of manpower to be utilized and the start and completion date for completion of each major work area.

### 1.03 DOCUMENTATION

- A. The Abatement Contractor shall be required to submit the following and receive the Consultant's approval prior to commencing work on this project:
1. Provide documentation of worker training for each person assigned to the project. Documentation shall include copies of each workers valid New York State asbestos handler certificates (for those employees who may perform asbestos removal), documentation of current respirator fit test and current OSHA required training and medical examination.
  2. The attached "Asbestos Employee Medical Examination Statement" and "Asbestos Employee Training Statement" forms shall be completed, signed and submitted for each worker assigned to the project. Records of all employee training and medical surveillance shall be maintained for at least forty (40) years. Copies of the records shall be submitted to the Consultant prior to commencement.
  3. The Abatement Contractor shall submit proof of a current, valid license issued by the New York State Department of Labor pursuant to the authority vested in the Commissioner by section 906 of the Labor Laws, and that the employees performing asbestos related work on this project are certified by the State of New York as required in Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York latest edition. Copies of all licenses shall be submitted prior to the commencement of the project.
  4. The Abatement Contractor shall submit a written respiratory protection program meeting the requirements of 29 CFR 1910.134 to the Consultant.
  5. The name, address, social security number and NYS DOL certificate number of the person(s) who will supervise the asbestos project.
  6. The name and address of the deposit or waste disposal site or sites where the asbestos materials are to be deposited or disposed of. This site must be approved by the Owner. The manifesting procedure must also be specified.
  7. The name, address and New York State Dept. of Environmental Conservation ID Number of any transporters that are to be used to transport waste.
  8. A written Standard Operation Procedure (SOP) that is designed and implemented to maximize protection against human exposure to asbestos dust. The SOP shall take into consideration the workers, visitors, building employees, general public and environment. As a minimum the procedures must include the following:
    - a. Security for all work areas on an around-the-clock basis against unauthorized access.
    - b. Project organization chart including the phone numbers of at least two responsible persons who shall be authorized to dispatch men and equipment to the project in the event of an emergency; including weekends.

- c. Description of protective clothing and NIOSH approved respirators to be used.
  - d. Description of all removal methods to be used, including HEPA air filtration and decontamination sequence with special emphasis on any procedure that may deviate from these specifications.
  - e. A list of manufacturers' certificates stating that all vacuums, negative air filtration equipment, respirators and air supply equipment meet OSHA and EPA requirements.
  - f. A list of all materials proposed to be furnished and used under this contract.
  - g. Emergency evacuation procedures in the event of fire, smoke or accidents such as injury from falling, heat exposure, electrical shock, etc.
  - h. The name, address and ELAP number of the New York State Department of Health Certified Analytical Testing Laboratory the Contractor proposes to use for the OSHA monitoring.
9. A detailed plan, in triplicate, for the phasing of the project, division of work areas and location of decontamination facilities, waste containers and temporary office.
10. Work schedule, identifying firm dates and completion for actual areas. Bar chart or critical path chart indicating phases is required.
- B. The Abatement Contractor shall post their NYS DOL contractor's license and maintain a daily log documenting the dates and time of the following items within each personal decontamination unit:
- 1. Meetings; purpose, attendants, discussion (brief)
  - 2. Sign-in and sign-out of all persons entering the work area including name, date, time, social security number, position or function and general description of daily activity.
  - 3. Testing of barriers and enclosure systems using smoke tubes prior to the beginning of abatement activities and at least once a day thereafter until satisfactory clearance air monitoring results have been achieved.
  - 4. Inspection of all plastic barriers, twice daily, by the asbestos supervisor.
  - 5. Loss of enclosure integrity; special or unusual events, barrier breaches, equipment failures, etc.
  - 6. Daily cleaning of enclosures.
  - 7. Personnel air monitoring test results for OSHA Compliance. Results shall be posted at the work site within 24 hours of testing and copies supplied to the Owner within five (5) days of testing. Any abnormalities shall be supplied to the Owner immediately.



- C. Documentation with confirmation signature of Consultant's representative of the following shall be provided by the Abatement Contractor at the final closeout of the project.
1. Testing of barriers and enclosure systems using smoke tubes shall be performed prior to the beginning of abatement activities and at least once a day thereafter until satisfactory clearance air monitoring results have been achieved.
  2. Inspection of all plastic barriers.
  3. Removal of all polyethylene barriers.
  4. Consultant's inspections prior to encapsulation.
  5. Removal of waste materials.
  6. Decontamination of equipment (list items).
  7. Consultant's final inspection/final air tests.
- D. The Abatement Contractor shall provide records of all project information, to include the following which shall be submitted upon completion of the project and prior to approval of the Abatement Contractor's payment application:
1. The location and description of the abatement project.
  2. The name, address and social security number of the person(s) who supervised the asbestos project.
  3. Certified payroll documentation Pursuant to Article 8, Section 220 of the NYS Labor Law
  4. Copies of EPA/NYSDOL Asbestos Certificates for all Workers and Supervisors employed on the Project.
  5. Copies of Medical Approval and Respirator Fit-testing for all Asbestos Workers and Supervisors employed on the Project.
  6. Copies of Abatement Contractors Daily Sign-In Sheets & Logs for persons entering and leaving the work area. – Title 12 NYCRR Part 56-7.3.
  7. Copies of Abatement Contractor's personal air sampling laboratory results.
  8. The amounts and type of asbestos materials that was removed, enclosed, encapsulated, or disturbed.

9. The name and address of the deposit or waste disposal site or sites where the asbestos waste materials were deposited or disposed of and all related manifests, receipts and other documentation associated with the disposal of asbestos waste.
10. The name and address of any transporters used to transport waste and all related manifests, receipts and other documentation associated with the transport of asbestos waste.
11. All other information that may be required by state, federal or local regulations.
12. Copy of the Supervisor's Daily Project Log of events as described in 1.03 B, above.

#### **1.04 NOTIFICATIONS AND PERMITS**

- A. The Abatement Contractor shall be required to prepare and submit notifications to the following agencies at least ten (10) days and/or business days, as required prior to the commencement of the project:
  1. Asbestos NESHAPS Contact  
U.S. Environmental Protection Agency  
NESHAPS Coordinator, Air Facilities Branch  
26 Federal Plaza  
New York, New York 10007  
(212) 264-7307
  2. State of New York Department of Labor  
Division of Safety and Health  
Asbestos Control Bureau  
State Office Building Campus, Building 12, Room 454  
Albany, New York 12240
  3. Owner(s):  
Wappingers CSD  
25 Corporate Park Drive  
Hopewell Junction, NY 12533  
ATTN: Ronald Broas, Director of Facilities & Operations  
Ph. (845) 298-5150  
Fx. (845) 446-7108  
E-mail. [ronald.broas@wcsdny.org](mailto:ronald.broas@wcsdny.org)
  4. Environmental Consultant(s): Quality Environmental Solutions & Technologies, Inc. (QuES&T)  
1376 Route 9  
Wappingers Falls, New York 12590  
ATTN: Rudy Lipinski, Director of Field Operations  
Ph. (845) 298-6031  
Fx. (845) 298-6251  
E-mail. [rlipinski@qualityenv.com](mailto:rlipinski@qualityenv.com)

B. The notification shall include but not be limited to the following information:

1. Name and address of Owner.
2. Name, address and asbestos handling license number of the Abatement Contractor.
3. Address and description of the building, including size, age, and prior use of the building or area; the amount, in square feet or linear feet of asbestos material to be removed; room designation numbers or other local information where asbestos material is found, including the type of asbestos material (friable or non-friable).
4. Scheduled starting and completion dates for removal.
5. Methods to be employed in abating asbestos containing materials.
6. Procedures and equipment, including ventilating/exhaust systems, that will be employed to comply with the Code of Federal Regulation (CFR) Title 40, Part 61 of the U.S. Environmental Protection Agency.
7. The name and address of the carting company and of the waste disposal site where the asbestos waste will be deposited.

**NOTE:** Notifications shall be submitted using standard forms as may be used by the respective agency.

For DOL (NYS) include "Asbestos Project Notification" form (DOSHS-483) with proper fee, if required. For EPA include "Notification of Demolition and Renovation"; 40 CFR Part 61.

- C. The Abatement Contractor shall secure any permits required by the city, town, county, or state that may be required and the cost for obtaining the permit shall be included in his base bid.
- D. The Abatement Contractor shall erect warning signs around the work space at every point of potential entry into the work area in accordance with OSHA 1926.58k (2), (i). These signs shall bear the following information:

<p style="text-align: center;"><b>DANGER</b></p> <p style="text-align: center;"><b>CANCER AND LUNG DISEASE HAZARD</b></p> <p style="text-align: center;"><b>AUTHORIZED PERSONNEL ONLY</b></p> <p style="text-align: center;"><b>RESPIRATORS AND PROTECTIVE</b></p> <p style="text-align: center;"><b>CLOTHING</b></p> <p style="text-align: center;"><b>ARE REQUIRED IN THIS AREA</b></p>
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- E. The Abatement Contractor shall post at entrances to the work place and immediate adjacent areas, notifications to building occupants which include the name and license number of the contractor, project location and size, amount and type of ACM, abatement procedures, dates of expected occurrence and name and address of the air monitor and laboratory in compliance with ICR 56-3.6.
- F. The Abatement Contractor shall post a list of emergency telephone numbers at the job site which shall include the Owner's Representative, police, emergency squad, local hospital, Environmental Protection Agency, N.Y. State Department of Labor, Occupational Safety and Health Administration and the local Department of Health.

## **1.05 APPLICABLE STANDARDS**

Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, applicable standards of the construction industry have the same force and effects (and are made a part of contract documents by reference) as if copied directly into contract documents, or as if published copies were bound herewith. Resolution of overlapping and conflicting requirements, which result from the application of several different industry standards to the same unit of work, shall be by adherence to the most stringent requirement.

- A. Applicable standards listed in these Specifications form a part of this Specification and include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:
  - 1. ANSI:  
American National Standards Institute  
1430 Broadway  
New York, New York 10018
  - 2. ASHRAE:  
American Society for Heating, Refrigerating  
and Air Conditioning Engineers  
1791 Tullie Circle NE  
Atlanta, Georgia 30329
  - 3. ASTM:  
American Society for Testing and Materials  
1916 Race Street  
Philadelphia, Pennsylvania 19103
  - 4. CFR  
Code of Federal Regulations Available  
from Government Printing Office  
Washington, District of Columbia 20402

5. CGA  
Compressed Gas Association  
1235 Jefferson Davis Highway  
Arlington, Virginia 22202
6. CS  
Commercial Standard of NBS  
(US Dept. of Commerce)  
Government Printing Office
7. EPA  
Environmental Protection Agency, Region II  
26 Federal Plaza  
New York, New York 10007  
Asbestos Coordinator - Room 802  
(212) 264-9538  
Part 61, Sub-Parts A & B  
National Emission Standard for Asbestos
8. FEDERAL SPECS  
Federal Specification (General Services Administration)  
7th and D Street, SW  
Washington, District of Columbia 20406
9. NBS  
National Bureau of Standards  
(US Department of Commerce)  
Gaithersburg, Maryland 20234
10. NEC  
National Electrical Code (by NFPA)
11. NFPA  
National Fire Protection Association  
Batterymarch Park  
Quincy, Massachusetts 02269
12. NIOSH  
National Institute for Occupational Safety and Health  
26 Federal Plaza  
New York, New York 10007

13. NYSDOH

New York State Department of Health  
Bureau of Toxic Substance Assessment  
Room 359 - 3rd Floor  
Tower Building Empire State Plaza  
Albany, New York 12237

14. NYSDEC

New York State Department of Environmental Conservation  
Room 136  
50 Wolf Road  
Albany, New York 12233-3245

15. NYSDOL

State of New York Department of Labor  
Division of Safety and Health  
Asbestos Control Program  
State Campus  
Building 12  
Albany, New York 12240

16. OSHA

Occupational Safety and Health Administration  
(US Department of Labor)  
New York Regional Office - room 3445  
1515 Broadway  
New York, New York 10036

17. UL

Underwriters Laboratories  
333 Pfingsten Road  
Northbrook, Illinois 60062

B. Federal Regulations: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:

1. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA):

- a. Asbestos Regulations  
Title 29, Part 1910, of the Code of Federal Regulations.
- b. Respiratory Protection  
Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
- c. Construction Industry  
Title 29, Part 1926, of the Code of Federal Regulations.

- d. Access to Employee Exposure & Medical Records  
Title 29, Part 1910, Section 20 of the Code of Federal Regulations.
  - e. Hazard Communication  
Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.
  - f. Specifications for Accident Prevention Signs and Tags  
Title 29, Part 1910, section 145 of the Code of Federal Regulations.
2. U.S. Environmental Protection Agency (EPA):
- a. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Subpart E of the Code of Federal Regulations.
  - b. Worker Protection Rule  
40 CFR Part 763, Subpart G, CPTS 62044, FLR 2843-9  
Federal Register, Vol. 50, No. 134, 7/12/85, P28530-28540
  - c. Regulation for Asbestos  
Title 40, Part 61, Subpart A of the Code of Federal Regulations
  - d. National Emission Standard for Asbestos  
Title 40, Part 61, Subpart M (Revised Subpart B) of the Code of Federal Regulations
  - e. Resource Conservation and Recovery Act (RCRA) 1976, 1980  
Hazardous and Solid Waste Amendments (HSWA) 1984  
Subtitle D, Subtitle C
3. U.S. Department of Transportation (DOT):
- a. Hazardous Substances: Final Rule Regulation 49 CFR, Part 171 and 172.
- C. State Regulations: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:
- 1. New York State Department of Environmental Conservation (DEC) Regulations regarding waste collection registration. Title 6, Part 364 of the New York State Official Compilation of Codes, Rules and Regulations - 6NYCRR 364.
  - 2. New York State Right-To-Know Law
  - 3. New York State Department of Labor Asbestos Regulations Industrial Code Rule 56.
  - 4. New York State Department of Health, Title 10 Part 73 Asbestos Safety Program Requirements.

D. Standards: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:

1. American National Standards Institute (ANSI)

a. Fundamentals Governing the Design and Operation of Local Exhaust Systems  
Publication Z9.2-79

b. Practices for Respiratory Protection  
Publication Z88.2-80

E. Guidance Documents: Those that discuss asbestos abatement work or hauling and disposal of asbestos waste materials are listed below only for the Abatement Contractor's information. These documents do not describe the work and are not a part of the work of this contract.

EPA:

1. Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)  
EPA560/5-85-024.

2. Asbestos Waste Management Guidance EPA 530-SW-85-007.

F. Patents and Royalties: The Abatement Contractor shall pay all royalties and/or license fees. The Abatement Contractor shall defend all suits and claims for infringement of any patent rights and save the Owner and Consultant harmless from loss including attorney fees on account thereof.

## 1.06 DEFINITIONS

As used in or in connection with these specifications the following are terms and definitions.

**Abatement** - Procedure to control release from asbestos material. This includes removal, encapsulation and enclosure.

**Aggressive sampling** - A method of sampling in which the person collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.

**AIHA** - The American Industrial Hygiene Association, 475 Wolf Ledges Parkway, Akron, Ohio 44311.



**Airlock** - A system for permitting entrance and exit while restricting air movement between a containment area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least three feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

**Air sampling** - The process of measuring the content of a known volume of air collected during a specific period of time.

**Amended water** - Water to which a surfactant has been added.

**Approved asbestos safety program** - A program approved by the Commissioner of Health providing training in the various disciplines that may be involved in an asbestos project.

**Area air sampling** - Any form of air sampling or monitoring where the sampling device is placed at some stationary location.

**Asbestos** - Any naturally occurring hydrated mineral silicate separable into commercially usable fibers, including chrysotile (serpentine), amosite (cummingtonite-gunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite.

**Asbestos contract** - An oral or written agreement contained in one or more documents for the performance of work on an asbestos project and includes all labor, goods and service.

**Asbestos handler** - An individual who installs, removes, applies, encapsulates, or encloses asbestos or asbestos material, or who disturbs friable asbestos. Only individuals certified by NYS Department of Labor shall be acceptable for work under this specification.

**Asbestos handling certificate** - A certificate issued by the Commissioner of Labor of the State of New York, to a person who has satisfactorily completed an approved asbestos safety program.

**Asbestos project** - Work undertaken by a contractor which involves the installation, removal, encapsulation, application or enclosure of any ACM or the disturbance of friable ACM.

**Asbestos Safety Technician (AST)** - Individual designated to represent the Consultant, perform third party monitoring and perform compliance monitoring at the job site during the asbestos project.

**Asbestos waste material** - Asbestos material or asbestos contaminated objects requiring disposal.

**Authorized visitor** - The building owner, his or her representative or any representative of a regulatory or other agency having jurisdiction over the project.

**Background level monitoring** - A method used to determine ambient airborne concentrations inside and outside of a building or structure prior to starting an abatement project.

**Building owner** - The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance Building Owner means the person in whom beneficial title is vested.

**Clean room** - An uncontaminated area or room that is a part of the personal decontamination enclosure with provisions for storage of persons' street clothes and protective equipment.

**Cleanup** - The utilization of HEPA vacuuming to control and eliminate accumulations of asbestos material and asbestos waste material.

**Clearance air monitoring** - The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers upon conclusion of an asbestos abatement project.

**Commissioner** - Commissioner of the New York State Department of Labor.

**Contractor** - A company, unincorporated association, firm, partnership or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.

**Curtained doorway** - A device that consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and the left side. All sheets shall have weights attached to the bottom to insure that the sheets hang straight and maintain a seal over the doorway when not in use.

**Decontamination enclosure system** - A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of persons, materials, equipment, and authorized visitors.

**Encapsulant (sealant) or encapsulating agent** - A liquid material that can be applied to asbestos material and which prevents the release of asbestos from the material by creating a membrane over the surface.

**Enclosure** - The construction of airtight walls, ceilings and floors between the asbestos material and the facility environment, or around surfaces coated with asbestos materials, or any other appropriate procedure that prevents the release of asbestos materials.

**Equipment room** - A contaminated area or room that is part of the personal decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.

**Fixed object** - A unit of equipment, furniture or other fixture in the work area which cannot be readily removed from the work area.

**Friable Asbestos Material** - That condition of crumbled, pulverized, powdered, crushed or exposed asbestos capable of being released into the air by hand pressure.

**Friable material containment** - The encapsulation or enclosure of any friable asbestos material.

**Glovebag technique** - A method for removing asbestos material from heating, ventilating, and air conditioning (HVAC) ducts, piping runs, valves, joints, elbows, and other nonplanar surfaces in a noncontained work area. The glovebag assembly is a manufactured device consisting of a glovebag constructed of at least six mil transparent plastic, two inward-projecting longsleeve gloves, which may contain an inward projecting waterwand sleeve, an internal tool pouch, and an attached, labeled receptacle or portion for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and to contain all asbestos fibers released during the abatement process.

**HEPA filter** - A high efficiency particulate air filter capable of trapping and retaining 99.97 percent of particulate greater than 0.3 microns equivalent aerodynamic diameter.

**HEPA vacuum equipment** - Vacuuming equipment with a high efficiency particulate air filtration system.

**Holding area** - A chamber in the waste decontamination enclosure located between the washroom and an adjacent uncontaminated area.

**Homogeneous work area** - A site within the abatement work area that contains one type of asbestos material and where one type of abatement is used.

**Large asbestos project** - An asbestos project involving the installation, removal, disturbance, enclosure, or encapsulation of 160 square feet or more of asbestos or asbestos material or 260 linear feet or more of asbestos or asbestos material.

**Minor asbestos project** - An asbestos project involving the installation, removal, disturbance, enclosure, or encapsulation of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material.

**Movable object** - A unit of equipment, furniture or fixture in the work area that can be readily removed from the work area.

**Negative air pressure equipment** - A local exhaust system equipped with HEPA filtration. The system shall be capable of creating and maintaining a negative pressure differential between the outside and the inside of the work area.

**Non-asbestos material** - Any material containing one percent or less asbestos by weight.

**Occupied area** - Any frequented portion of the work site where abatement is not taking place.

**Outside air** - The air outside the building or structure.

**Personal air monitoring** - A method used to determine an individual's exposure to airborne contaminants. The sample is collected outside the respirator in the person's breathing zone.

**Plasticize** - To cover floors, walls, ceilings and other surfaces with 6 mil fire retardant plastic sheeting as herein specified.

**Project** - Any form of work performed in connection with the abatement of asbestos or alteration, renovation, modification or demolition of a building or structure that may disturb asbestos or asbestos material.

**Removal** - The stripping of any asbestos material.

**Repair** - Corrective action using required work practices to control fiber release from damaged areas.

**Respiratory protection** - Respiratory protection required of licensed asbestos workers and authorized visitors in accordance with the applicable laws.

**Satisfactory clearance air monitoring results** - For all post- abatement samples, airborne concentrations of total fibers that are less than 0.01 fibers per cubic centimeter or background levels, whichever are greater, using phase contrast microscopy (PCM).

**Shower room** - A room between the clean room and the equipment room in the personal decontamination enclosure with hot and cold running water controllable at the top and arranged for complete showering during decontamination.

**Small asbestos project** - An asbestos project involving the installation, removal, disturbances, enclosure, or encapsulation of more than 10 and less than 160 square feet of asbestos or asbestos material of more than 25 and less than 260 linear feet of asbestos or asbestos material.

**Staging area** - The area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.

**Surfactant** - A chemical wetting agent added to water to improve its penetration.

**Visible emissions** - An emission of particulate material that can be seen without the aid of instruments.

**Washroom** - A room between the work area and the holding area in the waste decontamination enclosure system, where equipment and waste containers are wet cleaned and/or HEPA vacuumed.

**Waste decontamination enclosure system** - An area, consisting of a washroom and a holding area, designated for the controlled transfer of materials and equipment.

**Wet cleaning** - The process of eliminating asbestos contamination from surfaces, equipment or other objects by using cloths, mops, or other cleaning tools.

**Work area** - Designated rooms, spaces, or areas where asbestos abatement takes place.

**Work site** - Premises where asbestos abatement is taking place.

**Work Surface** - Substrate surface from which asbestos-containing material has been removed.

## **1.07 UTILITIES, SERVICE AND TEMPORARY FACILITIES**

- A. The Owner shall make available to the Abatement Contractor all reasonable amounts of water and electrical power at no charge.
- B. The Abatement Contractor shall provide, at his own expense, all electrical, water, and waste connections, extensions, and construction materials, supplies, etc. All connections must be approved in advance by the Owner and all work relative to the utilities must be in accordance with the applicable building codes.
- C. The Abatement Contractor shall provide scaffolding, ladders and staging, etc. as necessary to accomplish the work of this contract. The type, erection and use of all scaffolding, ladders and staging, etc. shall comply with all applicable OSHA provisions.
- D. All connections to the Owner's water system shall include reduced pressure backflow protection or double check and double gate valves. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.
- E. The Abatement Contractor shall use only heavy-duty abrasion resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water to each work area and to each decontamination unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment. All water must be shut off at the end of each shift.
- F. The Abatement Contractor shall provide service to decontamination unit electrical subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect and ground-fault circuit interrupters (GFCI), reset button and pilot light, connected to the building's main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work. This electrical subpanel shall be used for hot water heater, PAPR battery recharging and air sampling pumps.
- G. The Abatement Contractor shall provide UL rated 40-gallon electric hot water heater to supply hot water for the decontamination unit shower. Activate from 30-amp circuit breaker on the electrical subpanel located within the decontamination unit. Provide with relief valve compatible with water heater operation; relief valve down to drip pan on floor with type L copper. Wiring of the hot water heater shall be in compliance with NEMA, NEC, and UL standards.

- H. The Abatement Contractor shall provide identification warning signs at power outlets, which are other than 110-120-volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 plugs into higher voltage outlets. Dry transformers shall be provided where required to provide voltages necessary for work operations. All outlets or power supplies shall be protected by ground fault circuit interrupter (GFCI) at the power source.
- I. The Abatement Contractor shall use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.
- J. The Abatement Contractor shall provide general service incandescent lamps of wattage indicated or required for adequate illumination; Protect lamps with guard cages or tempered glass enclosures; Provide exterior fixtures where fixtures are exposed to moisture.
- K. The Abatement Contractor shall provide temporary heat or air conditioning as necessary to maintain comfortable working temperatures inside and immediately outside the work areas. Heating and A/C equipment shall have been tested and labeled by UL, FM or another recognized trade association related to the fuel being used. Fuel burning heaters shall not be used inside containment areas. The Contractor shall also provide a comfortable working environment for occupied areas that are impacted by the asbestos removal.
- L. The Abatement Contractor shall comply with recommendations of the NFPA standard in regard to the use and application of fire extinguishers. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each work area, equipment room, clean room and outside the work area.

## **1.08 REMOVAL OF FIXTURES**

- A. In locations where the Abatement Contractor is directed to dispose of fixtures he shall either decontaminate the fixtures and dispose of them as non-asbestos containing materials or he shall place them in an appropriate container and dispose of them as asbestos containing material.
- B. In locations where the Abatement Contractor is directed to remove and reinstall fixtures, the fixtures shall be removed, decontaminated, labeled, protected with plastic and stored by the contractor in a location as directed by the Owner.
- C. Upon completion of the asbestos removal and upon receiving satisfactory clearance air monitoring results, all items to be replaced shall be restored to their original location and reinstalled by the Abatement Contractor.

## **PART 2 – PRODUCTS**

### **2.01 MATERIALS AND EQUIPMENT**

#### **A. GENERAL REQUIREMENTS**

1. Materials shall be stored off the ground, away from wet or damp surfaces and under protective cover to prevent damage or contamination.
2. Damaged or deteriorating materials shall not be used and shall be removed from the premises.
3. Power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.
4. The Abatement Contractor shall make available to authorized visitors, ladders and/or scaffolds of sufficient dimension and quantity so that all work surfaces can be easily and safely reached for inspection. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos. Scaffolds and ladders shall comply with all applicable codes.

**B. PLASTIC BARRIERS (POLYETHYLENE)**

1. In sizes and shapes to minimize the number of joints.
  - a. Six mil. (.006") fire-retardant for vertical protection (walls, entrances and openings).
  - b. Six mil. (.006") fire-retardant for horizontal protection (fixed equipment) and heating grilles.
  - c. Six mil. (.006") reinforced fire-retardant for floors of decon units.
2. Provide two (2) layers over all roof, wall and ceiling openings. Floor penetrations shall be sealed with a rigid material prior to plasticizing to prevent tripping and fall hazards. All seams within a layer shall be separated by a minimum distance of six feet and sealed airtight. All seams between layers shall be staggered.
3. Barrier Attachment - Commercially available duct tape (fabric or paper) and spray-on adhesive. Duct tape shall be capable of sealing joints of adjacent sheets of plastic, facilitating attachment of plastic sheets to finished or unfinished surfaces of dissimilar materials and adhering under both dry and wet conditions.

**C. SIGNS**

1. Danger signs shall be provided and shall conform to 29 CFR 1926.1101 and be 14" x 20". These signs shall bear the following information:

**DANGER  
ASBESTOS  
CANCER AND LUNG DISEASE HAZARD  
RESPIRATORS AND PROTECTIVE  
CLOTHING  
ARE REQUIRED IN THIS AREA**

**D. DANGER LABELS AND TAPE**

1. Labels shall be affixed to any asbestos contaminated material in accordance with the requirements of 29 CFR 1910.1200 (f) of OSHA's Hazard Communication Standard, and shall contain the following information:

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID BREATHING DUST  
CANCER AND LUNG DISEASE HAZARD**

2. A label shall be affixed on each container of asbestos waste in accordance with the requirements of 49 CFR Parts 171 and 172, Hazardous Substances; Final Rule (U.S. Department of Transportation), and shall contain the following information:

**RQ HAZARDOUS SUBSTANCE  
SOLID, NOS, ORM-E, NA 9188  
(ASBESTOS)**

3. A label shall be affixed on each container of asbestos waste in accordance with the requirements of 40 CFR Part 61.150, NESHAP; Asbestos; Final Rule (USEPA) and shall contain the name of the waste generator and the location at which the waste was generated.

NOTE: All containers marked as above (1,2 and 3) shall be disposed of as asbestos waste.

4. Provide 3" red barrier tape printed with black lettered "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos work area.

**E. PROTECTIVE EQUIPMENT**

1. Respiratory Requirements



- a. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators are the minimum allowable respiratory protection permitted to be utilized during removal operations.
- b. Where not in violation of NIOSH, OSHA, and any other regulatory requirements, the Abatement Contractor shall provide the following minimum respiratory protection to the maximum use concentrations indicated:

<u>MSHA/NIOSH Approved Respiratory Protection</u>	<u>Maximum Use Concentration</u>
Half-Mask Air Purifying with HEPA Filters	10x PEL
Full-Facepiece Air Purifying HEPA Filters and Quantitative Fit Test	10x PEL
Powered Air Purifying (PAPR), Loose fitting Helmet or Hood, HEPA Filter	25x PEL
Powered Air Purifying (PAPR), Full Facepiece, HEPA Filter	50x PEL
Supplied Air, Continuous Flow Loose fitting Helmet or Hood	25x PEL
Supplied Air, Continuous Flow Full Facepiece, HEPA Filter	50x PEL
Full Facepiece-Supplied Air Pressure Demand, HEPA Filter	100x PEL
Full Facepiece-Supplied Air Pressure Demand, with Aux. SCBA, Pressure Demand or Continuous Flow	>100x PEL

2. Disposable Clothing -"Tyvek" manufactured by Dupont or approved equal.
3. NIOSH approved safety goggles to protect eyes.
4. Polyethylene bags, 6 mil. (.006") thick (use double bags).

NOTE: Workers must wear disposable coveralls and respirator masks at all times while in the work area. Contaminated coveralls or equipment must be left in work area and not worn into other parts of the building.

#### F. TOOLS AND EQUIPMENT

1. Airless Sprayer - An airless sprayer, suitable for application of encapsulating material, shall be used.
2. Scaffolding - Scaffolding, as required to accomplish the specified work, shall meet all applicable safety regulations.
3. Transportation Equipment - Transportation equipment, as required, shall be suitable for loading, temporary storage, transport and unloading of contaminated waste without exposure to persons or property. Water tight, hard wall containers shall be provided to retain and dispose of any asbestos waste material with sharp-edged components that may tear plastic bags or sheeting. The containers shall be marked with danger labels.
4. Surfactant - Wetting Agents - "Asbestos-Wet" - Aquatrols Corp. of America or approved equal, and shall be non- carcinogenic.
5. Portable (negative air pressure) asbestos filtration system - by Micro-Trap, or approved equal.
6. Vacuum, HEPA type equal to "Nilfisk" #GA73, or "Pullman/Holt" #75 ASA.
7. Amended Water Sprayer - The water sprayer shall be an airless or other low-pressure sprayer for amended water application.
8. Other Tools and Equipment - The Abatement Contractor shall provide other suitable tools for the stripping, removal, encapsulation, and disposal activities including but not limited to: hand-held scrapers, nylon brushes, sponges, rounded edge shovels, brooms, and carts.

### **PART 3 – EXECUTION**

#### **3.01 PRE-ABATEMENT WORK AREA PREPARATION**

- A. The work area shall be vacated by the occupants prior to work area preparation and not reoccupied until satisfactory clearance air monitoring results have been achieved.
- B. Caution signs shall be posted at all locations and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted that permit a person to read the sign and take the necessary protective measures to avoid exposure.

- C. Shut down and lock out electric power to all work areas. The Abatement Contractor shall provide temporary power and lighting and ensure safe installation of temporary power sources and equipment used where high humidity and/or water shall be sprayed in accordance with all applicable codes. All power to work areas shall be brought in from outside the area through a ground-fault interrupter at the source.
- D. Isolate the work area HVAC system.
- E. The personnel decontamination enclosure system shall be installed or constructed prior to preparatory work in the work area and in particular before the disturbance of asbestos material. The waste decontamination enclosure system shall be installed or constructed prior to commencement of abatement activities.
- F. Movable objects within the work area shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning and such objects shall be removed from the work area to an uncontaminated location. If disposed of as asbestos waste material, cleaning is not required.
- G. Fixed objects and other items, which are to remain within the work area, shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Such objects shall be enclosed with two layers of at least six mil plastic sheeting and sealed with tape.
- H. The work area shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall be prohibited. Asbestos material shall not be disturbed during pre-cleaning.
- I. Isolation barriers that seal off all openings, including windows, corridors, doorways, ducts, and any other penetrations of the work area, shall be constructed using two layers of at least six mil fire-retardant plastic sheeting sealed with tape. Also, all seams in mechanical system components that pass through the work area shall be sealed. Doorways and corridors, which shall not be used for passage during work, shall also be sealed.
- J. Removal of mounted objects. After isolation barriers are in place, objects such as light fixtures, electrical track, alarm systems, ventilation equipment and other items not previously sealed, shall be double sealed with six mil fire-retardant plastic sheeting. Localized HEPA filtered vacuum equipment shall be used during fixture removal to reduce asbestos dispersal.
- K. Individual roof and floor drains shall be sealed water tight using two layers of 6-mil fire-retardant plastic sheeting and tape prior to plasticizing. Openings in floor shall be fully covered with plywood sheeting secured to the floor in such a way as to minimize a tripping hazard prior to plasticizing.
- L. Emergency and fire exits from the work area shall be maintained or alternate exits shall be established according to all applicable codes.

- M. Adequate toilet facilities shall be supplied by the Abatement Contractor and shall be located either in the clean area of the personnel decontamination enclosure or shall be readily accessible to the personnel decontamination enclosure.

**3.02 LARGE ASBESTOS PROJECT PERSONNEL DECONTAMINATION ENCLOSURE SYSTEM (ICR 56-7.5)**

- A. The personnel decontamination enclosure shall be constructed prior to preparatory work in the work area and in particular before the disturbance of asbestos material.
1. Construction and use of personnel decontamination enclosure systems shall be in accordance with ICR-56 and any Applicable or Site Specific Variances utilized on this project. Such systems may consist of existing rooms outside of the work area, if the layout is appropriate, that can be enclosed is plastic sheeting and are accessible from the work area. When this situation does not exist, enclosure systems may be constructed out of metal, wood or plastic support.
  2. The personnel decontamination enclosure system shall consist of a clean room, a shower room, and an equipment room, in series, separated from each other and from the work area by three airlocks.
  3. There shall be one shower per six full shift abatement persons calculated on the basis of the largest shift.
  4. The personnel decontamination enclosure system shall be fully framed, sheathed for safety and constructed to prevent unauthorized entry.
  5. Personnel decontamination enclosure systems constructed at the work site shall utilize at least six mil fire-retardant opaque plastic sheeting. At least two layers of six mil fire-retardant reinforced plastic sheeting shall be used for the flooring of this area.
  6. All prefabricated decontamination units shall be completely decontaminated and sealed prior to separation and removal from the work area. Mobile decontamination units shall remain in place until satisfactory clearance results have been attained.
  7. The clean room shall be sized to accommodate all authorized persons. Benches, lockers and hooks shall be provided for street clothes. Shelves for storing respirators shall also be provided. Clean clothing, replacement filters for respirators, towels and other necessary items shall be provided. The clean room shall not be used for the storage of tools, equipment or materials. It shall not be used for office space. A lockable door shall be provided to permit access to the clean room from outside the work area or enclosure. It shall be used to secure the work area and decontamination enclosure during off-shift hours.

8. The shower room shall contain one or more showers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. Uncontaminated soap, shampoo and towels shall be available at all times. Shower water shall be drained, collected and filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste. The shower room shall be constructed in such way that travel through the decontamination unit shall be through the shower.
9. The equipment room shall be used for the storage of equipment and tools after decontamination using a HEPA filtered vacuum and/or wet cleaning. A one day supply of replacement filters, in sealed containers, for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement project may also be stored here. A walk-off pan filled with water shall be located in the work area just outside the equipment room for persons to clean foot covering when leaving the work area. A drum lined with a labeled, at least six mil plastic bag is required for collection of clothing and shall be located in this room. Contaminated footwear and work clothes shall be stored in this area.

### **3.03 WASTE DECONTAMINATION ENCLOSURE SYSTEM (ICR 56-7.5)**

#### **A. General Requirements**

1. A waste decontamination enclosure system shall consist of the following:
  - a. A washroom/cleanup room shall be constructed with an airlock doorway to the work area and another airlock doorway to the holding area.
  - b. The holding area shall be constructed with an airlock doorway to the washroom/cleanup room and another lockable door to the outside.
2. Where there is only one egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the equipment decontamination room, which doubles as a waste washroom, of the personnel decontamination enclosure.
3. The waste washroom shall be equipped with a drain installed to collect water and deliver it to the shower drain where it shall be filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.
4. The waste washroom shall be constructed in such a way that travel through the rooms shall be through the waste washroom

### **3.04 WORK AREA ENTRY AND EXIT PROCEDURES**

- A. The following procedures shall be followed throughout the asbestos abatement project until satisfactory clearance air monitoring results have been achieved:
1. All persons shall enter and exit the work area through the personnel decontamination enclosure system.
  2. All persons who enter the work area or an enclosure shall sign the entry/exit log, located in the clean room, upon every entry and exit.
  3. All persons, before entering the work area, or an enclosure shall read and be familiar with all posted regulations, personal protection requirements, including work area entry and exit procedures, and emergency procedures. The entry/exit log headings shall indicate, and the signatures shall be used to acknowledge, that these have been reviewed and understood by all persons prior to entry.
  4. All persons shall proceed first to the clean room, remove all street clothing, store these items in clean sealable plastic bags or lockers and don coveralls, head covering, foot covering and gloves. All persons shall also don NIOSH approved respiratory protection. Clean respirators and protective clothing shall be utilized, by each person, for each separate entry into the work area. Respirators shall be inspected prior to each use and tested for proper seal using quantitative or qualitative fit checks.
  5. Persons wearing designated personal protective equipment shall proceed from the clean room through the shower room to the equipment room, where necessary tools are collected and any additional clothing shall be donned, before entry into the work area.
  6. Before leaving the work area, all persons shall remove gross contamination from the outside of respirators and protective clothing by brushing, wet cleaning, and/or HEPA vacuuming.
  7. Persons shall proceed to the equipment room where all coveralls, head covering, foot covering and gloves shall be removed. Disposable clothing shall be deposited into labeled containers for disposal. Reusable contaminated clothing, footwear, head gear and gloves shall be stored in the equipment room when not being used in the work area.
  8. Still wearing respirators, persons shall proceed to the shower area, clean the outside of the respirator and the exposed face area under running water prior to removal of the respirator, and then fully and vigorously shower and shampoo to remove residual asbestos contamination. Respirators shall be washed thoroughly with soap and water. Some types of respirators will require slight modification of these procedures. An airline respirator with HEPA filtered disconnect protection shall be disconnected in the equipment room and worn into the shower. A powered air-purifying respirator facepiece shall be disconnected from the filter/power pack assembly prior to entering the shower.

9. After showering and drying, all persons shall proceed to the clean room and don clean personal protective equipment if returning to the work area or street clothing if exiting the enclosure.

### **3.05 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION & REMOVAL PROCEDURES**

- A. The following procedures shall be followed throughout the asbestos abatement project until satisfactory clearance air monitoring results have been achieved.
  1. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the work area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. These work area persons shall not enter the airlock.
  2. These contaminated items shall be removed from the airlock by persons stationed in the washroom during waste removal operations. These washroom persons shall remove gross contamination from the exterior of their respirators and protective clothing by brushing, HEPA vacuuming and/or wet cleaning.
  3. Once in the waste decontamination enclosure system, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning.
  4. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting and sealed airtight.
  5. The clean recontainerized items shall be moved into the airlock that leads to the holding area. The washroom persons shall not enter this airlock or the work area until waste removal is finished for that period.
  6. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from uncontaminated areas.
  7. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.
  8. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.
  9. Where the waste removal enclosure is part of the personnel decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.
  10. Containers labeled with Asbestos hazard warnings shall not be used to dispose of non asbestos waste.

### **3.06 ENGINEERING CONTROLS**

#### **A. Ventilation.**

1. The Abatement Contractor shall employ HEPA equipped vacuums or negative air pressure equipment for ventilation as required.
2. All negative air pressure equipment ventilation units shall be equipped with HEPA filtration. The Contractor shall provide a manufacturer's test certificate for each unit documenting the capability of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 microns equivalent aerodynamic diameter.
3. A power supply shall be available to satisfy the requirements of the total of all ventilating units.
4. On electric power failure, abatement shall stop immediately and shall not resume until power is restored and exhaust units are operating fully. On extended power failure, longer than one hour, the decontamination facilities, after the evacuation of all persons from the work area, shall be sealed airtight.
5. If extending the exhaust of the ventilation units 50 feet from the building would result in an exhaust location either in the road, blocking driveway access to the facility or within 50 feet of other buildings, a second unit will be run in series with the primary unit.

### **3.07 MAINTENANCE OF DECONTAMINATION ENCLOSURE SYSTEMS AND WORK AREA BARRIERS**

#### **A. GENERAL REQUIREMENTS**

1. The Consultant must review and approve installation before commencement of work. Upon completion of the construction of all plastic barriers and decontamination system enclosures and prior to beginning actual abatement activities.
2. All plastic barriers inside the work area, in the personnel decontamination enclosure system, in the waste decontamination enclosure system and at partitions constructed to isolate the work area from occupied areas, shall be inspected by the asbestos supervisor at least twice daily. The barriers shall be inspected before the start of and following the completion of the day's abatement activities. Inspections and observations shall be documented in the project log.
3. Damage and defects in the barriers and/or enclosure systems shall be repaired immediately upon discovery and prior to resumption of abatement activities.
4. At any time during the abatement activities, if visible emissions are observed outside of the work area or if damage occurs to the barriers, work shall be stopped, repairs made, and visible residue immediately cleaned up using HEPA vacuuming methods prior to the resumption of abatement activities.



5. The Abatement Contractor shall HEPA vacuum and/or wet clean the waste decontamination enclosure system and the personnel decontamination enclosure system at the end of each day of abatement activities.

### **3.08 HANDLING AND REMOVAL PROCEDURES**

The Abatement Contractor may utilize existing provisions of ICR-56, Applicable Variances or a Site-Specific Variance, approved by the Owner's Consultant, to permit the conduct of this work.

### **3.09 ABATEMENT PROCEDURES**

#### **A. AIR SAMPLING - By Owner**

1. Air sampling and analysis shall be conducted according to the requirements of Subpart 56-4 before the start, during and after the completion of the asbestos removal project.
2. In addition to the requirements of Subpart 56-4, air monitoring shall be conducted in accordance with any approved job specific variance(s) or applicable variance utilized.
3. Clearance samples may be analyzed using PCM to maintain compliance with ICR-56.
4. If applicable, clearance samples will be analyzed using TEM to maintain compliance with ICR-56 and 40 CFR 763.90[i].

B. The provisions of the Applicable Variances or a Job Specific Variance shall apply only in those areas where approval has been granted by the NYS DOL and the Contractor has obtained concurrence from the Owner's Consultant. All other applicable provisions of Industrial Code Rule 56-1 through 56-12 shall be complied.

C. A copy of the NYS DOL Job Specific or Applicable Variance, if applicable, shall be conspicuously posted at the work area(s).

D. The Abatement Contractor shall construct a decontamination unit at the work site. The Abatement Contractor shall, as a minimum, comply with the requirements of 29 CFR 1926.1101(j); Hygiene facilities and practices for employees.

### **3.10 ENCAPSULATION PROCEDURES**

The following procedures shall be followed to seal in non-visible residue, after obtaining satisfactory clearance air monitoring results, while conducting lockdown encapsulation on any surfaces which were the subject of removal or other remediation activities:

- A. Only encapsulants rated as acceptable or marginally acceptable on the basis of Battelle Columbus Laboratory test procedures and rating requirements developed under the 1978 USEPA contract shall be used for lockdown encapsulation.

- B. Sealants considered for use in encapsulation shall first be tested to ensure that the sealant is adequate for its intended use. A section of the work surface shall be evaluated following this initial test application of the sealant to quantitatively determine the sealant's effectiveness in terms of penetrating and locking down the asbestos fibers. The American Society of Testing and Materials (ASTM) Committee E06.21.06E on Encapsulation of Building Materials has developed a guidance document to assist in the selection of an encapsulant.
- C. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon.
- D. Encapsulants shall be applied using airless spray equipment.
  - 1. Spraying is to occur at the lowest pressure range possible to minimize fiber release from encapsulant impact at the surface. It shall be applied with a consistent horizontal or vertical motion.
- E. Encapsulation shall be utilized as a surface sealant once all asbestos containing materials have been removed in a work area. In no event shall encapsulant be applied to any surface that was the subject of removal or other remediation activities prior to obtaining satisfactory clearance air monitoring.

### **3.11 CLEANUP PROCEDURES**

- A. The following cleanup procedures shall be required.
  - 1. Cleanup of accumulations of loose asbestos material shall be performed whenever enough loose asbestos materials have been removed to fill a single leak tight container of the type commensurate with the material properties. In no case shall cleanup be performed less than once prior to the close of each working day. Asbestos material shall be kept wet until cleaned up.
  - 2. Accumulations of dust shall be cleaned off all surfaces on a daily basis using HEPA vacuum cleaning methods.
  - 3. Decontamination enclosures shall be HEPA vacuumed at the end of each shift.
  - 4. Accumulations of asbestos waste material shall be containerized utilizing HEPA vacuums or rubber or plastic dust pans, squeegees or shovels. Metal shovels shall not be used to pick up or move waste.
  - 5. Excessive water accumulation or flooding in the area shall require work to stop until the water is collected and disposed of properly.
- B. The following cleanup procedures shall be required after completion of all removal activities.
  - 1. All accumulations of asbestos waste material shall be containerized utilizing HEPA vacuums or rubber or plastic dust pan, squeegees or shovels. Metal shovels shall not be used to pick up or move waste. HEPA vacuums shall be used to clean all surfaces after gross cleanup.

2. Cleaning. All surfaces in the work area shall be HEPA vacuumed. To pick up excess liquid and wet debris, a wet purpose shop vacuum may be used and shall be decontaminated prior to removal from the work area.
3. Windows, doors, HVAC system vents and all other openings shall remain sealed. Decontamination enclosure systems shall remain in place and be utilized.
4. All containerized waste shall be removed from the work area and the holding area.
5. All tools and equipment shall be decontaminated and removed from the work area.
6. A final visual inspection and clearance air monitoring, as per the schedule for air sampling and analysis, shall be conducted.
7. The isolation barriers and decontamination unit shall be removed only after satisfactory clearance air monitoring results have been achieved.

### **3.12 SAFETY MONITORING – CONSULTANT:**

The Consultant will designate an Asbestos Safety Technician (AST) to represent the Owner during the removal program. The AST must be on the job site at all times during abatement work. Absolutely no abatement or preparation work will occur without the presence of the AST.

The AST will conduct four (4) milestone inspections.

1. Pre-commencement inspection shall be conducted as follows:
  - a. Notification in writing to the Consultant shall be made by the Abatement Contractor to request a pre-commencement inspection at least 48 hours in advance of the desired date of inspection. This inspection shall be requested prior to beginning preparatory work in another work area.
  - b. The AST shall ensure that:
    - i. The job site is properly prepared and that all containment measures are in place;
    - ii. The designated supervisor shall present to the inspector a valid supervisor's license issued by the New York Department of Labor;
    - iii. All workers shall present to the inspector a valid handler's license issued by the New York Department of Labor;
    - iv. Measures for the disposal of removed asbestos material are in place and shall conform to the adopted standards;

- v. The Abatement Contractor has a list of emergency telephone numbers at the job site which shall include the monitoring firm employed by the Owner and telephone numbers for fire, police, emergency squad, local hospital and health officer.
- c. If all is in order, the AST shall issue a written notice to proceed in the field. If the job site is not in order, then any needed corrective action must be taken before any work is to commence. Conditional approvals shall not be granted.

Progress inspection shall be conducted as follows:

- a. Primary responsibility for ensuring that the abatement work progresses in accordance with these technical specifications and regulatory requirements rests with the Abatement Contractor. The AST shall continuously be present to observe the progress of work and perform required tests.
- b. If the AST observes irregularities at any time, he shall direct such corrective action as may be necessary. If the Abatement Contractor fails to take the corrective action required, or if the Abatement Contractor or any of their employees habitually and/or excessively violate the requirements of any regulation, then the AST shall inform the Owner who shall issue a Stop Work Order to the Abatement Contractor and have the work site secured until all violations are abated.

Clean-up inspections shall be conducted as follows:

- a. Notice for clean-up inspection shall be requested by the Abatement Contractor at least 24 hours in advance of the desired date of inspection;
  - b. The clean-up inspection shall be conducted prior to the removal of any isolation or critical barriers and before final air clearance monitoring;
  - c. The AST shall ensure that:
    - i. The work site has been properly cleaned and is free of visible asbestos containing material and debris.
    - ii. All removed asbestos has been properly placed in a locked secure container outside of the work area.
  - d. If all is in order, the AST shall issue a written notice of authorization to remove surface barriers from the work area. All isolation barriers shall remain in place until satisfactory clearance air sampling has been completed.
4. Clearance Visual Inspection shall be conducted after the removal of non-critical plastic sheeting. The AST shall insure that:
- a. The work area is free of all visible asbestos or suspect asbestos debris and residue.

- b. All waste has been properly bagged and removed from the work area.
  - c. Should clearance visual inspection identify residual debris, as determined by the AST, the Abatement Contractor is responsible for recleaning the area at his own cost and shall bear all costs of reinspection until acceptable levels are achieved.
- B. The Abatement Contractor shall be required to receive written approval before proceeding after each milestone inspection.

### **3.13 PERSONNEL AIR MONITORING – CONTRACTOR (29 CFR 1926.1101)**

- A. Personnel air monitoring shall be provided to determine both short-term (STEL) and full shift during when abatement activities occur. Personnel sampling shall be performed in each work area in order to accurately determine the concentrations of airborne asbestos to which workers may be exposed.
- B. The Abatement Contractor shall have a qualified "Competent Person" (as specified in 29 CFR 1926 OSHA) to conduct personnel air monitoring.
- C. The laboratory performing the air sample analysis shall be certified by NYS DOH ELAP and approved by the consultant.
- D. Personnel air monitoring test results for OSHA Compliance. Results shall be posted at the work site within 24 hours of testing and copies supplied to the Owner within five (5) days of testing. Abnormalities shall be supplied to the Owner immediately.

### **3.14 CLEARANCE AIR MONITORING**

- A. Air samples will be collected in and around the work areas at the completion of abatement activities.
- B. Clearance samples may be analyzed using PCM to maintain compliance with ICR-56.
- C. If applicable, clearance samples will be analyzed using TEM to maintain compliance with ICR-56 and 40 CFR part 763 "Asbestos-Containing Materials in Schools; Final Rule and Notice" section 763.90.
- D. \*\*\*RETESTING\*\*\*  
Should clearance air monitoring yield fiber concentrations above the "Clearance" criteria of either 0.01 fibers per CC and/or background levels (PCM) –OR- seventy (70) structures per square millimeter (TEM/AHERA), the Abatement Contractor is responsible for re-cleaning the area at his own cost and shall bear all costs associated with the retesting of the work area(s) including monitoring labor, sampling, analysis, etc. until such levels are achieved.

### **3.15 RESPIRATORY PROTECTION REQUIREMENT**

- A. Respiratory protection shall be worn by all individuals inside the work area from the initiation of the asbestos project until all areas have successfully passed clearance air monitoring in accordance with these specifications. The Abatement Contractor shall keep available at all times two PAPR's with new filters and charged batteries for use by authorized visitors.
- B. All respiratory protection shall be MSHA/NIOSH approved in accordance with the provisions of 30 CFR Part II. All respiratory protection shall be provided by the Abatement Contractor, and used by workers in conjunction with the written respiratory protection program.
- C. The Abatement Contractor shall provide respirators that meet the requirements of 29 CFR Parts 1910 and 1926.
  - 1. Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with an auxiliary self- contained breathing apparatus, operated in pressure demand or continuous flow, shall be worn during gross removal, demolition, renovation and/or other disturbance of ACM whenever airborne fiber concentrations inside the work area are greater than 10.0 f/cc.
  - 2. Full facepiece Type C supplied-air respirators operated in pressure demand mode with HEPA filter disconnect protection shall be work during gross removal, demolition, renovation and/or other disturbance of ACM with an amphibole content and/or whenever airborne fiber concentrations inside the work area are equal to or greater than 0.5 f/cc and less than or equal to 10.0 f/cc.
  - 3. Full facepiece powered air-purifying respirators (PAPR) equipped with HEPA filters shall be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM if airborne fiber concentrations inside the work area are less than 0.5 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow, with HEPA filter disconnect protection, may be substituted for a powered air-purifying respirator.
  - 4. Loose fitting helmets or hoods with powered air-purifying respirators (PAPR) equipped with HEPA filters may be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM if airborne fiber concentrations inside the work area are less than 0.25 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow may be substituted for a powered air- purifying respirator.
  - 5. Half-mask or full-face air-purifying respirators with HEPA filters shall be worn only during the preparation of the work area and final clean up procedures provided airborne fiber concentrations inside the work area are less than 0.1 f/cc.

6. Use of single use dust respirators is prohibited for the above respiratory protection.
- D. Workers shall be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used.
- E. The Abatement Contractor shall ensure that the workers are qualitatively or quantitatively fit tested by an Industrial Hygienist initially and every six months thereafter with the type of respirator he/she will be using.
- F. Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.
- G. No facial hair, which interferes with the face-to-mask sealing surface, shall be permitted to be worn when wearing respiratory protection that requires a mask-to-face seal.
- H. Contact lenses shall not be worn in conjunction with respiratory protection.
- I. If a worker wears glasses, a spectacle kit to fit their respirator shall be provided by the Abatement Contractor at the Abatement Contractor's expense.
- J. Respiratory protection maintenance and decontamination procedures shall meet the following requirement:
  1. Respiratory protection shall be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134(b); and
  2. HEPA filters for negative pressure respirators shall be changed after each shower; and
  3. Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures; and
  4. Airline respirators with HEPA filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator facepieces shall be worn into the shower. Filtered/power pack assemblies shall be decontaminated in accordance with manufacturers' recommendations; and
  5. Respirators shall be stored in a dry place and in such a manner that the facepiece and exhalation valves are not distorted; and
  6. Organic solvents shall not be used for washing respirators.

- K. No visitors shall be allowed to enter the contaminated area if they do not have their medical certification and training certificate. Authorized visitors shall be provided with suitable PAPR respirators and instructions on the proper use of respirators whenever entering the work area.

### **3.16 DISPOSAL OF WASTE**

#### **A. APPLICABLE REGULATIONS**

1. All asbestos waste shall be stored, transported and disposed of as per, but not limited to, the following Regulations:
  - a. NYS Code Rule 56
  - b. U.S. Department of Transportation (DOT)  
Hazardous Substances  
Title 29, Part 171 and 172 of the code of Federal Regulations  
regarding waste collector registration
  - c. Regulations regarding waste collector registration Title 6, part 364 of the New York State Official Compilation of Codes, Rules and Regulations – 6 NYCRR 364
  - d. USEPA NESHAPS 40 CRF 61
  - e. USEPA ASBESTOS WASTE MANAGEMENT GUIDANCE EPA/530-SW-85-007

#### **B. TRANSPORTER OR HAULER - The Abatement Contractor shall bear full responsibility for proper characterization, transportation and disposal of all solid or liquid waste, generated during the project, in a legal manner. The Owner shall approve all transportation and disposal methods.**

1. The Abatement Contractor's Transporter (hauler) and disposal site shall be approved by the Owner. The Abatement Contractor shall remove within 48 hours all asbestos waste from the site after completing the clean up.
2. The Transporter must possess and present to the Owner's representative a valid New York State Department of Environmental Conservation Part 364 asbestos hauler's permit to verify license plate and permit numbers. The Owner's representative will verify the authenticity of the hauler's permit with the proper authority.
3. The Abatement Contractor shall give 24 hour notification prior to removing any waste from the site. All waste shall be removed from site only during normal working hours. No waste may be taken from the site without authorization from the Owner's representative.
4. The Abatement Contractor shall have the Transporter give the date and time of arrival at the disposal site.



5. The Transporter with the Abatement Contractor and Owner's consultant shall inspect all material in the transport container prior to taking possession and signing the Waste Manifest. The Transporter shall not have any off-site transfers or be combined with any other off-site asbestos material.
6. The Transporter must travel directly to the disposal site with no unauthorized stops.

C. WASTE STORAGE CONTAINER

1. During loading and on-site storage, the asbestos waste container shall be labeled with EPA Danger signage:

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG DISEASE HAZARD**

2. The NYS DEC Hauler's Permit number shall be on both sides and back of the container.
3. The Container will not be permitted to leave the site without the proper signage.
4. A copy of the completed waste manifest shall be forwarded directly to the Owner's Consultant by the disposal facility.
5. Packaging of Non-friable Asbestos. Use of an open top container shall require written request, by the Contractor, and written approval by the Owners Representative, and be performed in compliance with all applicable regulations.
  - a) A chute, if used, shall be air/dust tight along its lateral perimeter and at the terminal connection to the dumpster at ground level (solid wall and top container). The upper end of the chute shall be furnished with a hinged lid, to be closed when the chute is not being used.
  - b) The container shall be lined with a minimum of two (2) layers of 6 mil. Fire-retardant polyethylene draped loosely over the sides so as to facilitate being wrapped over the top of the load and sealed prior to transport from the site.
  - c) Prior to transport from the work site the Dumpster will be disconnected from the chute and sealed air/dust tight utilizing six mil plastic and tape. The waste material will be transported as an asbestos containing material by appropriate legal methods.
6. Packaging Friable Asbestos.

- a) The container shall be a solid wall, hard top and lockable container.
- b) The container shall be locked upon arrival at the site to restrict access. Security shall be provided at the entrance to the container during the loading process and immediately locked upon completion.
- c) The interior walls, floor and ceiling shall be lined with two (2) layers of 6 mil. Fire-retardant polyethylene.
- d) The waste shall be loaded in such a manner as to protect the integrity of the individual waste packages.
- e) Prior to transport from the work site the interior of the Dumpster will sealed air/dust tight utilizing six mil plastic and tape. The waste material will be transported as an asbestos containing material by appropriate legal methods.

#### D. WASTE DISPOSAL MANIFEST

- 1. The Asbestos Waste Manifest shall be equivalent to the "Waste Shipment Record" included in 40 CFR 61. A copy of the Contractor's manifest shall be reviewed by the Owner's Consultant and shall be the only manifest used.
- 2. The Manifest shall be verified by the Owner's Consultant indicating that all the information and amounts are accurate and the proper signatures are in place.
- 3. The Manifest shall have the signatures of the Abatement Contractor and the Transporter prior to any waste being removed from the site.
- 4. The Manifest shall be signed by the Disposal Facility owner or operator to certify receipt of asbestos containing materials covered by the manifest.
- 5. A copy of the completed manifest shall be provided by the Abatement Contractor to the Owner's Consultant and remain on site for inspection.
- 6. Abatement Contractor shall maintain a waste disposal log which indicates load number, date and time left site, container size, type of waste, quantity of waste, name of hauler, NYS DES permit number, trailer and tractor license number, and date manifest was returned to Consultant.

7. The Disposal Facility owner or operator shall return a signed copy of the Waste Manifest directly to:

**Wappingers CSD  
25 Corporate Park Drive  
Hopewell Junction, New York 12533  
ATTN: Ronald Broas**

8. Copies of the completed Waste Manifest are to be sent by the disposal facility to the Hauler and Abatement Contractor.
9. Submit signed dump tickets and manifests with final payment request.
10. Final payment request will not be honored without signed dump ticket or manifests accounting for all asbestos waste removed from the site.

**E. VIOLATIONS OF SPECIFICATIONS**

1. Violations of the safety, hygiene, environmental, procedures herein, any applicable federal, state or local requirements or failure to cooperate with the Owner's representative shall be grounds for dismissal and/or termination of this contract.

**F. VIOLATIONS OF NO SMOKING POLICY**

1. The Federal Pro Children Act of 1994 prohibits School District Officials from smoking in any buildings or on the grounds that is property of the School District. The District shall be considered smoke free. The School District strongly enforces its' No Smoking Policy. It is the Contractor's responsibility to inform all workers of this policy. Any worker(s) involved with this project that are found smoking or using tobacco products will be informed that they are in violation of the Federal and State Law and School Board Policy and will be removed from site.

### 3.17 LOCATION OF “ABATEMENT WORK”

*(Please see attached Drawings for approximate locations)*

#### 1) ROY C. KETCHAM HIGH SCHOOL (INTERIOR ABATEMENT)

- Abatement Contractor responsible for total and complete removal and disposal of approximately 2,500 SF of non-friable asbestos-containing Floor Tiles, Mastics, Floor Fillers, Cove Base Molding and Adhesive, as detailed on attached ACM Location Drawings. Removals shall include all flooring system layers to building substrate(s) beneath, consisting of: ACM Floor Tiles & Mastics/fillers over Non-ACM Cementitious Slab(s). Subsequent to final air clearance, the substrates shall be washed with a neutralizing agent to prepare the substrate to accept new floor/wall covering(s) and eliminate residual odors. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

- Ceramics Classroom 236 (1,200 SF)
- Art Classroom 243 (1,300 SF)

***Note #1: ACM floor tiles/mastic may be present under casework/cabinets and have ACM cove base molding adhesive at the base of casework/cabinets. All removals to be performed by the abatement contractor inside of a negative pressure containment. The abatement contractor is responsible for all means/methods to access this material and completely remove it during abatement.***

- Abatement Contractor responsible for total and complete removal and disposal of approximately 4 Sinks, with 20 SF of non-friable asbestos-containing Sink Anti-Sweat Tar, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

- Ceramics Classroom 236 (1 Sink, 5 SF)
- Art Classroom 243 (3 Sinks, 15 SF)

- Abatement Contractor is responsible for total & complete removal and disposal of approximately 20 LF of friable asbestos-containing mudded joint packing above the suspended ceiling system, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

- Ceramics Classroom 236 (10 LF)
- Art Classroom 243 (10 LF)

- Abatement Contractor responsible for total and complete removal and disposal of approximately 60 SF of non-friable presumed asbestos-containing Chalkboard/Glue Dabs, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

***Location of Work Cont'd...***

- Ceramics Classroom 236 (60 SF)
- Abatement Contractor responsible for total and complete removal and disposal of approximately 250 SF of non-friable asbestos-containing Counter/Table Tops, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Ceramics Classroom 236 (125 SF)
  - Art Classroom 243 (125 SF)

**2) JOHN JAY HIGH SCHOOL (INTERIOR ABATEMENT)**

- Abatement Contractor responsible for total and complete removal and disposal of approximately 2,600 SF of non-friable asbestos-containing Floor Tiles, Mastics and Floor Fillers, as detailed on attached ACM Location Drawings. Removals shall include all flooring system layers to building substrate(s) beneath, consisting of: ACM Floor Tiles & Mastics/fillers over Non-ACM Cementitious Slab(s). Subsequent to final air clearance, the substrates shall be washed with a neutralizing agent to prepare the substrate to accept new floor/wall covering(s) and eliminate residual odors. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Art Classroom 164 (1,300 SF)
  - Ceramics Classroom 166 (1,300 SF)

***Note #1: ACM floor tiles/mastic may be present under casework/cabinets. All removals to be performed by the abatement contractor inside of a negative pressure containment. The abatement contractor is responsible for all means/methods to access this material and completely remove it during abatement.***

- Abatement Contractor is responsible for total & complete removal and disposal of approximately 20 LF of friable asbestos-containing mudded joint packing above the suspended ceiling system, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Art Classroom 164 (10 LF)
  - Ceramics Classroom 166 (10 LF)
- Abatement Contractor responsible for total and complete removal and disposal of approximately 265 SF of non-friable asbestos-containing Counter/Table Tops, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

***Location of Work Cont'd...***

- Art Classroom 164 (125 SF)
- Ceramics Classroom 166 (140 SF)

**3) VAN WYCK JUNIOR HIGH SCHOOL (INTERIOR ABATEMENT)**

- Abatement Contractor responsible for total and complete removal and disposal of approximately 6,430 SF of non-friable asbestos-containing Floor Tiles, Mastics and Floor Fillers, as detailed on attached ACM Location Drawings. Removals shall include all flooring system layers to building substrate(s) beneath, consisting of: ACM Floor Tiles & Mastics/fillers over Non-ACM Cementitious Slab(s). Subsequent to final air clearance, the substrates shall be washed with a neutralizing agent to prepare the substrate to accept new floor/wall covering(s) and eliminate residual odors. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

- Auditorium (2,500 SF)
- Health Room 100 (10 SF)
- Library (20 SF)
- Classroom 124 (10 SF)
- Classroom 125 (10 SF)
- Classroom 126 (10 SF)
- Classroom 127 (10 SF)
- Classroom 128 (10 SF)
- Classroom 129 (10 SF)
- Classroom 130 (10 SF)
- Classroom 131 (10 SF)
- Classroom 132 (10 SF)
- Classroom 133 (10 SF)
- Cafeteria (3,600 SF)
- Classroom 225 (20 SF)
- Classroom 226 (20 SF)
- Classroom 227 (20 SF)
- Classroom 228 (20 SF)
- Classroom 229 (20 SF)
- Classroom 230 (20 SF)
- Classroom 231 (20 SF)
- Classroom 232 (20 SF)
- Classroom 233 (20 SF)
- Classroom 234 (20 SF)

***Note #1: Spot removals of ACM floor tiles/mastic in classrooms/rooms to facilitate ductwork and UV replacements. The abatement contractor is responsible for all means/methods to access this material and completely remove it during abatement, as well as coordinate with Mechanical Contractor for exact removal locations.***

***Location of Work Cont'd...***

- Abatement Contractor is responsible for total & complete removal and disposal of approximately 330 LF of friable asbestos-containing mudded joint packing above the suspended/splined ceiling system, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Hallway Outside of Instructional Classroom 102 (10 LF)
  - Main Lobby/Hallway Around Auditorium (30 LF)
  - Assist. Principal/Health Roof Area (20 LF)
  - Library (20 LF)
  - Hallway Outside Library Area (50 LF)
  - Classroom 124 (10 LF)
  - Classroom 125 (10 LF)
  - Classroom 126 (10 LF)
  - Classroom 127 (10 LF)
  - Classroom 128 (10 LF)
  - Classroom 129 (10 LF)
  - Classroom 130 (10 LF)
  - Classroom 131 (10 LF)
  - Classroom 132 (10 LF)
  - Classroom 133 (10 LF)
  - Hallway Outside Classrooms 124 – 133 (50 LF)
  - Hallway Outside Classrooms 225 – 234 (50 LF)

**4) VAN WYCK JUNIOR HIGH SCHOOL (EXTERIOR ABATEMENTS)**

- Abatement Contractor responsible for total and complete removal and disposal of approximately 480 SF of non-friable presumed asbestos-containing Roofing Materials, as detailed on attached ACM Location Drawings. Abatement Contractor responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). Temporary security and environmental protection throughout the remaining opening shall be coordinated with and provided by the Roofing/Mechanical Contractor. See below for breakdown:
  - Music Classroom 99 (25 SF)
  - Choral Classroom 101 (25 SF)
  - Hallway Outside of Instructional Classroom 102 (25 SF)
  - Instructional Classroom 102 (25 SF)
  - Auditorium (200 SF)
  - Cafeteria (100 SF)
  - Classroom 225 (10 SF)
  - Classroom 226 (10 SF)
  - Classroom 227 (10 SF)
  - Classroom 228 (10 SF)
  - Classroom 229 (10 SF)

***Location of Work Cont'd...***

- Classroom 231 (10 SF)
- Classroom 232 (10 SF)
- Classroom 233 (10 SF)

***Note #1: Abatement contractor to coordinate exact removal location(s) with Mechanical Contractor.***

**5) WAPPINGERS JUNIOR HIGH SCHOOL (INTERIOR ABATEMENT)**

- Abatement Contractor responsible for total and complete removal and disposal of approximately 900 SF of non-friable asbestos-containing Floor Tiles, Mastics and Floor Fillers, as detailed on attached ACM Location Drawings. Removals shall include all flooring system layers to building substrate(s) beneath, consisting of: ACM Floor Tiles & Mastics/fillers over Non-ACM Cementitious Slab(s). Subsequent to final air clearance, the substrates shall be washed with a neutralizing agent to prepare the substrate to accept new floor/wall covering(s) and eliminate residual odors. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Home & Careers Classroom 246 (900 SF)

***Note #1: ACM floor tiles/mastic may be present under casework/cabinets. All removals to be performed by the abatement contractor inside of a negative pressure containment. The abatement contractor is responsible for all means/methods to access this material and completely remove it during abatement.***

- Abatement Contractor responsible for total and complete removal and disposal of approximately 900 SF of non-friable asbestos-containing Ceiling Glue Dabs, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Home & Careers Classroom 246 (900 SF)
- Abatement Contractor responsible for total and complete removal and disposal of approximately 4 Sinks, with 32 SF of non-friable asbestos-containing Sink Anti-Sweat Tar, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:
  - Home & Careers Classroom 246 (4 Sinks, 32 SF)



***Location of Work Cont'd...***

- Abatement Contractor responsible for total and complete removal and disposal of approximately 60 SF of non-friable presumed asbestos-containing Chalkboard/Glue Dabs, as detailed on attached ACM Location Drawings. Abatement Contractor is responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). See below for breakdown:

- Home & Careers Classroom 246 (60 SF)

**6) WAPPINGERS JUNIOR HIGH SCHOOL (EXTERIOR ABATEMENTS)**

- Abatement Contractor responsible for total and complete removal and disposal of approximately 10 SF of non-friable presumed asbestos-containing Roofing Materials, as detailed on attached ACM Location Drawings. Abatement Contractor responsible for all demolition required to access material(s), as well as for providing all equipment necessary to access material(s). Temporary security and environmental protection throughout the remaining opening shall be coordinated with and provided by the Roofing/Mechanical Contractor. See below for breakdown:

- Home & Careers Classroom 246 (10 SF)

***Note #1: Abatement contractor to coordinate exact removal location(s) with Mechanical Contractor.***

**7) FISHKILL ELEMENTARY SCHOOL**

- No ACM Work as Part of this Project.

**8) SHEAFE ROAD ELEMENTARY SCHOOL**

- No ACM Work as Part of this Project.

**9) VASSAR ROAD ELEMENTARY SCHOOL**

- No ACM Work as Part of this Project.

**10) TRANSPORTATION/MAIN GARAGE #1**

- No ACM Work as Part of this Project.

**END OF LOCATION OF WORK**

### **3.18 GENERAL**

- A. The Abatement Contractor will be responsible for repairing all building components damaged during abatement including, but not limited to: ceiling tiles, ceiling finishes, wall finishes, floor finishes, etc.
- B. The Abatement Contractor shall be responsible for all demolition required to access materials identified in scope of work and on associated drawings.
- C. Concealed conditions that are exposed and may require additional work shall be brought to the attention of the Owner immediately. The Abatement Contractor shall not abate these areas without a written notice to proceed. Additional asbestos abatement performed prior to the order to proceed will not be acknowledged.
- D. The Abatement Contractor shall remove asbestos-containing floor covering to the building substrate beneath; in areas indicted. Subsequent to final air clearance the substrate shall be washed with a neutralizing agent to prepare the substrate to accept new floor covering and eliminate residual odors.
- E. Power tools used to drill, cut into or otherwise disturb asbestos containing material shall be equipped with HEPA filtered local exhaust ventilation.
- F. The Abatement Contractor shall provide access to GFCI electrical power, required to perform the area air monitoring for this project, within and immediately adjacent to each work area.
- G. Unwrapped or unbagged ACM shall be immediately placed in an impermeable waste bag or wrapped in plastic sheeting.
- H. Coordinate all removal operations with the Owner.

**Asbestos Employee Medical Examination Statement  
Certificate of Worker Release  
Asbestos Employee Training Statement  
CERTIFICATE OF WORKERS'S ACKNOWLEDGEMENT**

PROJECT NAME: **Wappingers CSD: 2023 District Wide Renovations Phase 2**

CONTRACTOR'S NAME: \_\_\_\_\_

WORKING WITH ASBESTOS INVOLVES POTENTIAL EXPOSURE TO AIRBORNE ASBESTOS FIBERS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER AND RESPIRATORY DISEASES. SMOKING CIGARETTES AND INHALATION OF ASBESTOS FIBERS INCREASES THE RISK THAT YOU WILL DEVELOP LUNG CANCER ABOVE THAT OF THE NON-SMOKING PUBLIC.

The Contract for this project requires your employer to 1) supply proper respiratory protection devices and training on their use 2) provide training on safe work practices and on use of the equipment used on the project 3) provide a medical examination meeting the requirements of 29 CFR 1926.1101. Your signature on this certificate, documents that your employer has fulfilled these contractual obligations and you understand the information presented to you.

**\*\*\*\*\*DO NOT SIGN THIS FORM UNLESS YOU FULLY UNDERSTAND THIS INFORMATION\*\*\*\*\***

RESPIRATORY PROTECTION: I have been trained in the proper use and limitations of the type of respiratory protection devices to be used on this project. I have reviewed the written respiratory protection program manual and a copy is available for my use. Respiratory protection equipment has been provided, by the Contractor, at no cost to me.

TRAINING COURSE: I have been trained in the risks and dangers associated with handling asbestos, breathing asbestos dust, proper work procedures, personal protection and engineering controls. I have satisfactorily completed and Asbestos Safety Training Program for New York State and have been issued a New York State Department of Health Certificate of Asbestos Safety Training.

MEDICAL EXAMINATION: I have satisfactorily completed a medical examination within the last 12 months that meets the OSHA requirement for an asbestos worker and included at least 1) medical history 2) pulmonary function 3) medical examination 4) approval to wear respiratory protection devices and may have included an evaluation of a chest x-ray.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ SS#: \_\_\_\_\_

Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Wappingers CSD: 2023 District Wide Renovations Phase 2

**ESTIMATE OF ACM QUANTITIES**

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**EACH ABATEMENT CONTRACTOR SHALL READ AND ACKNOWLEDGE THE FOLLOWING NOTICE. A SIGNED AND DATED COPY OF THIS ACKNOWLEDGMENT SHALL BE SUBMITTED WITH THE ABATEMENT CONTRACTOR'S BID FOR THIS PROJECT. FAILURE TO DO SO MAY, AT THE SOLE DISCRETION OF THE OWNER, RESULT IN THE BID BEING CONSIDERED NON-RESPONSIVE AND RESULT IN DISQUALIFICATION OF THE ABATEMENT CONTRACTOR'S BID ON THIS PROJECT.**

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**\*\*\* NOTICE \*\*\***

*The linear and square footages listed within this specification are approximates. Abatement Contractor is required to visit the work locations prior to bid submittal in order to take actual field measurements within each listed location. The Abatement Contractor shall base their bid on actual quantities determined, by them, at the site walkthrough. Estimates provided in these specifications are for informational purposes only and shall not be considered a basis for Change Orders on this project.*

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**Acknowledgment:** I have read and understand the above **NOTICE** regarding removal quantity estimates and understand that estimates provided in these specifications are for informational purposes only and shall not be considered a basis for Change Orders on this project. The Abatement Contractor's signatory represents to the Owner that he/she has the authority of the entity he/she represents to sign this agreement on its behalf.

Company Name: \_\_\_\_\_  
Type or Print

BY: \_\_\_\_\_  
Signature Title Date

Print Name: \_\_\_\_\_

## ASSOCIATED ASBESTOS REMOVAL LOCATION DRAWINGS

➤ **Wappingers CSD: 2023 District Wide Renovations Phase 2**

- ***AA-000 – Asbestos Abatement Notes***
- ***RK-AA-100 – Roy C, Ketcham HS – First Floor Asbestos Abatement Plan***
- ***RK-AA-200 – Roy C, Ketcham HS – Second Floor Asbestos Abatement Plan***
- ***JJ-AA-100 – John Jay High School – First Floor Asbestos Abatement Plan***
- ***VW-AA-100 – Van Wyck Junior High School – First Floor Asbestos Abatement Plan West***
- ***VW-AA-101 – Van Wyck Junior High School – First Floor Asbestos Abatement Plan East***
- ***VW-AA-200 – Van Wyck Junior High School – Second Floor Asbestos Abatement Plan***
- ***WJ-AA-100 – Wappingers Junior High School – Second Floor Asbestos Abatement Plan West***

**END OF SPECIFICATION  
SECTION 020800**

## SECTION 024119 - SELECTIVE DEMOLITION

### 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. Demolition and removal of selected portions of building or structure.

- B. Related Requirements:

- 1. Section 011000 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.

#### 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
  - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

#### 1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
  - 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review structural load limitations of existing structure.
  - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
  1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
  2. Interruption of utility services. Indicate how long utility services will be interrupted.
  3. Coordination for shutoff, capping, and continuation of utility services.
  4. Use of elevator and stairs.
  5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- E. Predemolition Photographs or Video: Submit before Work begins.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- G. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

#### 1.7 QUALITY ASSURANCE

- A. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- B. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
  1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.

2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- C. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- D. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

#### 1.8 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are present in building and structures to be selectively demolished. Examine documents to become aware of locations where hazardous materials are present.
  1. Hazardous material remediation is specified elsewhere in the Contract Documents.
  2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
  3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.
- E. Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within spaces, areas, rooms, and openings, including temporary protection, by 12 inches (300 mm) or more.
- F. Storage or sale of removed items or materials on-site is not permitted.
- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  1. Maintain fire-protection facilities in service during selective demolition operations.

#### 1.9 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
  1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.



2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site.
5. Protect items from damage during transport and storage.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.
2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

D. Storage Space:

1. Owner will arrange for limited on-site location(s) for free storage of salvaged material.
2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

## 1.10 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
  - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
  - 2. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs and preconstruction videotapes.
  - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
  - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
  - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
  - 2. Arrange to shut off indicated utilities with utility companies.

3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
  - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
  - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
  - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
  - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
  - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
  - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
  - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  4. Cover and protect furniture, furnishings, and equipment that have not been removed.
  5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

- B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings. Do not use methods requiring solvent-based adhesive strippers.
- F. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Division 7 for Re-Roofing requirements.
  - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
  - 2. Remove existing roofing system down to substrate.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  - 4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
- B. END OF SECTION 024119

## SECTION 033000 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
  - 1. Slabs-on-grade.
  - 2. Equipment pads
  - 3. Infill areas at Main Garage

#### 1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each of the following, signed by manufacturers:
  - 1. Cementitious materials.
  - 2. Admixtures.

3. Steel reinforcement and accessories.
  4. Waterstops.
  5. Curing compounds.
  6. Vapor retarders.
  7. Semirigid joint filler.
  8. Joint-filler strips.
- B. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
1. Aggregates.
- C. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
- D. Field quality-control reports.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
  2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.

2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

## PART 2 - PRODUCTS

### 2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

### 2.2 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
  1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

### 2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
  1. Portland Cement: ASTM C 150, Type I/II,.
    - a. Fly Ash: ASTM C 618, Class F.
- B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
  1. Maximum Coarse-Aggregate Size: 1 inch nominal.  $\frac{3}{4}$ " at main garage infill areas.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.



- C. Water: ASTM C 94/C 94M and potable

## 2.4 FIBER REINFORCEMENT

- A. Synthetic Macro-Fiber: Synthetic macro-fibers engineered and designed for use in concrete, complying with ASTM C1116/C1116M, Type III, 1 to 2-1/4 long. For use at Main garage infill areas. Burn off any exposed filaments after curing.

## 2.5 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
  - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## 2.6 WATERSTOPS

- A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Carlisle Coatings & Waterproofing, Inc.; MiraSTOP.
    - b. CETCO; Volclay Waterstop-RX.
    - c. Concrete Sealants Inc.; Conseal CS-231.
    - d. Greenstreak; Swellstop.
    - e. Henry Company, Sealants Division; Hydro-Flex.
    - f. JP Specialties, Inc.; Earth Shield Type 20.

## 2.7 VAPOR RETARDERS

- A. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Grace Construction Products, W. R. Grace & Co.; Florprufe 120.
    - b. Meadows, W. R., Inc.; Perminator 15 mil.
    - c. Reef Industries, Inc.; Griffolyn 15 mil Green.
    - d. Stego Industries, LLC; Stego Wrap 15 mil Class A.

## 2.8 CURING MATERIALS

- A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- B. Water: Potable.
- C. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Euclid Chemical Company (The), an RPM company; Super Diamond Clear VOX; LusterSeal WB 300.
    - b. Meadows, W. R., Inc.; Vocomp-30.

## 2.9 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, aromatic polyurea with a Type A shore durometer hardness range of 90 to 95 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

## 2.10 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
  3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
  4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
  3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
  4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

## 2.11 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
1. Combined Fly Ash and Pozzolan: 25 percent.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
  2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
  3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
  4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

- E. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

## 2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Exterior Concrete: 4500 psi
- B. Interior Concrete: 3000 psi

## 2.13 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.14 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd..
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## PART 3 - EXECUTION

### 3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
  - 1. Class A, 1/8 inch for smooth-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  - 1. Install keyways, reglets, recesses, and the like, for easy removal.
  - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install dovetail anchor slots in concrete structures as indicated.

### 3.3 VAPOR RETARDERS

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
  1. Lap joints 6 inches and seal with manufacturer's recommended tape.

### 3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
  1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.
- F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.
- G. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780. Use galvanized steel wire ties to fasten zinc-coated steel reinforcement.

### 3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
  3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
  6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
  2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.6 WATERSTOPS

- A. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

### 3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Shot blast existing slab in main garage infill areas prior to receiving new concrete infill.
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
  - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
  - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
  - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
  - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 2. Maintain reinforcement in position on chairs during concrete placement.
  - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  - 4. Slope surfaces uniformly to drains where required.



5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- G. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- H. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

### 3.8 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.
- B. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where exposed to public view:
1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

### 3.9 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
  - 1. Apply float finish to surfaces to receive trowel finish.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  - 1. Apply a trowel finish to surfaces exposed to view.
  - 2. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
    - a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and of levelness, F(L) 15.
- D. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.
  - 1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
  - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

### 3.10 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel finish concrete surfaces.

### 3.11 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
    - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
    - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

- c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
3. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.12 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### 3.13 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
  1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
  - D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
    1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
    2. After concrete has cured at least 14 days, correct high areas by grinding.
    3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
    4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
    5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
    6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
    7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
  - E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
  - F. Repair materials and installation not specified above may be used, subject to Architect's approval.
- 3.14 FIELD QUALITY CONTROL
- A. Testing and Inspecting: Owner will engage a special inspector to perform field tests and inspections and prepare test reports.

- B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
  2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
  5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  6. Compression Test Specimens: ASTM C 31/C 31M.
    - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
  7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
    - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
  8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
  9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
  10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
  11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
  13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- C. Measure floor and slab flatness and levelness according to ASTM E 1155 within 24 hours of finishing.

END OF SECTION 033000

## SECTION 042000 – UNIT MASONRY

### 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. Clay Unit Masonry
  - 2. Concrete Unit Masonry
  - 3. Mortar and Grout.
  - 4. Ties and anchors.
  - 5. Embedded flashing.
  - 6. Miscellaneous masonry accessories.
- B. Products Installed but not Furnished under This Section:
  - 1. Steel lintels in masonry veneer.

#### 1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For the following:
  - 1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
  - 2. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.
- C. Samples for Verification: For each type and color of the following:
  - 1. Brick Units
  - 2. Mortar.
  - 3. Accessories embedded in masonry.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.



1. Submittal is for information only. Receipt of list does not constitute approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.
- B. Material Certificates: For each type and size of the following:
1. Masonry units.
    - a. Include data on material properties.
    - b. For brick, include size-variation data verifying that actual range of sizes falls within specified tolerances.
    - c. For exposed masonry, include test report for efflorescence according to ASTM C 67.
  2. Integral water repellant used in CMUs.
  3. Cementitious materials. Include name of manufacturer, brand name, and type.
  4. Mortar admixtures.
  5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
  6. Anchors, ties, and metal accessories.
- C. Mix Designs: For each type of mortar. Include description of type and proportions of ingredients.
1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91/C 91M for air content.
- D. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

## 1.6 QUALITY ASSURANCE

- A. Sample Panels: Build sample panels to verify selections made under Sample submittals and to demonstrate aesthetic effects. Comply with requirements in Section 014000 "Quality Requirements" for mockups.
1. Build sample panels for each type of exposed unit masonry construction] [typical exterior wall in sizes approximately 48 inches long by 48 inches high by full thickness.
  2. Build sample panels facing south.
  3. Protect approved sample panels from the elements with weather-resistant membrane.
  4. Approval of sample panels is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by Architect in writing.
    - a. Approval of sample panels does not constitute approval of deviations from the Contract Documents contained in sample panels unless such deviations are specifically approved by Architect in writing.

- B. Fire-Resistance Ratings: Where indicated, provide materials and construction identical to those of assemblies with fire resistance ratings determined per ASTM E 119 by a testing and inspecting agency, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store pre blended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

#### 1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of veneer, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches down face of veneer, and hold cover securely in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry. Immediately remove grout, mortar, and soil that come in contact with masonry.
  - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
  - 2. Protect sills, ledges, and projections from mortar droppings.
  - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

### 2.2 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects will be exposed in the completed Work and will be within 20 feet vertically and horizontally of a walking surface.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
- D. Clay Unit Masonry:
  1. C 216, Grade SW, Type FBS.
  2. Brick Type: Match existing.
  3. Mortar color to match existing color.

### 2.3 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. Provide bullnose units for outside corners unless otherwise indicated.
- B. CMUs: ASTM C 90.
  1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi.

2. Density Classification: Lightweight.
3. Size (Width): Manufactured to dimensions 3/8 inch less-than-nominal dimensions.

## 2.4 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
  1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
- E. Colored Cement Products: Packaged blend made from portland cement and hydrated lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.
- F. Aggregate for Mortar: ASTM C 144.
  1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
  2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
  3. White-Mortar Aggregates: Natural white sand or crushed white stone.
  4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- G. Aggregate for Grout: ASTM C 404.
- H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- I. Water: Potable.

## 2.5 REINFORCING STEEL

- A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M; ASTM A 616/A 616M, including Supplement 1; or ASTM A 617/A 617M, Grade 60.

## 2.6 MASONRY JOINT REINFORCEMENT

- A. General: ASTM A 951 and as follows:
  1. Mill galvanized, carbon-steel wire for interior walls.

2. Hot-dip galvanized, carbon-steel wire for exterior walls.
3. Wire Size for Side Rods: W2.8 or 0.188-inch diameter.
4. Wire Size for Cross Rods: W1.7 or 0.148-inch diameter.
5. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units where indicated.

- B. For single-wythe masonry, provide either ladder or truss type with single pair of side rods and cross rods spaced not more than 16 inches o.c.

## 2.7 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use portland cement-lime mortar unless otherwise indicated.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Use Type N unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type S.
2. For reinforced masonry and where indicated, use Type S.
3. Pigmented Mortar: Use colored cement product.
4. Pigments shall not exceed 10 percent of portland cement by weight.
5. Mix to match Architect's sample.
6. Application: Use pigmented mortar for exposed mortar joints. Match existing mortar at exterior brick installation.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

### 3.3 TOLERANCES

#### A. Dimensions and Locations of Elements:

- 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
- 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
- 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

#### B. Lines and Levels:

- 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
- 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
- 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
- 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
- 5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
- 6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
- 7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

#### C. Joints:

- 1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
- 2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
- 3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
- 4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch
- 5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

### 3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond unless otherwise noted on Drawings; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

### 3.5 MORTAR BEDDING AND JOINTING

- A. Lay CMUs with face shells fully bedded in mortar and with head joints of depth equal to bed joints. At starting course, fully bed entire units, including area under cells.
  - 1. At anchors and ties, fully bed units and fill cells with mortar as needed to fully embed anchors and ties in mortar.
- B. Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

### 3.6 MASONRY JOINT REINFORCEMENT

- A. General: Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
  - 1. Space reinforcement not more than 16 inches o.c.
  - 2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
  - 3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.

### 3.7 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform

tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

- B. Inspections: Special inspections according to Level B in TMS 402/ACI 530/ASCE 5.
  - 1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
- C. Testing Prior to Construction: One set of tests.
- D. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C 67 for compressive strength.
- E. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.
- G. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for compressive strength.
- H. Grout will be sampled and tested for compressive strength per ASTM C 1019.

### 3.8 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
  - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
  - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.



5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

### 3.9 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

## SECTION 051200 - STRUCTURAL STEEL FRAMING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Structural steel.
  - 2. Grout.

#### 1.3 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Heavy Sections: Rolled and built-up sections as follows:
  - 1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches (38 mm).
  - 2. Welded built-up members with plates thicker than 2 inches (50 mm).
  - 3. Column base plates thicker than 2 inches (50 mm).

#### 1.4 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of 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.

#### 1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show fabrication of structural-steel components.
  - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.

2. Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed as work of other sections.
  3. Include embedment Drawings.
  4. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
  5. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
  6. Identify members and connections of the Seismic-Load-Resisting System.
  7. Indicate locations and dimensions of protected zones.
  8. Identify demand critical welds.
- C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing or qualified by testing, including the following:
1. Power source (constant current or constant voltage).
  2. Electrode manufacturer and trade name, for demand critical welds.

#### 1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, fabricator, shop-painting applicators, professional engineer, testing agency.
- B. Welding certificates. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the "Quality Assurance" Article.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural steel, including chemical and physical properties.
- E. Product Test Reports: For the following:
1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
  2. Direct-tension indicators.
  3. Tension-control, high-strength, bolt-nut-washer assemblies.
  4. Shear stud connectors.
  5. Shop primers.
  6. Nonshrink grout.
- F. Source quality-control reports.
- G. Field quality-control and special inspection reports.

#### 1.8 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD, or is accredited by the IAS Fabricator Inspection Program for Structural Steel (AC 172).
1. Fabricator shall be registered with and approved by authorities having jurisdiction.

2. Exception: At the Contractor's expense, an Independent Testing Agency acceptable to Architects shall verify that the fabricator maintains detailed fabrication and quality control procedures which provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved drawings, project specifications and referenced standards. The Independent Testing Agency shall review the procedures to the completeness and adequacy relative to the Code requirements for the fabricators scope of work.
- B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE.
- C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or to SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- E. Comply with applicable provisions of the following specifications and documents:
  1. AISC 303.
  2. AISC 341 and AISC 341s1.
  3. AISC 360.
  4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
  1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
  1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
  2. Clean and 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.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using schematic details indicated and AISC 360.
2. Use Allowable Stress Design; data are given at service-load level.

B. Moment Connections: Type PR, partially restrained.

## 2.2 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992/A 992M or ASTM A 572/A 572M, Grade 50 (345).
- B. Channels, Angles-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.
- D. Cold-Formed Hollow Structural Sections: ASTM A 500/A 500M, Grade B, structural tubing.
- E. Welding Electrodes: Comply with AWS requirements.

## 2.3 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
- B. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.
- C. Headed Anchor Rods: ASTM F 1554, Grade 36, straight.
  1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
  2. Plate Washers: ASTM A 36/A 36M carbon steel.
  3. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.

## 2.4 PRIMER

- A. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
- C. Galvanizing Repair Paint: ASTM A 780/A 780M.

## 2.5 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

## 2.6 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and to AISC 360.
  - 1. Camber structural-steel members where indicated.
  - 2. Fabricate beams with rolling camber up.
  - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
  - 4. Mark and match-mark materials for field assembly.
  - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
  - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 3, "Power Tool Cleaning."
- F. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

## 2.7 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
  - 1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

## 2.8 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
  - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
  - 2. Surfaces to be field welded.
  - 3. Surfaces of high-strength bolted, slip-critical connections.
  - 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
  - 5. Galvanized surfaces.
  - 6. Surfaces enclosed in interior construction.

- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
  - 1. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
  - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
  - 2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

## 2.9 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
  - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.

## 2.10 SOURCE QUALITY CONTROL

- A. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of the fabricators shop, Special Inspection of the fabricated item shall be performed.
  - 1. Verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and that those procedures are being implemented. This inspection will provide a basis for determination of the fabricator's ability to conform to approved drawings, project specifications, and referenced standards.
  - 2. Exception: Special Inspections will not be required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices. At completion of fabrication, the fabricator shall submit a certificate of compliance stating that the work was performed in accordance with the approved construction documents.
- B. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and Special Inspections.
  - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and Special Inspections.
- C. Bolted Connections: Inspect and test shop-bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: Visually inspect shop-welded connections according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
  - 1. Liquid Penetrant Inspection: ASTM E 165.
  - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
  - 3. Ultrasonic Inspection: ASTM E 164.

4. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, test and inspect shop-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
  1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
  2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.
- F. Prepare test and inspection reports.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
  1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
  1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

#### 3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Baseplates , Bearing Plates and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
  1. Set plates for structural members on wedges, shims, or setting nuts as required.
  2. Weld plate washers to top of baseplate.
  3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
  4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.



- C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
  - 1. Level and plumb individual members of structure.
  - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

### 3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
  - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
  - 2. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
  - 3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," for mill material.

### 3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified Special Inspector to perform Special Inspections according to the building code and the following:
  - 1. Verify structural-steel materials and inspect steel frame joint details.
  - 2. Verify weld materials and inspect welds.
  - 3. Verify connection materials and inspect high-strength bolted connections.
- B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- C. Bolted Connections: Inspect and test bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

- D. Welded Connections: Visually inspect field welds according to AWS D1.1/D1.1M.
1. In addition to visual inspection, test and inspect field welds according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
    - a. Liquid Penetrant Inspection: ASTM E 165.
    - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
    - c. Ultrasonic Inspection: ASTM E 164.
    - d. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
  2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.
- F. Details: Perform an inspection of the steel frame to verify compliance with the details shown on the approved construction documents such as bracing, stiffening, member locations and proper application of joint details at each connection.
- G. High Strength Bolts: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
1. General: While Work is in progress, determine that the requirements for bolts, nuts, washers, paint, bolted parts and installation and tightening in such standards are met. For bolts requiring pretensioning, observe the preinstallation testing and calibration procedures when such procedures are required by the installation method or by project plans or specifications; determine that all plies of connected materials have been drawn together and properly snugged and monitor the installation of bolts to verify that the selected procedure for installation is properly used to tighten bolts. For joints required to be tightened only to snug-tight condition, verify that the connected materials have been drawn together and properly snugged.
  2. Periodic monitoring: Monitoring of bolt installation for pretensioning is permitted to be performed on a periodic basis when using the turn-of-nut method with matchmarking techniques, the direct tension indicator method or the alternate design fastener (twist-off bolt) method. Joints designated as snug tight need be inspected only on a periodic basis.
  3. Continuous monitoring: Monitoring of bolt installation for pretensioning using the calibrated wrench method or the turn-of-nut method without matchmarking shall be performed on a continuous basis.
- H. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- I. Additional testing performed to determine compliance of corrected Work with specified requirements shall be at Contractor's expense.

### 3.6 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780/A 780M.

- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

END OF SECTION 051200

## SECTION 054000 - COLD-FORMED METAL FRAMING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Load-bearing wall framing.

- B. Related Requirements:

- 1. Section 055000 "Metal Fabrications" for masonry shelf angles and connections.
  - 2. Division 9 Section "Gypsum Board Assemblies" for interior non-load-bearing, metal-stud framing and ceiling-suspension assemblies.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cold-formed steel framing product and accessory.

- B. Shop Drawings:

- 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
  - 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.

#### 1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

- B. Comply with AISI S230 "Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Clark Steel Framing.
- B. Dale/Incor.
- C. Dietrich Metal Framing; a Worthington Industries Company.
- D. MarinoWare; a division of Ware Industries.

### 2.2 COLD-FORMED STEEL FRAMING, GENERAL

- A. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating weight as follows:
  - 1. Grade: As indicated..
  - 2. Coating: G60, A60, AZ50, or GF30.

### 2.3 FLOOR JOIST FRAMING

- A. Steel Joists: Manufacturer's standard C-shaped steel joists, of web depths indicated, unpunched, with stiffened flanges, and as follows:
  - 1. Section Properties: As indicated.
- B. Steel Joist Track: Manufacturer's standard U-shaped steel joist track, of web depths indicated, unpunched, with unstiffened flanges

### 2.4 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
  - 1. Supplementary framing.
  - 2. Bracing, bridging, and solid blocking.
  - 3. Web stiffeners.
  - 4. Anchor clips.
  - 5. End clips.
  - 6. Foundation clips.
  - 7. Gusset plates.
  - 8. Stud kickers and knee braces.
  - 9. Joist hangers and end closures.
  - 10. Hole reinforcing plates.
  - 11. Backer plates.

## 2.5 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.

## 2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: ASTM A 780.

## 2.7 FABRICATION

- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
  - 1. Fabricate framing assemblies using jigs or templates.
  - 2. Cut framing members by sawing or shearing; do not torch cut.
  - 3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
    - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    - b. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by no fewer than three exposed screw threads.
  - 4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or permanent distortion.
- C. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
  - 1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
  - 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.
- B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that are required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.
- C. Install load bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch to ensure a uniform bearing surface on supporting concrete or masonry construction.
- D. Install sealer gaskets at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

### 3.3 INSTALLATION, GENERAL

- A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.
- B. Install cold-formed steel framing according to AISI S200 and to manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
  - 1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch.
- D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
  - 1. Cut framing members by sawing or shearing; do not torch cut.
  - 2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
    - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    - b. Locate mechanical fasteners and install according to Shop Drawings, and complying with requirements for spacing, edge distances, and screw penetration.
- E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
- F. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.

- G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.
- H. Install insulation, specified in Section 072100 "Thermal Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
- I. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.
- J. Erection Tolerances: Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
  - 1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

### 3.4 JOIST INSTALLATION

- A. Install perimeter joist track sized to match joists. Align and securely anchor or fasten track to supporting structure at corners, ends, and spacings indicated on Shop Drawings.
- B. Install joists bearing on supporting frame, level, straight, and plumb; adjust to final position, brace, and reinforce. Fasten joists to both flanges of joist track.
  - 1. Install joists over supporting frame with a minimum end bearing of 1-1/2 inches.
  - 2. Reinforce ends and bearing points of joists with web stiffeners, end clips, joist hangers, steel clip angles, or steel-stud sections as indicated on Shop Drawings.
- C. Space joists not more than 2 inches from abutting walls, and as follows:
  - 1. Joist Spacing: 16 inches.
- D. Frame openings with built-up joist headers consisting of joist and joist track, or another combination of connected joists if indicated.
- E. Install joist reinforcement at interior supports with single, short length of joist section located directly over interior support, with lapped joists of equal length to joist reinforcement, or as indicated on Shop Drawings.
  - 1. Install web stiffeners to transfer axial loads of walls above.
- F. Install bridging at intervals indicated on Shop Drawings. Fasten bridging at each joist intersection as follows:
  - 1. Bridging: Joist-track solid blocking of width and thickness indicated, secured to joist webs.
  - 2. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and joist-track solid blocking of width and thickness indicated. Fasten flat straps to bottom flange of joists and secure solid blocking to joist webs.
- G. Secure joists to load-bearing interior walls to prevent lateral movement of bottom flange.



- H. Install miscellaneous joist framing and connections, including web stiffeners, closure pieces, clip angles, continuous angles, hold-down angles, anchors, and fasteners, to provide a complete and stable joist-framing assembly.

### 3.5 FIELD QUALITY CONTROL

- A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Field and shop welds will be subject to testing and inspecting.
- C. Testing agency will report test results promptly and in writing to Contractor and Architect.
- D. Remove and replace work where test results indicate that it does not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### 3.6 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

## SECTION 055000 - METAL FABRICATIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Steel framing and supports for applications where framing and supports are not specified in other Sections.
  - 2. Shelf angles.
  - 3. Loose bearing and leveling plates for applications where they are not specified in other Sections.
- B. Products furnished, but not installed, under this Section include the following:
  - 1. Loose steel lintels.
- C. Related Requirements:
  - 1. Section 033000 "Cast-in-Place Concrete" for installing anchor bolts, steel pipe sleeves, slotted-channel inserts, wedge-type inserts, and other items cast into concrete.
  - 2. Section 042000 "Unit Masonry" for installing loose lintels, anchor bolts, and other items built into unit masonry.

#### 1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of metal fabrications that are anchored to or that receive other work. 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.

#### 1.4 ACTION SUBMITTALS

- A. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

## 1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
  - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

## 1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

# PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
  - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

## 2.2 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.
- D. Steel Pipe: ASTM A 53/A 53M, Standard Weight (Schedule 40) unless otherwise indicated.
- E. Zinc-Coated Steel Wire Rope: ASTM A 741.
  - 1. Wire-Rope Fittings: Hot-dip galvanized-steel connectors with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.
- F. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
  - 1. Size of Channels: 1-5/8 by 1-5/8 inches (41 by 41 mm).
  - 2. Material: Cold-rolled steel, ASTM A 1008/A 1008M, commercial steel, Grade 33 (Grade 230); 0.0677-inch (1.7-mm) minimum thickness; coated with rust-inhibitive, baked-on, acrylic enamel.
- G. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.
- H. Aluminum Plate and Sheet: ASTM B 209 (ASTM B 209M), Alloy 6061-T6.

I. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6.

J. Stainless steel: Type 304.

## 2.3 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

1. Provide stainless-steel fasteners for fastening aluminum.
2. Provide stainless-steel fasteners for fastening stainless steel.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

C. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3 (ASTM A 325M, Type 3); with hex nuts, ASTM A 563, Grade C3 (ASTM A 563M, Class 8S3); and, where indicated, flat washers.

D. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

E. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

F. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

G. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 (A1) Group 2 (A4) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

H. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

## 2.4 MISCELLANEOUS MATERIALS

A. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

- B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
  - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- C. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- D. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.
- E. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- G. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- H. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa).

## 2.5 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- J. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches (3.2 by 38 mm), with a minimum 6-inch (150-mm) embedment and 2-inch (50-mm) hook, not less than 8 inches (200 mm) from ends and corners of units and 24 inches (600 mm) o.c., unless otherwise indicated.

## 2.6 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
  - 1. Fabricate units from slotted channel framing where indicated.
  - 2. Furnish inserts for units installed after concrete is placed.
- C. Galvanize miscellaneous framing and supports where indicated.

## 2.7 SHELF ANGLES

- A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive 3/4-inch (19-mm) bolts, spaced not more than 6 inches (150 mm) from ends and 24 inches (600 mm) o.c., unless otherwise indicated.
  - 1. Provide mitered and welded units at corners.
  - 2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately 2 inches (50 mm) larger than expansion or control joint.
- B. For cavity walls, provide vertical channel brackets to support angles from backup masonry and concrete.
- C. Galvanize and prime shelf angles located in exterior walls.
- D. Prime shelf angles located in exterior walls with zinc-rich primer.
- E. Furnish wedge-type concrete inserts, complete with fasteners, to attach shelf angles to cast-in-place concrete.

## 2.8 MISCELLANEOUS STEEL TRIM

- A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.
- B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
  - 1. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.

- C. Galvanize and prime exterior miscellaneous steel trim.
- D. Prime exterior miscellaneous steel trim with zinc-rich primer.

#### 2.9 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
- B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span, but not less than 8 inches (200 mm) unless otherwise indicated.
- C. Galvanize and prime loose steel lintels located in exterior walls.
- D. Prime loose steel lintels located in exterior walls with zinc-rich primer.

#### 2.10 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

#### 2.11 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

#### 2.12 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
  - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
- B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
- C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
  - 1. Shop prime with universal shop primer unless indicated.
- D. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
  - 1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  - 3. Other Items: SSPC-SP 3, "Power Tool Cleaning."
- E. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
  1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  2. Obtain fusion without undercut or overlap.
  3. Remove welding flux immediately.
  4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
  1. Cast Aluminum: Heavy coat of bituminous paint.
  2. Extruded Aluminum: Two coats of clear lacquer.

### 3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for overhead doors securely to, and rigidly brace from, building structure.
- C. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.
  1. Where grout space under bearing plates is indicated for girders supported on concrete or masonry, install as specified in "Installing Bearing and Leveling Plates" Article.
- D. Install pipe columns on concrete footings with grouted baseplates. Position and grout column baseplates as specified in "Installing Bearing and Leveling Plates" Article.
  1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.



3.3 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055000

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Rooftop equipment bases and support curbs.
  - 2. Wood furring, grounds, nailers, and blocking.
  - 3. Plywood panels

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
  - 1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

### PART 2 - PRODUCTS

#### 2.1 LUMBER, GENERAL

- A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. NELMA - Northeastern Lumber Manufacturers Association.
  - 2. WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
  - 1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece.
- D. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 1. Provide dressed lumber, S4S, unless otherwise indicated.
  - 2. Provide lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPAC2 (lumber) and AWPAC9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.
  - 1. Do not use chemicals containing chromium or arsenic.
  - 2. For exposed items indicated to receive stained finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- B. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. After treatment, kiln-dry lumber and plywood to a maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
  - 3. Wood floor plates installed over concrete slabs directly in contact with earth.
- C. Pressure treat wood members in contact with ground or freshwater with waterborne preservatives to a minimum retention of 0.40 lb/cu. ft.

## 2.4 DIMENSION LUMBER

- A. General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.
- B. Provide the following grades and species:
  - 1. Grade: No. 2, or better.
  - 2. Species: Douglas-Fir.

## 2.5 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture Content: 19 percent maximum for lumber items are not specified to receive wood preservative treatment.
- D. Grade: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per NELMA, NLGA, or WWPAC; No. 2 grade per SPIB; or Standard grade per NLGA, WCLIB or WWPAC of any species.

## 2.6 WOOD-BASED STRUCTURAL-USE PANELS

- A. Provide plywood panels complying with DOC PS 1, "U.S. Product Standard for Construction and Industrial Plywood,".

- B. Trademark: Factory mark structural-use panels with APA trademark evidencing compliance with grade requirements.
  - 1. Span Ratings: Provide panels with span ratings required to meet "Code Plus" provisions of APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial."
- C. Miscellaneous Concealed Plywood: C-C Plugged Exterior, thickness as indicated but not less than 1/2 inch.
- D. Plywood Sheathing: APA rated wall and roof sheathing, exterior grade, span rating-24/0, thickness as indicated.
- E. Miscellaneous Concealed Panels: APA-rated sheathing, Exposure 1, span rating to suit framing in each location.
- F. Plywood Underlayment: Underlayment B-C Exterior with fully sanded face, 1/2" thick, unless noted otherwise.
- G. Miscellaneous Exposed Plywood: A-D Interior, 1/2" thick, unless noted otherwise.
- H. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade, C-D Plugged Exposure 1, in thickness indicated or, if not otherwise indicated, not less than 5/8 inch thick.

## 2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.
- B. Nails, Wire, and Brads: FS FF-N-105.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

## 2.8 METAL FRAMING ANCHORS

- A. General: Provide galvanized steel framing anchors of structural capacity, type, and size indicated and acceptable to authorities having jurisdiction.
- E. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653, G60 coating designation; structural, commercial, or lock-forming quality, as standard with manufacturer for type of anchor indicated.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Apply field treatment complying with AWPAC M4 to cut surfaces of preservative-treated lumber and plywood.
- E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- F. Countersink nail heads on exposed carpentry work and fill holes with wood filler.
- G. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

#### 3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install where shown and where required for screeding or attaching other work. Cut and shape to required size. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.
- C. Provide preservative treated, or fire-retardant treated material as indicated on drawings.

#### 3.3 INSTALLATION OF STRUCTURAL-USE PANELS

- A. General: Comply with applicable recommendations contained in APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.
  - 1. Comply with "Code Plus" provisions of above-referenced guide.
- B. Secure plywood panels to metal decks and metal framing with self tapping screws, 8" on center at edges, and 12" on center in field of panel.

END OF SECTION 061000

## SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Interior standing and running trim.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 9 Section "Painting" for field finishing of installed interior architectural woodwork.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, including panel products high-pressure decorative laminate adhesive for bonding plastic laminate, cabinet hardware and accessories and fiber reinforced panels.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
  - 1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
  - 2. Samples for Initial Selection:
    - a. Oak trim with transparent finish specified.

#### 1.4 QUALITY ASSURANCE

- A. Quality Standard: Except as otherwise indicated, comply with "Architectural Woodwork Quality Standards" of the Architectural Woodwork Institute for grades of interior architectural woodwork, construction, finishes, and other requirements. Provide AWI certification labels or compliance certificate indicating that woodwork complies with requirements of grades specified.

#### 1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet-work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Verify locations of concealed framing, blocking, reinforcements, and furring that support woodwork by accurate field measurements before being enclosed. Record measurements on final shop drawings.
  - 2. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site and coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade indicated and, where the following products are part of interior woodwork, with requirements of the referenced product standards that apply to product characteristics indicated:

- 1. Hardwood Plywood and Face Veneers: HPVA HP-1.

### 2.2 INSTALLATION MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.

- 1. For metal framing supports, provide screws as recommended by metal-framing manufacturer.

- C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors.

### 2.3 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH

- A. Species and Grade: Red Oak, A Finish; NHLA.
- B. Maximum Moisture Content: 13 percent.
- C. Finger Jointing: Not allowed.
- D. Gluing for Width Not allowed.
- E. Face Surface: Smooth.
- F. Matching: Selected for compatible grain and color.

### 2.4 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Provide interior woodwork complying with the referenced quality standard and of the following grade:
  - 1. Grade: Custom.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to relative humidity conditions existing during time of fabrication and in installation areas.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Condition woodwork to average prevailing humidity conditions in installation areas before installing.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including back priming and removal of packing.

### 3.2 INSTALLATION

- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for the same grade specified in Part 2 of this Section for type of woodwork involved.
- B. Install woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8 inch in 96 inches for plumb and level (including tops).
- C. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
- D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is indicated.
- E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Do not use pieces less than 36 inches long, except where necessary. Stagger joints in adjacent and related members. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.
  - 1. Install standing and running trim with no more than 1/8 inch in 96-inch variation from a straight line.

### 3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork where possible to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

### 3.4 PROTECTION

- A. Provide final protection and maintain conditions in a manner acceptable to fabricator and Installer that ensures that woodwork is without damage or deterioration at the time of Substantial Completion.

END OF SECTION 064024





## SECTION 064116 - PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS AND COUNTERTOPS

### PART 1 GENERAL

#### 1.1 SCOPE OF WORK

- A. Provide all plastic laminate casework and accessory items as specified herein. Refer to plans for specific details and requirements.
- B. General Conditions: The General Conditions and Division One Requirements apply to all work in this section.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 9 Section "Resilient Tile Flooring for Rubber or other finished toe base.
- B. Division 22 Sections for Sinks, faucets, fittings, traps, stops, tail pieces, vacuum breakers, And other fixtures, electrical and mechanical runs and connections.
- C. Division 26 Sections for electrical Fixture installation/services connections: Setting and installation of equipment and fixtures, and related utility connections, are provided under the other sections of the project Specification governing that utility.

#### 1.3 QUALIFICATIONS

- A. Drawings and specifications are based upon Case Systems Inc., Midland Michigan
- B. Refer to General Conditions and Division One requirements governing Product Substitutions.
- C. The following performance details are project requirements and must be met by all Bidders whether named herein, or approved by Addendum. Deviations will not be allowed.
  - 1. ADA-Americans with Disabilities Act Requirements: The special requirements specified herein shall be met, where specifically indicated on architectural plans as "ADA", or by General Note. To be in compliance with Federal Register Volume 56, No. 144, Rules and Regulations.
  - 2. Lamination System: Doors, finished end panels, and other decorative exterior laminate surfaces shall be composed of minimum 3/4 inch (19.1 mm) core, laminated exterior with .030 inch (.76mm) high pressure plastic laminate, and interior with .030 inch (.51mm) high pressure cabinet liner. Lamination with hybrid P.V.A. Type III water resistant adhesives. Total thickness 13/16 inch (20.6mm).
  - 3. Structural Cabinet Body: Cabinet backs shall be minimum 3/8 inch (9.5mm) thick, inset from rear of body, fully housed four sides, and back-shimmed. Provide 3/4 inch (19.1 mm) thick stiffeners glued and fastened to back/body as specified herein. Back perimeter and stiffeners to be fully sealed with hot melt adhesive.
  - 4. Interior Space: All cabinets shall have clear span interiors. No vertical dividers allowed unless by specified architectural design.
  - 5. Heavy Components: Wall cabinet tops and bottoms, and all bookstack shelves shall be minimum 1 inch (25.4mm) thick, for additional load support. Shelves in door cabinets 30 inches (762mm)

wide and over shall be 1 inch (25.4mm) thick. Shelves in open cabinets, regardless of width, shall be 1 inch (25.4mm) thick.

6. Structural Drawer Body: Drawer body material shall be multi-directional fiberboard with bottom recessed, captured all four sides and sealed with hot melt adhesive. Provide under body stiffener as specified herein. Particleboard bodies and/or surface applied bottoms are not acceptable.
  7. Drawer Suspension: Drawer slides shall be self-closing design, epoxy power coated, with positive instop, outstop, and out-keeper. Dynamic (operational) load rating to be minimum 100 lbs (45kg). Minimum 150 lbs (68 kg) static load rating.
  8. Structural Cabinet Support: Cabinet sub base shall be of a separate and continuous ladder-type platform design leveled and floor mounted prior to cabinet body placement. Material to be exterior grade plywood. No cabinet sides-to-floor will be allowed.
  9. Indoor Air Quality: Particle board shall be made with formaldehyde free resins. Products shall be uncrated and allowed to air prior to installation. Room ventilation systems shall be set to maximum for 48 hours after installation.
- D. Architect/Owner's opinion and decision shall be final in the evaluation of manufacturer's products for approval to bid or award of contract.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Laminated Plastics/Finishes:

1. High pressure plastic laminate, .030 inch (.76mm) thickness, for exterior cabinet surfaces shall meet NEMA LD3-1991 GP28 standards including thickness.
2. Exterior Color Selection:
  - a. Countertops: As shown on drawings.
  - b. Cabinets: As shown on drawings
3. Plastic Laminate Balancing Sheet: White high pressure cabinet liner, .020 inch (.51mm) thickness shall meet NEMA LD3- 1991 CL 20 standards. Use for balancing exterior surface laminates.
4. Countertop High Pressure Plastic Laminate:
  - a. High pressure plastic laminate, textured finish .050 inch (1.27mm) or .042 inch (1.07mm) post forming grade as detailed.
  - b. Heavy gauge neutral colored backing sheet for balanced construction.
5. Pressure Fused Laminate:
  - a. Melamine resin impregnated, 80 gram PSM minimum, surface laminated to core under pressure.
  - b. Shall meet NEMA LD3.3-1991 GP28 standards and NEMA LD3-1991 CL20 standards.
  - c. White pressure fused laminate for cabinet interiors behind door and drawers, interiors of all open cabinets, and underside of wall cabinet.

- d. Shall be balanced at all concealed surfaces with phenolic backer. Unsurfaced coreboard not allowed.

B. High Performance Particle Board Core:

1. Particleboard to be 47 lb. (21.3 kg) density, of balanced 3-ply construction with moisture content not to exceed 8%. Particleboard shall conform to ANSI A208.1-1993, type M-3.
2. Particleboard cabinet components to be of the following minimum core thicknesses prior to lamination:
  - a. 3/8 inch (9.5mm): cabinet backs and drawer bottoms.
  - b. 1/2 inch (12.7mm): dividers, as detailed.
  - c. 3/4 inch (19.1 mm): base and tall cabinet tops and bottoms, cabinet sides, drawer spreaders, door, drawer head, cabinet back rear hangstrips, dividers as detailed, exposed cabinet backs.
  - d. 1 inch (25.4mm): wall cabinet tops and bottoms, door-cabinet shelving over 27 inches (686 mm) width, exposed cabinet shelving and off-wall shelving of all widths.

C. Fiberboard Core:

1. Uniform, medium density conforming to ANSI A208.2, shall meet the following minimum standards:

Screw holding, face:355 lbs (147 kg)  
Modulus of rupture:4,000 psi (276 bars)  
Modulus of elasticity:400,000 psi (27,580 bars)  
Internal bond:120 psi (8.3 bars)
2. Fiberboard components to be of the following minimum core thicknesses prior to lamination:
  - a. 1/2 inch (12.7mm): drawer sides, subfront and back. Drawer under bottom stiffeners.
  - b. 3/4 inch (19.1 mm): framed glass door.

D. Edging type(s). Provide one or more of the following in accordance with Paragraph 2.01.E., "Edging Locations":

1. Flat Edge PVC, .020 inch (.51mm). Solid, high impact, purified, color-thru, acid resistant PVC edging machine-applied with hot melt adhesives, automatically trimmed face, back and corners for uniform appearance. Manufacturer's option of .030 inch (.76mm) high pressure plastic laminate if PVC match is unavailable.

E. Edging Locations. Provide the above specified edging types at the following locations, of the following colors:

1. Door/Drawer front edge:

Flat Edge PVC, match plastic laminate color.

2. Cabinet body edge, including door/drawer front spacer rail:  
3mm PVC, Doellken # match plastic laminate color.
3. Interior body component edging, interior dividers, top of drawer body, shelf:  
FlatEdge PVC to match cabinet interior surface color.

F. Hardware:

1. Hinges:
  - a. Concealed hinges of heavy gauge metal construction, 200,000 open/close cycle test, with hinge manufacturer's lifetime material replacement guarantee. 170 degree swing. Fully adjustable for clockwise, counter-clockwise, toe in and out door alignment. Provide base plates to maintain 1/8 inch (3.2 mm) reveals between door/drawers within the same cabinet, and between doors of adjoining cabinets. Doors to be self-closing, and fitted with silencer bumpers.
2. Pulls:
  - a. Wire design, LH-321 4 inch (101.6mm), in Chrome finish.
3. Drawer Slides:
  - a. Standard Drawers: LSI Lab Series Slide, LH-375, self-closing design, epoxy powder coated to match drawer body color, with positive in-stop, out-stop, and out-keeper to maintain drawer in 80% open position. Captive nylon rollers, front and rear. Minimum 100 lb. (45kg) dynamic load rating at 50,000 cycles.
  - b. File Drawers: Full extension, 3-part progressive opening slide, minimum 100 lb. (45kg), zinc plated or epoxy coated at manufacturer's option.
  - c. Provide body mounted molded rails for hanging file system for legal or letter size as indicated by manufacturers model number, Cutting or machining of drawer body/face not allowed.
4. Adjustable Shelf Supports: To be LH-354 twin pin design with anti tip-up shelf restraints for both 3/4 inch (19.1 mm) and 1 inch (25.4mm) shelves. Design to include keel to retard shelf slide-off, and slot for ability to mechanically attach shelf to clip. Load rating to be minimum 300 lbs.(136kg) each support without failure, reference 1.04.D. Cabinet interior sides shall be flush, without shelf system permanent projection.
5. Wardrobe Rod: To be 1 1/16 inch (27mm) rod, LH-362, supported by LH-363 flanges.
6. Coat Hooks:
  - a. Single coat hooks, wall mount - LH-365 Satin Aluminum
7. Locks: To be disc tumbler lock keyed alike and master keyed to existing system. Dull chrome finish. All doors and drawers to be lockable.
  - a. Hinged doors and drawers, National Lock No. M4-7054
8. Catches: Catch to provide opening resistance in compliance with the Americans with Disabilities Act.

- a. Provide one top-mounted magnetic catch for base, wall and tall cabinet door when using 5 knuckle hinge. Catch housing to be molded in White. LH-340ADA.
- b. LH-345 Roller catch for mobile cabinets.

G. Detailed Requirements for Cabinet Construction:

1. Sub-Base:

- a. Cabinet Sub-base: To be separate and continuous (no cabinet body sides-to-floor), water resistant exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type construction of front, back and intermediates to form a secure and level platform to which cabinets attach.
- b. Tubular steel 1 1/4 inches (32mm) square base in brushed chrome, or black, furnished where specified.

2. Cabinet Top and Bottom:

- a. Solid sub-top to be furnished for all base and tall cabinets.
- b. Wall cabinet and library stack bottoms and tops to be 1 inch (25.4mm) thick.
- c. Exterior exposed wall cabinet bottoms to be Pressure Fused White laminate both sides. Assembly devices to be concealed on bottom side of wall cabinets.

3. Cabinet Ends:

- a. Holes drilled for adjustable shelves 1 1/4 inches (32mm) on center.
- b. Exposed exterior cabinet ends to be laminated with high pressure plastic laminate, balanced with high pressure cabinet liner interior surface.

4. Fixed And Adjustable Shelves:

- a. Thickness: Behind doors, to be 3/4 inch (19.1 mm) to 27 inches (686mm) wide. One inch (25.4mm) shelving over 27 inches (686mm).
- b. Thickness at all widths of open cabinets to be 1 inch (25.4mm).

5. Cabinet Backs:

- a. Cabinet back to be fully housed into sides, top, and bottom, recessed 7/8 inch (22.2mm) from cabinet rear. Rear, unexposed, side of back to receive continuous bead of hot melt adhesive at joint between back and sides/top/bottom.
- b. Hang rails shall be glued to rear of cabinet back and mechanically fastened to cabinet sides. Provide minimum of 2 at base, 2 at wall, and 3 at tall cabinets.
- c. Exposed exterior backs to be high pressure plastic laminate balanced with high pressure cabinet liner.

6. Door and Drawer Fronts:

- a. Laminated door and drawer fronts to be 13/16 inch (20.6mm) thick for all hinged and sliding doors. Drawer fronts and hinged doors are to overlay the cabinet body. Maintain a maximum 1/8 inch (3.2mm) reveal between pairs of doors, between door and drawer front, or between multiple drawer fronts within the cabinet.

7. Drawers:

- a. Drawer fronts shall be applied to separate drawer body component sub-front.
- b. Drawer sides shall be dadoed and glued to receive front and back, machine squared and held under pressure while hot melt glued and pinned together.
- c. Drawer bottom to be housed into front, sides, and back. Underside of drawer to receive continuous bead of hot melt adhesive at joint between bottom and back/sides/front for sealing and rigidity. Reinforce drawer bottoms with 1/2 inch x 4 inches (12.7mm x 101.6mm) front-to-back intermediate underbody stiffeners, hot melt glued and fastened. One at 24 inches (610mm), two at 36 inches (914mm), four at 48 inches (1219mm).
- d. All drawers shall have roller guides as specified under Paragraph 2.01.F.4.

8. Vertical and Horizontal Dividers: One of the following as indicated by cabinet number:

- a. Natural hardboard 1/4 inch (6.4mm) thick, smooth both faces. Secured in cabinet with molded plastic clips.
- b. Pressure Fused laminate 3/4 inch (19.1 mm) thickness. Secured in cabinet with molded plastic clips or dowels.

9. Door/Drawer Front Rail: Provide minimum 3/4 inch x 6 inch (19.1mm x 152mm) x full width cabinet body rails immediately behind all door/drawer and multiple drawer horizontal joints to maintain exact body dimensions, close off reveal, and be locator for lock strikes.

10. ADA-Americans with Disabilities Act Requirements: The following special requirements shall be met, where specifically indicated on architectural plans as "ADA", or by General Note. To be in compliance with Federal Register Volume 56, No. 144, Rules and Regulations:

- a. Wardrobe cabinets: to be furnished with rod/shelf adjustable to 48 inches (1219mm) A.F.F. at a maximum 21 inch (533mm) shelf depth.

H. Countertops:

1. High pressure plastic laminate bonded to particleboard core. 1-1/2" thick. Furnish countertops with edge treatment and design profile to match existing.
2. Install plastic laminate in continuous lengths. Obtain architect's approval for the location of all joints in countertops.

I. Phenolic Resin Top – for use at Kiln location in RCK Art Classroom #243:

1. Manufacturer: Chemtops or Equal.
2. 1" thick fire rated black countertop in dimensions show on drawings.
3. 1/8" beveled edge with 4" backsplash

J. Workmanship:

1. All exposed exterior cabinet surfaces to be .030 inch (.76mm) high pressure laminate. Laminate surface/ balancing liner to core under controlled conditions, by approved and regulated laminating methods to assure a premium lamination. Natural-setting hybrid P.V.A. Type III water resistant adhesives that cure through chemical reaction, containing no health or environmentally hazardous ingredients, are required. Methods requiring heat are not allowed; "contact" methods of laminating are not allowed.
2. Cabinet parts shall be accurately machined and bored for premium grade quality joinery construction utilizing automatic machinery to insure consistent sizing of modular components. End panels shall be doweled to receive bottom and top.
3. Back panel shall be fully housed into, and recessed 7/8 (22.2mm) inch from the back of cabinet sides, top, and bottom to insure rigidity and a fully closed cabinet. Cabinet back shall be shimmed from rear of body for tight interior fit.
4. Drawer bottom shall be fully housed into and recessed 1/2 inch (12.7mm) up from the bottom of sides, back and subfront. Sides of drawer shall be fully dadoed to receive drawer back, locked in fully to subfront, fastened with glue and mechanical fasteners.
5. 3/4 inch (19.1 mm) thick hang rails shall be glued to backside and mechanically fastened to end panels of all wall, base, and tall cabinets for extra rigidity and to facilitate installation.
6. Rear of cabinet back and underside of drawer bottom joints to receive a continuous bead of hot melt adhesive to add to unit body strength and develop moisture and vermin seal.
7. All cases shall be square, plumb, and true.
8. Case body and drawer workmanship and quality of construction shall be further evidenced by Independent Testing Laboratory results as described in 1.04.D.
9. Provide removable back panels and closure panels for plumbing access where shown on drawings.

J. Tackable Surface:

1. Where indicated on drawings, provide 1/4" thick thru-colored self healing cork surface on cabinetry doors and trimmed with PVC edging. Product by Claridge, ASTM 84 or approved equal. Color : To be selected from manufacturers full line of available colors.

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate work of this Section with related work of other Sections as necessary to obtain proper installation of all items.
- B. Verify site dimensions of cabinet locations in building prior to fabrication.

3.2 INSTALLATION



- A. Storage and Protection: Casework shall be protected in transit. Store under cover in a ventilated building not exposed to extreme temperature and humidity changes. Do not store or install casework in building until concrete, masonry, and drywall/plaster work is dry.
- B. Installers: Install casework under the supervision of the manufacturer's representative with factory trained mechanics certified by manufacturer.
- C. Workmanship:
  - 1. Erect casework straight, level and plumb and securely anchor in place. Scribe and closely fit to adjacent work. Cut and fit work around pipes, ducts, etc.
  - 2. Install all items complete and adjust all moving parts to operate properly.
  - 3. Leave surface clean and free from defects at time of final acceptance.
- D. Guarantee: All materials shall be guaranteed for a period of 5 years from manufacturer's defects and workmanship.
- E. Clean Up: Remove all cartons, debris, sawdust, scraps, etc., and leave spaces clean and all casework ready for Owner's use.

END OF SECTION 064116

## SECTION 072124 – THERMAL INSULATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board insulation. (For use at Main Garage #1 interior face of exterior walls).
2. Concealed building insulation.

B. Related Requirements:

1. Section 092900 "Gypsum Board" for sound attenuation blanket used as acoustic insulation.

#### 1.2 ACTION SUBMITTALS

A. Product Data:

1. Extruded polystyrene foam-plastic board insulation.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- B. Research Reports: For foam-plastic insulation, from ICC-ES.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- B. Protect foam-plastic board insulation as follows:
1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
  2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site until just before installation time.
  3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes less than 25 and 450 when tested in accordance with ASTM E84.
- B. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.
- C. Thermal-Resistance Value (R-Value): R-value as indicated below] in accordance with ASTM C518.
  - 1. R-Value at 5.0/inch

### 2.2 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION

- A. Extruded Polystyrene Board Insulation, Type IV: ASTM C578, Type IV, 25-psi minimum compressive strength; unfaced.
  - 1. Manufacturer: Owens Corning XPS Rigid Board or equal.

### 2.3 BLANKET INSULATION

- 1. Unfaced Mineral-Fiber Blanket Insulation: Thermal insulation combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665, Type I (blankets without membrane facing).
- 2. Mineral-Fiber Type: Fibers manufactured from glass.
- 3. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indices of 25 and 50, respectively.
- 4. Product: Certainteed Unfaced Rigid Fit Building Insulation  
Application: Concealed locations where indicated.

### 2.4 INSULATION FASTENERS

- A. Adhesively Attached, Spindle-Type Anchors: Plate welded to projecting spindle; capable of holding insulation of specified thickness securely in position with self-locking washer in place.

## 2.5 ACCESSORIES

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

### 3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Install insulation with manufacturer's R-value label exposed after insulation is installed.
- D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

### 3.3 INSTALLATION OF WALL INSULATION

- A. Butt panels together for tight fit.
- B. Anchor Installation: Install board insulation on masonry substrates by adhesively attached, spindle-type insulation anchors as follows:
  - 1. Fasten insulation anchors to masonry substrates with insulation anchor adhesive according to anchor manufacturer's written instructions.
  - 2. Space anchors according to insulation manufacturer's written instructions for insulation type, thickness, and application.

### 3.4 INSTALLATION OF BATT INSULATION

- 1. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- 2. Seal joints between closed-cell (non-breathing) insulation units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place.

Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.

3. Install mineral-fiber blankets in cavities according to the following requirements:
4. Use blanket widths and lengths that fill cavities. Where more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
5. Place blankets in cavities to produce a friction fit between edges of insulation and adjoining construction.
6. Stuff glass-fiber loose-fill insulation into miscellaneous voids and cavity spaces where shown. Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. Space anchors according to insulation manufacturer's written instructions for insulation type, thickness, and application.

### 3.5 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.
- B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

## SECTION 074213.19 - INSULATED METAL WALL PANELS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Laminated-insulation-core metal wall panels.

#### 1.2 ACTION SUBMITTALS

- A. Product Data:
  - 1. Laminated-insulation-core metal wall panels.
- B. Product Data Submittals: For each product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
  - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish, prepared on Samples of size indicated below.
  - 1. Metal Panels: 12 inches (305 mm) long by actual panel width. Include fasteners, closures, and other metal panel accessories.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, tests performed by a qualified testing agency.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Retain strippable protective covering on metal panels during installation.

## 1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed in accordance with manufacturers' written instructions and warranty requirements.

## 1.8 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

## 1.9 WARRANTY

- 1. Finish Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested in accordance with ASTM E283 at the following test-pressure difference:
- B. Water Penetration under Static Pressure: No water penetration when tested in accordance with ASTM E331 at the following test-pressure difference:
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- D. Fire-Test-Response Characteristics: Provide metal wall panels and system components with the following fire-test-response characteristics, as determined by testing identical panels and system components per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.

1. Fire-Resistance Characteristics: Provide materials and construction tested for fire resistance per ASTM E119.
2. Radiant Heat Exposure: No ignition when tested in accordance with NFPA 268.
3. Potential Heat: Acceptable level when tested in accordance with NFPA 259.
4. Surface-Burning Characteristics: Provide wall panels with a flame-spread index of 25 or less and a smoke-developed index of 450 or less, per ASTM E84.

## 2.2 LAMINATED-INSULATION-CORE METAL WALL PANELS

- A. General: Provide factory-formed and -assembled metal wall panels fabricated from two metal facing sheets and core material laminated or otherwise securely bonded to facing sheets during fabrication without use of contact adhesives, and with joints between panels designed to form weathertight seals. Include accessories required for weathertight installation.
- B. Wrapped-Edge, Laminated-Insulation-Core Metal Wall Panels. Formed with flush exterior panel facing wrapped over panel edges; designed for independent installation by mechanically attaching panels to masonry using staggered, concealed side clips with sealant at joints.
  1. Aluminum Sheet: Fabricate panel with exterior and interior facings of same material and thickness. Provide facings of aluminum coil-coated sheet, ASTM B209, alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.
    - a. Thickness: 0.032 inch.
    - b. Surface: Smooth finish.
    - c. Exterior Finish: Two-coat fluoropolymer.
      - 1) Color: Match Brick
    - d. Interior Finish: Manufacturers Standard
      - 1) Color: Black
  2. Core Material: Polyisocyanurate Insulation: Closed cell, modified polyisocyanurate foam using a non-CFC blowing agent, board type, with a maximum flame-spread index of 25 and a smoke-developed index of 450.
    - 1) Closed-Cell Content: 90 percent when tested in accordance with ASTM D6226.
  3. Backer Board: 0.125-inch- thick hardboard behind exterior facing for increased impact resistance.
  4. Clips: Manufacturer's standard one piece, formed from zinc-coated (galvanized).
  5. Sealant: Manufacturer's standard silicone.
  6. Panel Thickness: 3 Inches.
  7. Thermal-Resistance Value (R-Value): R-22 Min in accordance with ASTM C1363.



## 2.3 MISCELLANEOUS MATERIALS

## 2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages in accordance with ASTM C754 and metal panel manufacturer's written recommendations.

### 3.3 INSTALLATION OF METAL PANELS

- A. General: Install metal panels in accordance with manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.

### 3.4 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074213.19

## SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

### 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. Adhered ethylene-propylene-diene-monomer (EPDM) roofing system for patching of roof openings.
  - 2. Cover Boards
  - 3. Roof insulation.
- B. Related Requirements:
  - 1. Section 061000 Rough Carpentry for wood nailers, curbs, and blocking
  - 2. Section 070150 "Preparation for Re-Roofing"
  - 3. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.

#### 1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.
  - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 5. Review structural loading limitations of roof deck during and after roofing.
  - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
  - 7. Review governing regulations and requirements for insurance and certificates if applicable.
  - 8. Review temporary protection requirements for roofing system during and after installation.
  - 9. Review roof observation and repair procedures after roofing installation.
- B. Preinstallation Roofing Conference: Conduct conference at Project site.
  - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
  1. Base flashings and membrane terminations.
  2. Tapered insulation, including slopes.
  3. Insulation adhesion patterns for corner, perimeter, and field-of-roof locations.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
  1. Submit evidence of complying with performance requirements.
- C. Product Test Reports: For components of roofing system, tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Research/Evaluation Reports: For components of roofing system, from ICC-ES.
- E. Field quality-control reports.
- F. Sample Warranties: For manufacturer's special warranties.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

#### 1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed, FM Global approved for roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

#### 1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

#### 1.11 WARRANTY

- A. Warranty: Match existing remaining warranty period.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain components including Roof Edge Metal Systems, roof insulation and fasteners for roofing system from manufacturer approved by membrane roofing manufacturer.

#### 2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
  - 1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
  - 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:
  - 1. Corner Uplift Pressure: 54.1 lbf/sq. ft.
  - 2. Perimeter Uplift Pressure: 35.9 lbf/sq. ft.
  - 3. Field-of-Roof Uplift Pressure: 21.4 lbf/sq. ft.

- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

## 2.3 EPDM ROOFING

- A. EPDM: ASTM D 4637, Type I, nonreinforced uniform, flexible EPDM sheet.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Carlisle SynTec Incorporated.
    - b. Versico Roofing Systems.
  - 2. Thickness: 60 mils, nominal.
  - 3. Exposed Face Color: Black.

## 2.4 AUXILIARY ROOFING MATERIALS

- 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 of authorities having jurisdiction.
  - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content:
    - a. Plastic Foam Adhesives: 50 g/L.
    - b. Gypsum Board and Panel Adhesives: 50 g/L.
    - c. Multipurpose Construction Adhesives: 70 g/L.
    - d. Fiberglass Adhesives: 80 g/L.
    - e. Single-Ply Roof Membrane Adhesives: 250 g/L.
    - f. Single-Ply Roof Membrane Sealants: 450 g/L.
    - g. Nonmembrane Roof Sealants: 300 g/L.
    - h. Sealant Primers for Nonporous Substrates: 250 g/L.
    - i. Sealant Primers for Porous Substrates: 775 g/L.
    - j. Other Adhesives and Sealants: 250 g/L.
- B. Sheet Flashing: 60-mil thick EPDM, partially cured or cured, according to application.
- C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55 to 60-mil thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.
- D. Bonding Adhesive: Manufacturer's standard Low VOC.
- E. Low-Rise, Urethane, Fabric-Backed Membrane Adhesive: Roof system manufacturer's standard spray-applied, low-rise, two-component urethane adhesive formulated for compatibility and use with fabric-backed membrane roofing.
- F. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 6-inch wide minimum, butyl splice tape with release film.
- G. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.
- H. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

- I. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

## 2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by EPDM roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation.
  - 1.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 3, felt or glass-fiber mat facer on both major surfaces. Insulation to comply with UL 1256 or NFPA 276 requirements.
  - 1. Manufacturers: Subject to compliance with R-30 Minimum requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Carlisle SynTec Incorporated.

## 2.6 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
  - 1. Bead-applied, low-rise, multicomponent urethane adhesive.
- C. Cover Board: Carlisle Secure Shield HD polyisocyanurate (100 psi) set in fast adhesive to polyisocyanurate base insulation.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
  - 1. Verify that any wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Install insulation strips according to acoustical roof deck manufacturer's written instructions.

### 3.3 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.

- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

### 3.4 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- E. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
  - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- F. Adhered Insulation: Install each layer of insulation and adhere to tectum as follows:
  - 1. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing with a weighted roller and maintaining insulation in place. Bead spacing at 4" o.c. maximum.
- G. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.
  - 1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof. Bead spacing to meet manufacturers wind speed warranty requirements.

### 3.5 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere roofing over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll membrane roofing and allow to relax before installing.
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.
- E. Apply roofing with side laps shingled with slope of roof deck where possible.
- F. Tape Seam Installation: Use manufacturer's FAT (Factory Applied Tape) to the greatest extent possible. Clean and prime splice area, peel the release tape, mate the sheets and roll the splice with a roller.

For splice areas not using 6" FAT, Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing terminations.

- G. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

- H. Spread water cut-off mastic over deck-drain flange at roof drains, and securely seal membrane roofing in place with clamping ring.

### 3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

### 3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion. Submit technical report to the Owner and the Architect.
- C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

### 3.8 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.
- D. Remove all debris, unused materials, demolished items, waste, tools, storage bins from the site.
- E. Clean adjoining roofs and site. Use magnets or metal detectors to find and remove metal objects, fasteners and material generated by the roof project from the adjacent roofs and grounds.
- F. Verify in writing that all roof drains are operating properly.
- G. Clean excess adhesive from exposed surfaces.



END OF SECTION 075323

## SECTION 077100 - MANUFACTURED ROOF SPECIALTIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Canopy
  - 2. Prefabricated Roof Curb Caps

#### 1.3 SUBMITTALS

- A. Submit color samples of each item for selection by the Architect.
- B. Submit product information for each item.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide manufactured roof specialties capable of withstanding wind loads, structural movement, thermally induced movement, and exposure to weather without failing.
  - 1. Canopy structural assembly shall be designed by a New York State licensed design professional and shall be signed and sealed.
- B. All edge metal to be ANSI SPRI ES-1 certified.

#### 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of manufactured roof specialty from one source and by a single manufacturer.
- B. Standards: Comply with the following:
  - 1. SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.

#### 1.6 PROJECT CONDITIONS

- A. Coordinate work of this Section with adjoining work for proper sequencing of each installation to ensure best-possible weather resistance and protection of materials and finishes against damage.

### PART 2 - PRODUCTS

#### 2.1 CANOPY

- A. Provide pre-engineered extruded aluminum overhead hanger rod style canopies fabricated from the following materials:
1. Decking and Fascia: Extruded aluminum, alloy 6063-T6 in thickness and profiles shown on documents.
    - a. Decking: 3" extruded .078"
    - b. Fascia: Extruded, minimum .125 aluminum.
    - c. Hanger rods: Standard configuration as shown on elevations.
    - d. Gutter System: Integral gutter system to scupper on right side.
    - e. Soffit: Underside of canopy to be furnished with flat soffit system
    - f. Manufacturer: Mapes Architectural Canopies
    - g. Product: Super Lumideck Flat Soffit
    - h. Finish: Submit physical samples of manufacturer's standard colors.
  2. Provide all clip angles, threaded rod, clevis, eye bolts, flashings etc. as required for a complete system. All exposed surfaces to match in color.

## 2.2 PREFABRICATED ROOF CURB CAPS

- A. Provide pre-fabricated metal roof caps over existing curbs where shown on documents.
1. Manufacturer: Roof Products Inc or Equal.
  2. Model #RPCC-1
  3. 20 ga Galvanized steel

## 2.2 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.
- C. Finish manufactured roof specialties after fabrication and assembly if products are not fabricated from prefinished metals.
- D. 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 unacceptable. 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.

## 2.3 ALUMINUM FINISHES

- A. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.
- B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating or resin manufacturer's written instructions.
1. Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, Kynar/Hylar finish

## PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine walls, roof edges, and parapets for suitable conditions for roof edge system installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Promptly remove protective film, if any, from exposed surfaces of finished metals. Strip with care to avoid damage to finish.
- B. Prepare concrete masonry block, cement plaster, and similar surfaces to receive system specified. Install blocking, cleats, water dams, and other anchoring and attachment accessories and devices required.

3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Coordinate with installation of roof deck and other substrates to receive work of this Section and with vapor retarders, roofing insulation, roofing membrane, flashing, and wall construction, as required to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight. Anchor products securely to structural substrates to withstand lateral and thermal stresses and inward and outward loading pressures.
- B. Isolation: Where metal surfaces of units contact dissimilar metal or corrosive substrates, including wood, apply bituminous coating on concealed metal surfaces or provide other permanent separation as recommended by aluminum producer.
- C. Expansion Provisions: Install running lengths to allow controlled expansion for movement of metal components in relation not only to one another but also to adjoining dissimilar materials, including flashing and roofing membrane materials, in a manner sufficient to prevent water leakage, deformation, or damage.

3.4 CLEANING AND PROTECTING

- A. Clean exposed metal surfaces according to manufacturer's written instructions. Touch up damaged metal coatings.
- B. Protection: Provide protective measures as required to ensure work of this Section will be without damage or deterioration at the time of Substantial Completion.

END OF SECTION 077100



## SECTION 078413 – PENETRATION FIRESTOPPING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes through-penetration firestop systems for penetrations through the following fire-resistance-rated assemblies, including both empty openings and openings containing penetrating items:
  - 1. Roofs.
  - 2. Walls and partitions.
  - 3. Smoke barriers.
  - 4. Construction enclosing compartmentalized areas.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. General: For the following constructions, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of assembly penetrated.
  - 1. Fire-resistance-rated load-bearing walls, including partitions, with fire-protection-rated openings.
  - 2. Fire-resistance-rated non-load-bearing walls, including partitions, with fire-protection-rated openings.
  - 3. Fire-resistance-rated floor assemblies.
  - 4. Fire-resistance-rated roof assemblies.
- B. F-Rated Systems: Provide through-penetration firestop systems with F-ratings indicated, as determined per ASTM E 814, but not less than that equaling or exceeding fire-resistance rating of constructions penetrated.
- C. T-Rated Systems: For the following conditions, provide through-penetration firestop systems with T-ratings indicated, as well as F-ratings, as determined per ASTM E 814, where systems protect penetrating items exposed to potential contact with adjacent materials in occupiable floor areas:
  - 1. Penetrations located outside wall cavities.
  - 2. Penetrations located outside fire-resistive shaft enclosures.
  - 3. Penetrations located in construction containing fire-protection-rated openings.
  - 4. Penetrating items larger than 4-inch diameter nominal pipe or 16 sq. in. in overall cross-sectional area.
- D. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that after curing do not deteriorate when exposed to these conditions both during and after construction.
  - 1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.

2. For floor penetrations with annular spaces exceeding 4 inches in width and exposed to possible loading and traffic, provide firestop systems capable of supporting floor loads involved either by installing floor plates or by other means.
3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of through-penetration firestop system product indicated.
- B. Shop Drawings: For each through-penetration firestop system, show each kind of construction condition penetrated, relationships to adjoining construction, and kind of penetrating item. Include firestop design designation of testing and inspecting agency acceptable to authorities having jurisdiction that evidences compliance with requirements for each condition indicated.
  1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
  2. Where Project conditions require modification of qualified testing and inspecting agency's illustration to suit a particular through-penetration firestop condition, submit illustration, with modifications marked, approved by through-penetration firestop system manufacturer's fire-protection engineer.
- C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Signed by manufacturers of through-penetration firestop system products certifying that products furnished comply with requirements.
- E. Product Test Reports: From a qualified testing agency indicating through-penetration firestop system complies with requirements, based on comprehensive testing of current products.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed through-penetration firestop systems similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, from a single manufacturer.
- C. Fire-Test-Response Characteristics: Provide through-penetration firestop systems that comply with the following requirements and those specified in "Performance Requirements" Article:
  1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL or another agency performing testing and follow-up inspection services for firestop systems acceptable to authorities having jurisdiction.
  2. Through-penetration firestop systems are identical to those tested per ASTM E 814. Provide rated systems complying with the following requirements:
    - a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.

- b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by the following:

- 1) UL in "Fire Resistance Directory."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

#### 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limits permitted by through-penetration firestop system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilate through-penetration firestop systems per manufacturer's written instructions by natural means or, where this is inadequate, forced-air circulation.

#### 1.8 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- 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. A/D Fire Protection Systems Inc.
  - 2. Firestop Systems Inc.
  - 3. Hilti Construction Chemicals, Inc.
  - 4. Isolatek International.
  - 5. RectorSeal Corporation (The).
  - 6. 3M Fire Protection Products.

#### 2.2 FIRESTOPPING, GENERAL

- A. Compatibility: Provide through-penetration firestop systems that are compatible with one another, with the substrates forming openings, and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.



- B. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and to comply with "Performance Requirements" Article. Use only components specified by through-penetration firestop system manufacturer and approved by the qualified testing and inspecting agency for firestop systems indicated. Accessories include, but are not limited to, the following items:
1. Permanent forming/damming/backing materials, including the following:
    - a. Slag-/rock-wool-fiber insulation.
    - b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
    - c. Fire-rated form board.
    - d. Fillers for sealants.
  2. Temporary forming materials.
  3. Substrate primers.
  4. Collars.
  5. Steel sleeves.

## 2.3 FILL MATERIALS

- A. General: Provide through-penetration firestop systems containing the types of fill materials indicated in the Through-Penetration Firestop System Schedule at the end of Part 3 by reference to the types of materials described in this Article. Fill materials are those referred to in directories of the referenced testing and inspecting agencies as fill, void, or cavity materials.
- B. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer metallic sleeve lined with an intumescent strip, a radial extended flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.
- C. Latex Sealants: Single-component latex formulations that after cure do not re-emulsify during exposure to moisture.
- D. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- E. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced elastomeric sheet bonded to galvanized steel sheet.
- F. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.
- G. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- H. Mortars: Prepackaged, dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- I. Pillows/Bags: Reusable, heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents and fire-retardant additives.
- J. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

- K. Silicone Sealants: Moisture-curing, single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping, gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.
2. Grade for Horizontal Surfaces: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces.
3. Grade for Vertical Surfaces: Nonsag formulation for openings in vertical and other surfaces.

## 2.4 MIXING

- A. For those products requiring mixing before application, comply with through-penetration firestop system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing through-penetration firestop systems to comply with written recommendations of firestop system manufacturer and the following requirements:
1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of through-penetration firestop systems.
  2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with through-penetration firestop systems. Remove loose particles remaining from cleaning operation.
  3. Remove laitance and form-release agents from concrete.
- B. Priming: Prime substrates where recommended in writing by through-penetration firestop system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.
- C. Masking Tape: Use masking tape to prevent through-penetration firestop systems from contacting adjoining surfaces that will remain exposed on completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestop system materials. Remove tape as soon as possible without disturbing firestop system's seal with substrates.

### 3.3 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION

- A. General: Install through-penetration firestop systems to comply with "Performance Requirements" Article and firestop system manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming/damming/backing materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
  - 1. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.
- C. Install fill materials for firestop systems by proven techniques to produce the following results:
  - 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
  - 3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

### 3.4 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as Work progresses by methods and with cleaning materials that are approved in writing by through-penetration firestop system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce through-penetration firestop systems complying with specified requirements.

### 3.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

- A. Where UL-classified systems are indicated, they refer to the alpha-alpha-numeric designations listed in UL's "Fire Resistance Directory" under product Category XHEZ.
- B. Firestop Systems with No Penetrating Items: Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C AJ 0070.
- C. Firestop Systems for Metallic Pipes, Conduit, or Tubing : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-1155, W-L-1054.
- D. Firestop Systems for Nonmetallic Pipe, Conduit, or Tubing : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-2109, W-L-2078.

- E. Firestop Systems for Electrical Cables : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-3095, W-L-3065.
- F. Firestop Systems for Cable Trays : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-4035, W-L-4011.
- G. Firestop Systems for Insulated Pipes : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-5091, W-L-5029.
- H. Firestop Systems for Miscellaneous Electrical Penetrants : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-6017.
- I. Firestop Systems for Miscellaneous Mechanical Penetrations : Comply with the following, as applicable to construction being penetrated:
  - 1. Available UL-Classified Systems: C-AJ-7051, W-L-7040.
- J. Firestop Systems for Groupings of Penetrations: Comply with the following:
  - 1. Available UL-Classified Systems: C-AJ-8041, W-L-8004.

END OF SECTION 078413



## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes sealants for the following applications, including those specified by reference to this Section:

1. Exterior joints in the following vertical surfaces and non-traffic horizontal surfaces:
  - a. Control and expansion joints in cast-in-place concrete.
  - b. Joints between architectural precast concrete units.
  - c. Control and expansion joints in unit masonry.
  - d. Joints between different materials listed above.
  - e. Perimeter joints between materials listed above and frames of doors and windows.
  - f. Other joints as indicated.
2. Exterior joints in the following horizontal traffic surfaces:
  - a. Control, expansion, and isolation joints in cast-in-place concrete slabs.
  - b. Joints between different materials listed above.
  - c. Other joints as indicated.
3. Interior joints in the following vertical surfaces and horizontal non-traffic surfaces:
  - a. Control and expansion joints on exposed interior surfaces of exterior walls.
  - b. Perimeter joints of exterior openings where indicated.
  - c. Tile control and expansion joints.
  - d. Vertical control joints on exposed surfaces of interior unit masonry and concrete walls and partitions.
  - e. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
  - f. Joints between plumbing fixtures and adjoining walls, floors, and counters.
  - g. Other joints as indicated.
4. Interior joints in the following horizontal traffic surfaces:
  - a. Control and expansion joints in cast-in-place concrete slabs.
  - b. Control and expansion joints in tile flooring.
  - c. Other joints as indicated.

- C. Related Sections include the following:

1. Division 4 Section "Unit Masonry" for masonry control and expansion joint fillers, gaskets and adjustable tie caulking
2. Division 8 Section "Glazing" for glazing sealants.
3. Division 9 Section "Acoustical Panel Ceilings" for sealing edge moldings at perimeters of acoustical ceilings.

### 1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

### 1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.

### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

### 1.6 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 date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

### 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.
  - 2. When joint substrates are wet.
- B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS AND MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products indicated for each type in the Sealant Schedules at the end of Part 3.

### 2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, 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.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range of colors.

### 2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant in the Elastomeric Joint-Sealant Schedule at the end of Part 3, including those referencing ASTM C 920 classifications for type, grade, class, and uses.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified in the Elastomeric Joint-Sealant Schedule to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. 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.

### 2.4 SOLVENT-RELEASE JOINT SEALANTS

- A. Acrylic-Based Solvent-Release Joint-Sealant Standard: Comply with ASTM C 1311 for each product of this description indicated in the Solvent-Release Joint-Sealant Schedule at the end of Part 3.
- B. Butyl-Rubber-Based Solvent-Release Joint-Sealant Standard: Comply with ASTM C 1085 for each product of this description indicated in the Solvent-Release Joint-Sealant Schedule at the end of Part 3.

### 2.5 LATEX JOINT SEALANTS

- A. Latex Sealant Standard: Comply with ASTM C 834 for each product of this description indicated in the Latex Joint-Sealant Schedule at the end of Part 3.

### 2.6 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
  - 1. Type C: Closed-cell material with a surface skin.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down



to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

## 2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
    - a. Concrete.
    - b. Masonry.
    - c. Unglazed surfaces of ceramic tile.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
    - a. Metal.
    - b. Glass.

c. Glazed surfaces of ceramic tile.

- B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. 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.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.
- E. Install sealants by proven techniques to 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 provided for each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealants from surfaces adjacent to joint.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
  - 4. Provide flush joint configuration, per Figure 5B in ASTM C 1193, where indicated.

### 3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

### 3.6 ELASTOMERIC JOINT-SEALANT SCHEDULE

- A. Mildew-Resistant Silicone Sealant: Where joint sealants of this type are indicated, provide products formulated with fungicide that are intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and temperature extremes, and that comply with the following:
  - 1. Products: Provide one of the following
    - a. Sanitary 1700; GE Silicones.
    - b. 898 Silicone Sanitary Sealant; Pecora Corporation.
    - c. Tremsil 600 White; Tremco.
  - 2. Type and Grade: S (single component) and NS (nonsag).
  - 3. Class: 25.
  - 4. Use Related to Exposure: NT (nontraffic).
  - 5. Applications: Joints in vertical surfaces in wet areas including toilet rooms, showers and locker rooms.
- B. Multicomponent Nonsag Urethane Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
  - 1. Products: Provide one of the following:
    - a. Chem-Calk 2641; Bostik Inc.
    - b. Dynatred; Pecora Corporation.
    - c. NP 2; Sonneborn Building Products Div., ChemRex Inc.
  - 2. Type and Grade: M (multicomponent) and NS (nonsag).
  - 3. Class: 25.
  - 4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
  - 5. Applications: Exterior joints in vertical surfaces, interior joints of exterior frames (windows, doors, etc.) and at adjustable masonry tie penetrations.
- C. Multicomponent Pourable Urethane Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
  - 1. Products: Provide one of the following:
    - a. Chem-Calk 550; Bostik Inc.
    - b. SL 2; Sonneborn Building Products Div., ChemRex Inc.
    - c. THC-900; Tremco.
  - 2. Type and Grade: M (multicomponent) and P (pourable).
  - 3. Class: 25.
  - 4. Use Related to Exposure: T (traffic) and NT (nontraffic).
  - 5. Applications: Joints in exterior horizontal surfaces

3.7 SOLVENT-RELEASE JOINT-SEALANT SCHEDULE

- A. Butyl-Rubber-Based Solvent-Release Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Provide one of the following:
    - a. BC-158; Pecora Corporation.
    - b. Sonneborn Multi-Purpose Sealant; Sonneborn Building Products Div., ChemRex, Inc.
    - c. Tremco Butyl Sealant; Tremco.
  2. Applications: aluminum thresholds

3.8 LATEX JOINT-SEALANT SCHEDULE

- A. Latex Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Provide one of the following:
    - a. AC-20; Pecora Corporation.
    - b. Sonolac; Sonneborn Building Products Div., ChemRex, Inc.
    - c. Tremflex 834; Tremco.
  2. Applications: Interior joints on vertical surfaces in dry areas.

END OF SECTION 079200



## SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

### 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 hollow-metal work.
- B. Related Requirements:
  - 1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.
  - 2. Section 081416 Flush Wood Doors for doors hung in hollow metal frames.
- C. Recertification of existing hollow metal frames to remain.

#### 1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

#### 1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
- B. Shop Drawings: Include the following:
  - 1. Elevations of each door type.
  - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
  - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
  - 4. Locations of reinforcement and preparations for hardware.
  - 5. Details of each different wall opening condition.
  - 6. Details of anchorages, joints, field splices, and connections.
  - 7. Details of accessories.
  - 8. Details of moldings, removable stops, and glazing.

- C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
  - 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis of Design: The Products of Steelcraft.
- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

#### 2.2 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
  - 1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
- B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

#### 2.3 DOORS AND FRAMES

- A. Construct doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

#### 2.4 DOORS

- A. Interior Doors: Cold-rolled steel, ASTM A 1008/A 1008M:
  - 1. Thickness: 18 gage (1 mm).
  - 2. Include galvanized components and internal reinforcements.

3. Prime Finish Doors: Clean, phosphatize and factory prime painted doors indicated on Door Schedule as HM.

B. Glass moldings and stops: Fabricate from 24 gage (0.5 mm) steel conforming to:

1. Interior openings ASTM designation A 366 cold rolled steel.
2. Install trim into the door as a four sided welded assembly with mitered, reinforced and welded corners.
3. Trim: identical on both sides of the door.
4. Exposed fasteners are not permitted.
5. Labeled and non-labeled doors: use the same trim.
6. Fit into a formed area of the door face, not extending beyond the door face, and interlocking into the recessed area
7. Cap the cutout not extend more than 1/16 inch (1.6 mm) from the door face.

C. Hardware Reinforcements:

1. Hinge reinforcements for full mortise hinges: minimum 7 gage (4.7 mm).
2. Lock reinforcements: minimum 16 gage (1.3 mm).
3. Closer reinforcements: minimum 14 gage (1.7 mm) steel, 20-inch (508 mm) long.
4. Galvannealed doors: include galvannealed hardware reinforcements.
5. Projection welded hinge and lock reinforcements to the edge of the door.
6. Provided adequate reinforcements for other hardware as required.

D. Full Flush Doors:

1. Basis of Design: Steelcraft L Series or Equal.
2. Physical performance: 5 million cycles per ANSI A250.4.
3. Door Thickness: 1-3/4 inches (45 mm).
4. Door faces reinforced and sound deadened as follows:
  - a. Polyurethane Core: Full 1-3/4 inches (45 mm) thick rigid polyurethane, adhered to inside of door faces and polyurethane core with waterproof adhesive for bond strength and rust prevention.
5. Vertical edge seams: Provide doors with continuous vertical mechanical inter-locking joints at lock and hinge edges. Finish edges as follows:
  - a. Filled Vertical Edges (F): Continuous vertical mechanical interlocking joints with internal epoxy seal; edge seams epoxy filled and ground smooth.
6. Bevel hinge and lock door edges 1/8 inch (3 mm) in 2 inches (50 mm). Square edges on hinge and/or lock stiles are not acceptable.
7. Reinforce top and bottom of doors with galvannealed 14 gage (1.7 mm), welded to both panels.
8. Fire Rating: Supply door units bearing Labels for fire ratings indicated in Door Schedule for the locations indicated.

## 2.5 DOOR FRAMES

- A. General: Construct exterior/interior metal door frames to the following designs and gages;



- B. Exterior Frames: Zinc-Iron Alloy-Coated galvanized steel, ASTM A 653, Class A60 (G90 in Transportation Facility wash bay and maintenance areas):
  - 1. Thickness: 14 gage (1.7 mm).
- C. Interior Frames in Masonry: Zinc-Iron Alloy-Coated galvanized steel, ASTM A 653, Class A60, galvanized steel (G90 in Transportation Facility wash bay and maintenance areas).
  - 1. Thickness: 16 gage (1.3 mm).
- D. Interior Frames in stud wall construction: cold rolled steel, ASTM A 1008/A 1008M.
  - 1. Thickness: 16 gage (1.3 mm).
- E. Electrical Requirements: Coordinate all electrical requirements for doors and frames. Make provisions for installation of electrical items so that wiring can be readily removed and replaced.
  - 1. Provide cutouts and reinforcements required for metal door frame to accept electric components.
  - 2. Frame with Electrical Hinges: Weld UL listed grout guard cover box welded over center hinge reinforcing. Top or bottom hinge locations are not permitted.
  - 3. Provide cutouts and reinforcements required to accept security system components.
  - 4. Coordinate with Section 08710 for electrified hardware items.
- F. Flush Steel Frames and Borrowed Lites:
  - 1. Basis of Design: Steelcraft F-Series or Equal.
  - 2. Physical performance: 5 million cycles per ANSI A250.4
  - 3. Construction: Factory-welded three sided frames. Face welded: Weld miter joints between head and jamb faces completely along their length either internally or externally. The remaining elements of the frame profile (soffit, stop and rabbets) are not welded. Grind and finish face joints smooth.
  - 4. Profile: 2 inches (51 mm) face dimension with 5/8 inch (16 mm) high stop, and types and throat dimensions indicated on the Drawings.
  - 5. Provide following reinforcement and accessories:
    - a. Hinge Preparation for standard weight, or heavy weight, full mortise hinges; with plaster guard.
    - b. Strike preparation (single doors) strike; with plaster guard.
    - c. Silencers. Prepare frames to receive inserted type door silencers, 3 per strike jamb on single doors, and 2 per head for pair of doors. Stick-on silencers are not permitted.
  - 6. Fire Rating: Supply frame units bearing Labels for fire ratings indicated in Door Schedule for the locations indicated.
  - 7. Finish: Factory prime finish in accordance with ANSI A 250.10.
- G. ACCESSORIES
  - 1. Anchors: Manufacturer's standard framing anchors, specified in manufacturer's printed installation instructions for project conditions.
  - 2. Astragals for pairs of doors: Manufacturer's standard for labeled and non-labeled openings.
  - 3. Plaster Guards: Same material as door frame, minimum 24 gage (0.5 mm) minimum; provide for all strike boxes.

4. Silencers: Resilient rubber, Inserted type, three per strike jamb for single openings and two per head for paired openings. Stick-on silencers shall not be permitted except on hollow metal framing systems.
5. Glazing: Specified in Section 08800.

## 2.6 HOLLOW-METAL PANELS

- A. Provide hollow-metal panels of same materials, construction, and finish as adjacent door assemblies.

## 2.7 FRAME ANCHORS

- A. Jamb Anchors:
  1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
  2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
  3. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
  4. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm), and as follows:
  1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
  2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at finish floor surface.

## 2.8 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
  1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

- G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- I. Glazing: Comply with requirements in Section 088000 "Glazing."
- J. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

## 2.9 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 metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
  - 1. Fire Door Cores: As required to provide fire-protection and temperature-rise ratings indicated.
  - 2. Vertical Edges for Single-Acting Doors: Bevel edges 1/8 inch in 2 inches (3.2 mm in 51 mm).
  - 3. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.
  - 4. Bottom Edge Closures: Close bottom edges of doors with end closures or channels of same material as face sheets.
  - 5. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
  - 6. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.
- C. Hollow-Metal Frames: 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.
  - 1. Sidelite 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.
  - 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
  - 3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
  - 4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
  - 5. Jamb Anchors: Provide number and spacing of anchors as follows:
    - a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:

- 1) Two anchors per jamb up to 60 inches (1524 mm) high.
      - 2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
      - 3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
      - 4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.
    - b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
      - 1) Three anchors per jamb up to 60 inches (1524 mm) high.
      - 2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
      - 3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
      - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
    - c. Compression Type: Not less than two anchors in each frame.
    - d. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
  6. Head Anchors: Two anchors per head for frames more than 42 inches (1067 mm) wide and mounted in metal-stud partitions.
  7. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
    - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
  - D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
  - E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
    1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
    2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
  - F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
    1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
    2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
    3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
    4. Provide loose stops and moldings on inside of hollow-metal work.
    5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
- 2.10 STEEL FINISHES
- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. 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.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

#### 3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
  1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. At fire-rated openings, install frames according to NFPA 80.
    - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - c. Install frames with removable stops located on secure side of opening.
    - d. Install door silencers in frames before grouting.
    - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
  2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

- a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. Concrete Walls: Solidly fill space between frames and concrete with mineral-fiber insulation.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. In-Place Metal or Wood-Stud Partitions: Secure slip-on drywall frames in place according to manufacturer's written instructions.
8. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
  - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
  - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
  1. Non-Fire-Rated Steel Doors:
    - a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
    - b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).
    - c. At Bottom of Door: 3/4 inch plus or minus 1/32 inch (0.8 mm).
    - d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
  2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
  3. Smoke-Control Doors: Install doors and gaskets according to NFPA 105.
- D. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.
  1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.
- E. Existing Hollow-Metal frame re-certifications:
  1. At all 45 minute and 90 minute rated openings as shown in the door schedule to receive new wood doors in existing frames, existing frames shall be re-certified and labeled in the field by a certified testing agency such as Intertek (formerly Warnock Hersey) conforming to NFPA 80 Guidelines.
    - a. Existing frames are grouted solid hollow metal.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.
- F. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

## SECTION 081416 - FLUSH WOOD DOORS

### 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. Solid-core doors with wood-veneer faces.
  - 2. Factory fitting flush wood doors to frames and factory machining for hardware.
- B. Related Requirements:
  - 1. Section 088000 "Glazing" for glass view panels in flush wood doors.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:
  - 1. Dimensions and locations of blocking.
  - 2. Dimensions and locations of mortises and holes for hardware.
  - 3. Dimensions and locations of cutouts.
  - 4. Undercuts.
  - 5. Requirements for veneer matching.
  - 6. Doors to be factory finished and finish requirements.
  - 7. Fire-protection ratings for fire-rated doors.
- C. Samples for Initial Selection: For factory-finished doors.
- D. Samples for Verification:
  - 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish.
  - 2. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish required.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that and is a certified participant in AWI's Quality Certification Program.



1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.7 FIELD CONDITIONS

- A. 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 ambient temperature and humidity conditions at occupancy levels during remainder of construction period.
- 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 between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 25 and 55 percent during remainder of construction period.

1.8 WARRANTY

- A. A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
    - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.
  - 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
  - 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 FLUSH WOOD DOORS, GENERAL

- A. Quality Standard: In addition to requirements specified, comply with AWI's, AWMAC's, and WI's "Architectural Woodwork Standards ."
  - 1. Provide AWI Quality Certification Labels indicating that doors comply with requirements of grades specified.
  - 2. Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.
- B. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.
- C. WDMA I.S.1-A Performance Grade:
  - 1. Heavy Duty unless otherwise indicated.

- D. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
  - 1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
  - 2. Cores: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
  - 3. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
  - 4. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
  - 5. Pairs: Provide formed-steel edges and astragals with intumescent seals.
    - a. Finish steel edges and astragals with baked enamel same color as doors.
    - b. Finish steel edges and astragals to match door hardware (locksets or exit devices).
- E. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784.
- F. Structural-Composite-Lumber-Core Doors:
  - 1. Structural Composite Lumber: WDMA I.S.10.
    - a. Screw Withdrawal, Face: 700 lbf (3100 N).
    - b. Screw Withdrawal, Edge: 400 lbf (1780 N).
- G. Mineral-Core Doors:
  - 1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
  - 2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware. follows:
    - a. 5-inch (125-mm) top-rail blocking.
    - b. 5-inch (125-mm) bottom-rail blocking, in doors indicated to have protection plates.
    - c. 5-inch (125-mm) midrail blocking, in doors indicated to have armor plates.
    - d. 4-1/2-by-10-inch (114-by-250-mm) lock blocks 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

## 2.2 VENEER-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors:
  - 1. Grade: Premium, with Grade A faces.
  - 2. Species: Red oak.
  - 3. Cut: Rift cut.
  - 4. Match between Veneer Leaves: Slip match.
  - 5. Assembly of Veneer Leaves on Door Faces: Center-balance match.

6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Exposed Vertical Edges: Same species and cut as faces, either solid lumber or veneer over hardwood.
8. Core: Structural composite lumber.
9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.
10. WDMA I.S.1-A Performance Grade: Heavy Duty.

## 2.3 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.
  1. Wood Species: Same species as door faces.
  2. Profile: Flush rectangular beads.
  3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.
- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces 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.

## 2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
  1. Comply with NFPA 80 requirements for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
  1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
  2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Openings: Factory cut and trim openings through doors.
  1. Light Openings: Trim openings with moldings of material and profile indicated.
  2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."

## 2.5 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
  1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Factory finish doors.

- C. Use only paints and coatings that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- D. Transparent Finish:
  - 1. Grade: Custom.
  - 2. Finish: WDMA TR-4 conversion varnish or WDMA TR-6 catalyzed polyurethane.
  - 3. Staining: None required.
  - 4. Effect: Open-grain finish.
  - 5. Sheen: Satin.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
  - 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
  - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Hardware: For installation, see Section 087100 "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
  - 1. Install fire-rated doors according to NFPA 80.
  - 2. Install smoke- and draft-control doors according to NFPA 105.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
  - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
    - a. Comply with NFPA 80 for fire-rated doors.
    - b. 2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
  - 2. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

## SECTION 081613 FIBERGLASS ENTRY DOORS

### 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 SECTION INCLUDES

- A. Fiberglass Entry Doors

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Door Unit Air Leakage, NFRC 400, 1.57 psf (25 mph): 0.50 cfm per square foot of frame or less.
- B. Door Unit Water Penetration: No water penetration through door unit when tested in accordance with ASTM E 331 or ASTM E 547 with water applied at rate of 5 gallons per hour per square foot at 0 psf.
- C. Doors shall have a minimum/maximum U-Value of 0.26 and a minimum/maximum SHGC of 0.11
- D. Doors shall qualify for Energy Star Rating.

#### 1.4 SUBMITTALS

- A. Refer to Division One Section Submittal Procedures
- B. Product Data: Submit door manufacturer current product literature, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, construction, component connections, anchorage methods and locations, accessories, hardware locations, and installation details.
- D. Samples: Submit color samples on fiberglass substrate for review and selection.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site undamaged with labels clearly identifying manufacturer, product name, and installation instructions
- B. Storage: Store materials in an upright position, off ground, under cover, and protected from weather, direct sunlight, and construction activities.
- C. Handling: protect materials and finish during handling and installation to prevent damage.

#### 1.6 WARRANTY

- A. Door Product and genuine components, including rot-resistant frames, mullions, and brickmould sourced from same manufacturer shall be free from material and workmanship defects for a period of three years.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Basis of design: Products of Therma Tru Corp.  
1750 Indian Wood Circle  
Maumee, OH 43537  
(419) 891-7400  
(800) 843-7628  
www.thermatru.com

### 2.2 FIBERGLASS ENTRY DOORS

- A. Fiberglass Entry Doors: provide a complete entry system with components manufactured by Therma-Tru and assembled by independent fabricators.
  - 1. Construction:
    - a. Therma-Tru Classic-Craft
    - b. 3/32" minimum thickness proprietary fiberglass reinforced thermoset composite, smooth surface. Door edges shall be machinable kiln-dried hardwood, flush and square with door faces, lock edge reinforced with full-length integrated 3-1/2-inch wide engineered lumber core. Door bottom edge shall be moisture- and decay-resistant composite. Core shall be foamed- in-place polyurethane, with a minimum density of 1.9 pcf.
  - 2. Door Design
    - a. Smooth face, ½ vision panel divided into 4 lites, 1 panel below with clear, low E, tempered insulating glass
- B. Frames: Provide door pre-hung in frame:
  - 1. Milled from 5/4 kiln-dried material with profiled ½" stop and 6 degree sill gain prep.
  - 2. Jamb Width 6 9/16"
  - 3. Frames, mullions, and brickmould shall be rot resistant.
- C. Sills
  - 1. Outswing: [Aluminum with Thermal Break
  - 2. Finish: Mill

### 2.3 HARDWARE

- A. Hinges: Steel, ball bearing, 4 x 4 x 0.098 inches finished to match hardware, plated screws to match
  - 1. Finish: US26D, satin chrome
- B. Locking Hardware:
  - 1. Door latchset provided per Section 087100 DOOR HARDWARE. Prepare door for hardware specified.

### 2.4 GLAZING

- 1. Therma-Tru factory glazed with double-pane construction, tempered low E glass, argon filled..

### 2.5 INSTALLATION ACCESSORIES

- A. Sill pan
- B. Corner seal pad
- C. Rain deflector
- D. Rain Guard

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas to receive doors. Notify Architect in writing any unacceptable conditions that would adversely affect installation or subsequent performance of the product. Do not proceed with installation until unsatisfactory conditions are corrected.

#### 3.2 INSTALLATION

- A. Install fiberglass doors in full compliance with manufacturer's written instructions and approved shop drawings.
- B. Install 20 minute doors with permanent fire door certification label in compliance with the requirements of the labeling agency and NFPA.
- C. Maintain alignment and compatibility with adjacent work.

#### 3.3 FINISHING

- A. Finish in compliance with manufacturer's written recommendations.

#### 3.3 Protection

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products prior to Substantial Completion in accordance with manufacturer's written recommendations.

END OF SECTION 081613





## SECTION 081743 FRP FLUSH DOORS

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Fiberglass reinforced polyester (FRP) flush doors with aluminum frames.

#### 1.2 RELATED SECTIONS

- A. Section 087100 - Door Hardware.
- B. Section 088000 - Glazing

#### 1.3 PERFORMANCE REQUIREMENTS

- A. General: Provide door assemblies that have been designed and fabricated to comply with specified performance requirements, as demonstrated by testing manufacturer's corresponding standard systems. Standard of design: Model SL-17 by Specialite Door Inc.
- B. Air Infiltration: For a single door 3'-0" x 7'-0", test specimen shall be tested in accordance with ASTM E 283 at pressure differential of 6.27 psf. Door shall not exceed 0.58 cfm/ft<sup>2</sup>.
- C. Water Resistance: For a single door 3'-0" x 7'-0", test specimen shall be tested in accordance with ASTM E 331 at pressure differential of 7.50 psf. Door shall not have water leakage.
- D. Indoor air quality testing per ASTM D 6670-01: GREENGUARD Environmental Institute Certified including GREENGUARD for Children and Schools Certification.
- E. Hurricane Test Standards, Single Door:
  - 1. Uniform Static Load, ASTM E 330: Plus or minus 195 pounds per square foot.
  - 2. Forced Entry Test, 300 Pound Load Applied, SFBC 3603.2 (b)(5): Passed.
  - 3. Cyclic Load Test, SFBC PA 203: Plus or minus 53 pounds per square foot.
  - 4. Large Missile Impact Test, SFBC PA 201: Passed.
- E. Hurricane Test Standards, Pair of Doors with single point latching:
  - 1. Uniform Static Load, ASTM E 330: Plus or minus 112.5 pounds per square foot.
  - 2. Forced Entry Test, 300 Pound Load Applied, AAMA 1304: Passed.
  - 3. Cyclic Load Test, ASTM E 1886: Plus or minus 75 pounds per square foot.
  - 5. Large Missile Impact Test, ASTM E 1886: Passed.
- F. Blast Test, Doors and Frames, ASTM F 1642-04, 6 psi / 41 psi-msec: Minimal Hazard.
- G. Swinging Door Cycle Test, Doors and Frames, ANSI A250.4: Minimum of 25,000,000 cycles.
- H. Cycle Slam Test Method, NWWDA T.M. 7-90: Minimum 5,000,000 Cycles.
- I. Swinging Security Door Assembly, Doors and Frames, ASTM F 476: Grade 40.
- J. Salt Spray, Exterior Doors and Frames, ASTM B 117: Minimum of 500 hours.
- K. Sound Transmission, Exterior Doors, STC, ASTM E 90: Minimum of 26.

- L. Thermal Transmission, Exterior Doors, U-Value, AAMA 1503-98: Maximum of 0.29 BTU/hr x sf x degrees F. Minimum of 55 CRF value.
  - M. Surface Burning Characteristics, FRP Doors and Panels, ASTM E 84:
    - 1. Flame Spread: Maximum of 200, Class C.
    - 2. Smoke Developed: Maximum of 450, Class C.
  - N. Surface Burning Characteristics, Class A Option On Interior Faces of FRP Exterior Panels and Both Faces of FRP Interior Panels, ASTM E 84:
    - 1. Flame Spread: Maximum of 25.
    - 2. Smoke Developed: Maximum of 450.
  - O. Impact Strength, FRP Doors and Panels, Nominal Value, ASTM D 256: 14.0 foot-pounds per inch of notch.
  - P. Tensile Strength, FRP Doors and Panels, Nominal Value, ASTM D 638: 12,000 psi.
  - Q. Flexural Strength, FRP Doors and Panels, Nominal Value, ASTM D 790: 21,000 psi.
  - R. Water Absorption, FRP Doors and Panels, Nominal Value, ASTM D 570: 0.20 percent after 24 hours.
  - S. Indentation Hardness, FRP Doors and Panels, Nominal Value, ASTM D 2583: 55.
  - T. Gardner Impact Strength, FRP Doors and Panels, Nominal Value, ASTM D 5420: 120 in-lb.
  - U. Abrasion Resistance, Face Sheet, Taber Abrasion Test, 25 Cycles at 1,000 Gram Weight with CS-17 Wheel: Maximum of 0.029 average weight loss percentage.
  - V. Stain Resistance, ASTM D 1308: Face sheet unaffected after exposure to red cabbage, tea, and tomato acid. Stain removed easily with mild abrasive or FRP cleaner when exposed to crayon and crankcase oil.
  - W. Chemical Resistance, ASTM D 543. Excellent rating.
    - 1. Acetic acid, Concentrated.
    - 2. Ammonium Hydroxide, Concentrated.
    - 3. Citric Acid, 10%.
    - 4. Formaldehyde.
    - 5. Hydrochloric Acid, 10%
    - 6. Sodium hypochlorite, 4 to 6 percent solution.
  - X. Compressive Strength, Foam Core, Nominal Value, ASTM D 1621: 79.9 psi.
  - Y. Compressive Modulus, Foam Core, Nominal Value, ASTM D 1621: 370 psi.
  - Z. Tensile Adhesion, Foam Core, Nominal Value, ASTM D 1623: 45.3 psi.
  - AA. Thermal and Humid Aging, Foam Core, Nominal Value, 158 Degrees F and 100 Percent Humidity for 14 Days, ASTM D 2126: Minus 5.14 percent volume change.
- 1.4 SUBMITTALS
- A. Comply with Section 013300 - Submittal Procedures.

- B. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes, and installation.
- C. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, doors, panels, framing, hardware schedule, and finish.
- D. Samples:
  - 1. Door: Submit manufacturer's sample of door showing face sheets, core, framing, and finish.
  - 2. Color: Submit manufacturer's samples of standard colors of doors and frames.
- E. Test Reports: Submit test reports from qualified independent testing agency indicating doors comply with specified performance requirements.
- F. Maintenance Manual: Submit manufacturer's maintenance and cleaning instructions for doors, including maintenance and operating instructions for hardware.
- H. Warranty: Submit manufacturer's standard warranty.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
  - 1. Door and frame components from same manufacturer.
  - 2. Evidence of a compliant documented quality management system.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying opening door mark and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finish from damage during handling and installation.

## 1.8 WARRANTY

- A. Warrant doors, frames, and factory hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or construction in excess of normal weathering.
- B. Warranty Period: Ten years starting on substantial completion. In addition, a limited lifetime (while the door is in its specified application in its original installation) warranty covering: failure of corner joinery, core deterioration, delamination or bubbling of door skin.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Basis of Design: Special-Lite, Inc., PO Box 6, Decatur, Michigan 49045. Toll Free (800) 821-6531. Phone (269) 423-7068. Fax (800) 423-7610. Web Site [www.special-lite.com](http://www.special-lite.com)

## 2.2 FRP FLUSH DOORS

- A. Model: SL-17 Flush Doors with SpecLite3 fiberglass reinforced polyester (FRP) face sheets.
- B. Door Opening Size: As indicated on the Drawings.
- C. Construction:
  - 1. Door Thickness: 1-3/4 inches.
  - 2. Stiles and Rails: Aluminum extrusions made from prime-equivalent billet that is produced from 100% reprocessed 6063-T6 alloy recovered from industrial processes, minimum of 2-5/16-inch depth.
  - 3. Corners: Mitered.
  - 4. Provide joinery of 3/8-inch diameter full-width tie rods through extruded splines top and bottom integral to standard tubular shaped stiles and rails reinforced to accept hardware as specified.
  - 5. Securing Internal Door Extrusions: 3/16-inch angle blocks and locking hex nuts for joinery. Welds, glue, or other methods are not acceptable.
  - 6. Furnish extruded stiles and rails with integral reglets to accept face sheets. Lock face sheets into place to permit flush appearance.
  - 7. Rail caps or other face sheet capture methods are not acceptable.
  - 8. Extrude top and bottom rail legs for interlocking continuous weather bar.
  - 9. Meeting Stiles: Pile brush weatherseals. Extrude meeting stile to include integral pocket to accept pile brush weatherseals.
  - 10. Bottom of Door: Install adjustable bottom weather bar with nylon brush weatherstripping into extruded interlocking edge of bottom rail.
  - 11. Glue: Use of glue to bond sheet to core or extrusions is not acceptable.
- D. Face Sheet:
  - 1. Material: SpecLite3 FRP, 0.120-inch thickness, finish color throughout.
  - 2. Protective coating: Abuse-resistant engineered surface. Provide FRP with SpecLite3 protective coating, or equal.
  - 3. Texture: Pebble.
  - 4. Color: as selected
  - 5. Adhesion: The use of glue to bond face sheet to foam core is prohibited.
- E. Core:
  - 1. Material: Poured-in-place polyurethane foam.
  - 2. Density: Minimum of 5 pounds per cubic foot.
  - 3. R-Value: Minimum of 9.
  - 4. ASTM E84: Class A.
- F. Cutouts:
  - 1. Manufacture doors with cutouts for required vision lites, louvers, and panels.
  - 2. Factory install vision lites, louvers, and panels.
- G. Hardware:
  - 1. Premachine doors in accordance with templates from specified hardware manufacturers and hardware schedule.
  - 2. Factory install hardware.

## 2.3 MATERIALS

### A. Aluminum Members:

1. Aluminum extrusions made from prime-equivalent billet that is produced from 100% reprocessed 6063-T6 alloy recovered from industrial processes: ASTM B 221.
2. Sheet and Plate: ASTM B 209.
3. Alloy and Temper: As required by manufacturer for strength, corrosion resistance, application of required finish, and control of color.

### B. Components: Door and frame components from same manufacturer.

### C. Fasteners:

1. Material: Aluminum, 18-8 stainless steel, or other noncorrosive metal.
2. Compatibility: Compatible with items to be fastened.
3. Exposed Fasteners: Screws with finish matching items to be fastened.

## 2.4 FABRICATION

### A. Sizes and Profiles: Required sizes for door and frame units, and profile requirements shall be as indicated on the Drawings.

### B. Coordination of Fabrication: Field measure before fabrication and show recorded measurements on shop drawings.

### C. Assembly:

1. Complete cutting, fitting, forming, drilling, and grinding of metal before assembly.
2. Remove burrs from cut edges.

### D. Welding: Welding of doors or frames is not acceptable.

### E. Fit:

1. Maintain continuity of line and accurate relation of planes and angles.
2. Secure attachments and support at mechanical joints with hairline fit at contacting members.

## 2.5 ALUMINUM DOOR FRAMING SYSTEMS

### A. Tubular Framing:

1. Size and Type: SL450TB thermally broken aluminum frame with weatherstripping.
2. Materials: Aluminum extrusions made from prime-equivalent billet that is produced from 100% reprocessed 6063-T6 alloy recovered from industrial processes, 1/8-inch minimum wall thickness.
3. Applied Door Stops: 0.625-inch high, with screws and weatherstripping. Door stop shall incorporate pressure gasketing for weathering seal. Counterpunch fastener holes in door stop to preserve full metal thickness under fastener head.
4. Frame Members: Box type with 4 enclosed sides. Open-back framing is not acceptable.
5. Caulking: Caulk joints before assembling frame members.
6. Joints:
  - a. Secure joints with fasteners.
  - b. Provide hairline butt joint appearance.
7. Field Fabrication: Field fabrication of framing using stick material is not acceptable.
8. Applied Stops: For side, transom, and borrowed lites and panels. Applied stops shall incorporate pressure gasketing for weathering seal. Reinforce with solid bar stock fill for frame hardware

- hments.
- 9. Hardware:
  - a. Premachine and reinforce frame members for hardware in accordance with manufacturer's standards and hardware schedule.
  - b. Factory install hardware.
- 10. Anchors:
  - a. Anchors appropriate for wall conditions to anchor framing to wall materials.
  - b. Door Jamb and Header Mounting Holes: Maximum of 24-inch centers.
  - c. Secure head and sill members of transom, side lites, and similar conditions.
- 11. Side Lites:
  - a. Factory preassemble side lites to greatest extent possible.
  - b. Mark frame assemblies according to location.

## 2.7 HARDWARE

- A. Premachine doors in accordance with templates from specified hardware manufacturers and hardware schedule.
- B. Factory install hardware.
- C. Hardware Schedule: As specified in Section 087100
  - 1. Concealed adjustable bottom brush. Install door manufacturer's multidirectional adjustable bottom with double nylon brush weatherstripping. Door bottom must be concealed and adjust to accommodate irregular tapered floor conditions.
- D. Finish: Clear

## 2.10 ALUMINUM FINISHES

- A. Anodized Finish: Class I finish, 0.7 mils thick.
  - 1. Clear 215 R1, AA-M10C12C22A41, Class I, 0.7 mils thick.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

### 3.2 PREPARATION

- A. Ensure openings to receive frames are plumb, level, square, and in tolerance.

### 3.3 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions.
- B. Install doors plumb, level, square, true to line, and without warp or rack.
- C. Anchor frames securely in place.

- D. Separate aluminum from other metal surfaces with bituminous coatings or other means approved by Architect.
- E. Set thresholds in bed of mastic and backseal.
- F. Install exterior doors to be weathertight in closed position.
- G. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- H. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

#### 3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for installation of doors.

#### 3.5 ADJUSTING

- A. Adjust doors, hinges, and locksets for smooth operation without binding.

#### 3.6 CLEANING

- A. Clean doors promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that would damage finish.

#### 3.7 PROTECTION

- A. Protect installed doors to ensure that, except for normal weathering, doors will be without damage or deterioration at time of substantial completion.

END OF SECTION





## SECTION 083113 - ACCESS DOORS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following types of access doors:
  - 1. Wall access doors.
  - 2. Fire-rated wall access doors.
  - 3. Ceiling access doors.
  - 4. Fire-rated ceiling access doors.
  - 5. Toilet room floor hatch
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 4 Sections for building in anchors and grouting frames set in masonry construction.
  - 2. Division 8 Section "Finish Hardware" for mortise or rim cylinder locks.
  - 3. Division 15 for duct access doors.

#### 1.3 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain access doors for entire Project from one source and by a single manufacturer.
- B. Fire-Rated Door Assemblies: Units that comply with NFPA 80, are identical to door and frame assemblies tested for fire-test-response characteristics per test method as indicated below, and are labeled and listed by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Test Method for Vertical Installations: ASTM E 152.
  - 2. Test Method for Horizontal Installations: ASTM E 119.
- C. Size Variations: Obtain Architect's acceptance of manufacturer's standard size units, which may vary slightly from sizes indicated.

#### 1.4 COORDINATION

- A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed equipment.
- B. Cylinder locks: Coordinate keying of cylinder locks with key system specified in Division 8 Section "Finish Hardware".

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. J.L. Industries.
  2. Larsen's Manufacturing Co.
  3. Milcor, Inc.

### 2.2 MATERIALS

- A. Steel Sheet: ASTM A 366 commercial-quality, cold-rolled steel sheet with baked-on, rust-inhibitive primer.
- B. Zinc-Coated Steel Sheet: ASTM A 591, Electrolytic zinc-coated steel sheet with Class C coating and phosphate treatment to prepare surface for painting.
- C. Stainless-Steel Sheet: ASTM A 167, Type 304 with No. 4 finish according to ASTM A 480.

### 2.3 ACCESS DOORS

- A. General: Provide access doors as follows:
1. Stainless steel door and frames at toilet rooms, shower rooms, and locker rooms, prime painted access doors elsewhere.
  2. Fire rated access doors at rated construction matching fire rating of construction in which access doors are being installed.
- B. Non-insulated, Fire-Rated Access Doors for Walls: Self-latching units consisting of frame, trim, door, and hardware, including automatic closer, interior latch release, and complying with the following requirements:
1. Frame: 0.0598-inch-thick steel sheet or 0.0625-inch-thick stainless-steel sheet.
  2. Door: 0.0598-inch-thick steel sheet or 0.0625-inch-thick stainless-steel sheet.
  3. Hinge: Continuous type.
  4. Latches: Bolt type, operated by flush key device (keyed alike).
  5. Fire-Protection Rating for Walls: 1-1/2 hours.
- C. Flush Access Doors with Exposed Trim: Units consisting of frame with exposed trim, door, hardware, and complying with the following requirements:
1. Frame: 0.0598-inch-thick steel sheet or 0.0625-inch-thick stainless-steel sheet.
  2. Door: 0.0747-inch-thick steel sheet or 0.0781-inch-thick stainless-steel sheet.
  3. Trim: Flange integral with frame, 3/4 inch wide, overlapping surrounding finished surface.
  4. Hinge: Continuous type.
  5. Locks: Key-operated cylinder lock.
  6. Application: ceramic tile and masonry surfaces.
- D. Trimless, Flush Access Doors for Gypsum Board: Units consisting of frame, concealed edge trim, door, hardware, and complying with the following requirements:
1. Frame: 0.0598-inch-thick steel sheet or 0.0625-inch-thick stainless-steel sheet.

2. Door: 0.0747-inch-thick steel sheet or 0.0781-inch-thick stainless-steel sheet.
3. Concealed, Gypsum Board Edge Trim: 0.0299-inch zinc-coated or galvanized-steel sheet with face flange formed to receive joint compound.
4. Hinge: continuous type.
5. Locks: Key-operated cylinder lock.

E. Floor Hatch: Units consisting of integral frame and door, and complying with the following requirements:

1. Frame: Extruded aluminum.
2. Door: 1/4" thick aluminum diamond plate with automatic hold open arm. Rated for 300# live load.
3. Hinge: Stainless steel.
5. Locks: Key-operated cylinder lock, lockable from above.
6. Manufacturer: Bilco, Type J-AL Single Leaf
7. Size: 30" x 40" to match existing opening.

F. Hatch Doors to concealed ceiling space: Units consisting of frame with exposed trim, door, hardware, and complying with the following requirements:

1. Frame: 16 gauge steel sheet
2. Door: 16 gauge steel sheet
3. Trim: Flange integral with frame, 3/4 inch wide, overlapping surrounding finished surface.
4. Hinge: Concealed Spring Hinge
5. Locks: Key-operated cylinder lock.
6. Application: Hatch access to ceiling space in auditoriums
7. Product: Milcor 24" x 24" M series Flush Access Door, primed for painting.

## 2.4 FABRICATION

A. General: Manufacture each access door assembly as an integral unit ready for installation.

B. Steel Access Doors and Frames: Continuous welded construction. Grind welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.

1. Exposed Flange: Nominal 1 to 1-1/2 inches wide around perimeter of frame.
2. For gypsum board assemblies or gypsum veneer plaster, furnish frames with edge trim for gypsum board or gypsum base.
3. For full-bed plaster applications, furnish frames with galvanized expanded metal lath and exposed casing bead, welded to perimeter of frame.
4. For installation in masonry construction, furnish frames with adjustable metal masonry anchors.

C. Locking Devices: Furnish number required to hold door in flush, smooth plane when closed.

1. For cylinder lock, furnish 2 keys per lock. Provide cylinders to match master keying system specified in Division 8 Section "Finish Hardware".

## PART 3 - EXECUTION

### 3.1 PREPARATION

A. Advise Installers of other work about specific requirements relating to access door installation, including sizes of openings to receive access door and frame, as well as locations of supports, inserts, and

anchoring devices. Furnish inserts and anchoring devices for access doors that must be built into other construction. Coordinate delivery with other work to avoid delay.

### 3.2 INSTALLATION

- A. Comply with manufacturer's instructions for installing access doors.
- B. Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finished surfaces.
- C. Install concealed-frame access doors flush with adjacent finish surfaces.

### 3.3 ADJUST AND CLEAN

- A. Adjust hardware and panels after installation for proper operation.
- B. Remove and replace panels or frames that are warped, bowed, or otherwise damaged.

### 3.3 ACCESS DOOR SCHEDULE

- A. Provide 16" x 16" access doors unless otherwise indicated on the drawings.
- B. In addition to the access doors indicated on the drawings, provide additional access doors for allowing access to mechanical items in amounts indicated in Section 01011 "Summary of Work – Multiple Prime Contracts". Coordinate location with HVAC and Plumbing contractors.

END OF SECTION 083113

## SECTION 083613 - SECTIONAL DOORS

### 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 manually operated sectional doors.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type and size of sectional door and accessory.
  - 1. Include construction details, material descriptions, dimensions of individual components, profile door sections, and finishes.
  - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
  - 1. Include plans, elevations, sections
  - 2. Include details of equipment assemblies. Indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sectional doors to include in maintenance manuals.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

#### 1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of sectional doors that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures including, but not limited to, excessive deflection.
    - b. Failure of components or operators before reaching required number of operation cycles.
    - c. Faulty operation of hardware.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use; rust through.

- e. Delamination of exterior or interior facing materials.
- 2. Warranty Period: One year from date of Substantial Completion.
- B. Special Finish Warranty: Manufacturer agrees to repair or replace components that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS, GENERAL

- A. Source Limitations: Obtain sectional doors from single source from single manufacturer.
  - 1. Obtain operators and controls from sectional door manufacturer.
  - 2. Basis of design: Sectional Steel Door Model #420 - Overhead Door Corp.

### 2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Sectional doors shall comply with performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Structural Performance, Exterior Doors: Capable of withstanding the design wind loads.
  - 1. Design Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq. ft. (960 Pa), acting inward and outward.
  - 2. Deflection Limits: Design sectional doors to withstand design wind loads without evidencing permanent deformation or disengagement of door components.
    - a. Deflection of door sections in horizontal position (open) shall not exceed 1/120 of the door width.
    - b. Deflection of horizontal track assembly shall not exceed 1/240 of the door height.
- C. Energy Performance:
  - 1. Insulation; CFC-free and HCFC-free polyurethane, fully encapsulated. R Value: R26.
  - 2. Air Infiltration: .09 cfm at 15 mph.

### 2.3 DOOR ASSEMBLY

- A. Steel Sectional Door: Sectional door formed with hinged sections and fabricated according to DASMA 102 unless otherwise indicated.
- B. Operation Cycles: Door components and operators capable of operating for not less than 10,000. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.
  - 1. Section Thickness: 2 inches (51 mm).
  - 2. Exterior-Face, Steel Sheet Thickness: 20 gauge nominal coated thickness, hot dipped galvanized, ribbed.
  - 3. Interior face: 26 gauge galvanized steel – white

- 4. End and intermediate stiles: 16 gauge
- C. Track Configuration: Manufacturer standard angle mount.
- D. Weatherseals: Fitted to bottom and top and around entire perimeter of door.
- E. Locking Devices: Interior slide lock.
- F. Door Finish:
  - 1. Baked-Enamel or Powder-Coat Finish: Selected from Manufacturer's standard colors.
- G. Glazing:
  - 1. Partial Glazing of Steel Panels: Standard with black frame: 1/2 inch Tempered Insulated.

## 2.4 MATERIALS, GENERAL

## 2.5 TRACKS, SUPPORTS, AND ACCESSORIES

- A. Tracks: Manufacturer's standard, galvanized-steel track system of configuration indicated, sized for door size and weight, designed for lift type indicated and clearances indicated on Drawings, Provide complete system including brackets, bracing, and reinforcement to ensure rigid support of ball-bearing roller guides for required door type, size, weight, and loading.
  - 1. Galvanized Steel: ASTM A 653/A 653M, minimum G60 (Z180) zinc coating.
  - 2. Slope tracks at an angle from vertical or design tracks to ensure tight closure at jambs when door unit is closed.
  - 3. Track Reinforcement and Supports: Galvanized-steel members to support track without sag, sway, and vibration during opening and closing of doors. Slot vertical sections of track spaced 2 inches (51 mm) apart for door-drop safety device.
    - a. For Vertical Track: Intermittent, jamb brackets attached to track and attached to wall.
    - b. For Horizontal Track: Continuous reinforcing angle from curve in track to end of track, attached to track and supported at points by laterally braced attachments to overhead structural members.
- B. Weatherseals: Replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible vinyl, rubber, or neoprene fitted to bottom and top of sectional door unless otherwise indicated.

## 2.6 HARDWARE

- A. General: Heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.
- B. Hinges: Heavy-duty, galvanized-steel hinges of not less than 0.079-inch- (2.01-mm-) nominal coated thickness at each end stile and at each intermediate stile, according to manufacturer's written recommendations for door size. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is impossible. Provide double-end hinges where required, for doors more than 16 feet (4.88 m) wide unless otherwise recommended by door manufacturer.



- C. Rollers: Heavy-duty rollers with steel ball-bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Provide 3-inch- (76-mm-) diameter roller tires for 3-inch- (76-mm-) wide track and 2-inch- (51-mm-) diameter roller tires for 2-inch- (51-mm-) wide track.

## 2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM/NOMMA's "Metal Finishes Manual for Architectural and Metal Products (AMP 500-06)" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.8 STEEL AND GALVANIZED-STEEL FINISHES

- A. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Tracks:
  - 1. Fasten vertical track assembly to opening jambs and framing, spaced not more than 24 inches (610 mm) 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.
- C. Accessibility: Install sectional doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.

### 3.3 ADJUSTING

- A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

- B. Lubricate bearings and sliding parts as recommended by manufacturer.
- C. Adjust doors and seals to provide weather-resistant fit around entire perimeter.
- D. Touch-up Painting: Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780/A 780M.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.

END OF SECTION 083613



## SECTION 085500 – ALUMINUM CLAD WOOD WINDOWS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes fixed glazed aluminum clad wood windows.
- B. Related Sections include the following:
  - 2. Division 6 Section "Interior Architectural Woodwork" for interior and exterior wood trim not included as part of wood window units.

#### 1.3 DEFINITIONS

- A. Performance-grade number, included as part of the window designation system, is the actual design pressure in pounds force per square foot used to determine the structural test pressure and water test pressure.
  - 1. Structural test pressure, wind-load test, is equivalent to 150 percent of the design pressure.
  - 2. Water-leakage-resistance test pressure is equivalent to 10 percent of the design pressure with 2.86 lbf/sq. ft. as a minimum.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide wood windows engineered, fabricated, and installed to withstand normal thermal movement, wind loading, and impact loading without failure, as demonstrated by testing manufacturer's standard window assemblies representing types, grades, and sizes required for this Project according to test methods indicated.
- A. Standards: Performance requirements for operating force, air infiltration, water penetration, structural performance, and forced-entry resistance for wood windows are those specified in WMDA 101/I.S. 2, "Industry Standard for Wood Window Units."
- B. Performance Requirements: Testing shall demonstrate compliance with requirements indicated in WMDA 101/I.S. 2 for operating force, air infiltration, water penetration, structural performance, and forced-entry resistance for the type and performance grade of window units required.
  - 1. Air-Infiltration Rate for Operating Units: Not more than 0.30 cfm/ft. of operable sash joint for an inward test pressure of 1.57 lbf/sq. ft.
  - 2. Water Penetration: No water penetration as defined in the test method at an inward test pressure of 10 percent of the structural test pressure.
  - 3. Structural Performance: No failure or permanent deflection in excess of 0.4 percent of any member's span after removing the imposed load, for a positive (inward) and negative (outward) test pressure of 40 lbf/sq. ft.
  - 4. Thermal Transmittance: Provide window units, labeled and certified according to the National Fenestration Rating Council's Product Certification Program, with the following U-value as determined according to NFRC 100.

- a. U-Value: 0.32 Btu/sq. ft. x h x deg F for operable, double-glazed, metal-clad, wood window units.
- b. U-Value: 0.33 Btu/sq. ft. x h x deg F for fixed, double-glazed, metal-clad, wood window units.
- c. Forced-Entry Resistance: Comply with Performance Level 40 requirements when tested according to ASTM F 588.

#### 1.5 SUBMITTALS

- A. Product Data: For each type of wood window required. Include the following:

1. Installation Details including anchors and trim.
2. Profiles and dimensions of individual components.
3. Full range of manufacturers standard paint color samples on aluminum substrate.
3. Data on hardware, accessories, and finishes.
4. Recommendations for maintenance and cleaning of exterior surfaces.

#### 1.6 QUALITY ASSURANCE

- A. Glazing Standards: Comply with recommendations of GANA's "Glazing Manual" and "Sealant Manual," unless more stringent requirements are indicated.
- B. Insulating-Glass Certification Program: Provide insulating-glass units permanently marked on spacers or at least on one component pane of units with the appropriate certification label of the inspecting agency indicated below:
1. Insulating Glass Certification Council.

#### 1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify window openings by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating wood windows without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to established dimensions.

#### 1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty, executed by wood window manufacturer, agreeing to repair or replace window components that fail in materials or workmanship for a period of ten years from Substantial Completion.. Failures include, but are not limited to, the following:
1. Structural failures, including excessive deflection, water leakage, air infiltration, or condensation.
  2. Faulty operation of sash and hardware.
  3. Deterioration of finishes and other materials beyond normal weathering.

- C. Warranty Period for Insulating Glass: Clear insulating glass with stainless steel spacers shall be warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass shall be warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.
- D. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide the following:
  - 1. Aluminum-Clad Wood Window Units:
  - 2. Basis of Design: Marvin Clad, Ultimate Casement Narrow Frame Polygon Stationary Units complete with glazing, weather strip, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments as specified and as shown on the drawings.

### 2.2 MATERIALS

- A. General: Comply with NWWDA I.S. 2.
- B. Wood: Clear ponderosa pine or other suitable fine-grain lumber, kiln dried to a moisture content of 6 to 12 percent at time of fabrication and free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch wide by 2 inches long.
  - 1. Lumber shall be water-repellent preservative treated after machining per NWWDA I.S. 4.
  - 2. Aluminum Cladding: Frame exterior aluminum clad with 0.050 inches (1.3mm) thick extruded aluminum
  - 3. Trim Members: Provide aluminum-clad wood, hollow-aluminum extrusions, or roll-formed aluminum trim members.
  - 4. Finish: Factory-applied, Fluoropolymer modified acrylic finish meeting AAMA 2605 requirements.
    - a. Color: As selected from the manufacturer's full color line
- D. Anchors, Clips, and Accessories: Fabricate anchors, clips, and window accessories of aluminum, nonmagnetic stainless steel, or hot-dip zinc-coated steel or iron complying with requirements of ASTM B 633 for SC 3 (severe) service condition; provide sufficient strength to withstand design pressure indicated.
- E. Fasteners: Comply with NWWDA I.S. 2 for fabrication and with manufacturer's recommendations and standard industry practices for type and size of installation fasteners.
  - 1. Use zinc-coated or nonferrous nails and screws for window fabrication and installation.
  - 2. Use brass screws for hardware and accessory installation.
- F. Compression-Type Weather Stripping: Provide compressible weather stripping designed for permanently resilient sealing under bumper or wiper action, and completely concealed when sash is closed.

- G. Sliding-Type Weather Stripping: Provide woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric. Comply with AAMA 701.2.
  - 1. Provide weather stripping with integral, centerline barrier fin of semirigid, plastic, polypropylene sheet.
- H. Glass and Glazing Materials: Provide manufacturer's standard clear, sealed, insulating Low E Argon glazing material. Provide obscure glass at toilet rooms.
- J. Glazing Seal: Provide manufacturer's standard silicone bedding and glazing gasket providing weathertight seal.

## 2.3 HARDWARE

- A. General: Provide manufacturer's standard hardware, necessary to operate, tightly close, and securely lock windows. Do not use aluminum in frictional contact with other metals.
  - 1. Provide solid white metal hardware with a special coating finish and plated steel or brass/bronze operating bars and rods.

## 2.4 ACCESSORIES

- A. Simulated Divided Lights:
  - 1. 7/8" (22mm) wide with internal spacer bar
  - 2. Exterior muntins: 0.055" (1.4mm) thick extruded aluminum
  - 3. Interior muntins: Pine
  - 4. Muntins adhere to glass with closed-cell copolymer acrylic foam tape
  - 5. Sticking: Square
  - 6. Patterns: Rectangular as shown on the drawings
  - 7. Finish – exterior matches exterior aluminum clad colors, interior matches' interior wood species and color

## 2.5 FIXED WINDOWS

- A. Window Grade: Comply with requirements of NWWDA Performance Grade DP40.
- B. Provide units that match double hung units in all respects except for operable sash.

## 2.6 ACCESSORIES AND TRIM

- A. Installation brackets: manufacturer's standard for concealed brackets.
- B. Aluminum extrusions and trim: factory applied custom extruded casing and adjustable sill.
  - 1. Finish: match window units,

## 2.7 FABRICATION

- A. General: Fabricate wood window units to comply with indicated standards. Include a complete system for assembly of components and anchorage of window units.
  - 1. Comply with requirements of NWWDA I.S. 2 for moisture content of lumber at time of fabrication.

- B. Fabricate windows to produce units that are reglazable without dismantling sash framing. Provide openings and mortises precut, where possible, to receive hardware and other items.
  - 1. Provide weather stripping at perimeter of each operating sash.
    - a. Provide weather stripping only at horizontal rails of operable sash.
  - 2. Provide removable insect screen for each operating sash, with location determined by manufacturer.
  - 3. Provide glazing stops, nailed or snap-on type, coordinated with glass selection and glazing system indicated.
  - 4. Factory-Glazed Window Units: Glaze window units in the factory before delivery. Comply with requirements of Division 8 Section "Glazing" of these Specifications and NWWDA I.S. 2.
    - a. Groove Glazing: Factory-glazed units without removable stops or other provision permitting convenient field disassembly to facilitate replacement of broken glass will not be accepted.
- C. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to the Project site, to the maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

## 2.8 FINISHES

- A. Exterior: Aluminum clad. Fluoropolymer modified acrylic topcoat over a primer meeting or exceeding AAMA 2605 requirements.
- B. Painted Interior Finish. Factory-applied water-borne acrylic enamel. Available on Pine product only.

## 2.9 GLAZING

- A. General: comply with ASTM C 1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E 2190
  - 1. Glazing method: Insulating glass
  - 2. Glazing seal: Silicone bedding at interior and exterior
  - 3. Dual-pane thickness: 1"
  - 4. Glass fill: Argon.
  - 5. Glass Type: Tempered, Clear, Low E2,

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine openings before installation. Verify that opening is correct and sill plate is level. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written instructions and recommendations for installing window units, hardware, operators, accessories, and other components of the Work.
- B. Set window units level, plumb, true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place.



- C. Set sill members in a bed of sealant or with joint fillers or gaskets, as indicated, to provide weathertight construction.

### 3.3 ADJUSTING

- A. Adjust operating sash and hardware to provide a tight fit at contact points and weather stripping for smooth operation and a weathertight closure. Lubricate hardware and moving parts.

### 3.4 CLEANING

- A. Clean interior and exterior surfaces immediately after installation. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealants, dirt, and other substances.
- B. Clean glass of factory-glazed units immediately after installing windows. Wash and polish glass on both faces before Substantial Completion. Comply with manufacturer's recommendations for final cleaning and maintenance. Remove nonpermanent labels from glass surfaces.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.

### 3.5 PROTECTION

- A. Protect window units from damage or deterioration until the time of Substantial Completion.

### 3.6 DEMONSTRATION

- A. Demonstate to Owner's maintenance personnel proper techniques for maintenance, cleaning, adjustment, and replacement of sash, glazing and screens.

END OF SECTION 085500

SECTION 087100--DOOR HARDWARE

PART 1 --GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

- A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.
- B. Extent of finish hardware required is indicated on drawings and in schedules.
- C. Types of finish hardware required include the following:

- Butt Hinges
- Continuous Hinges
- Lock cylinders and keys
- Lock and latch sets
- Exit devices
- Closers
- Electronic door control devices
- Overhead Holders
- Door trim units

1.3 RELATED SECTIONS

- A. Division 8 - Steel Doors and Frames.
- B. Division 8 - Flush Wood Doors.
- C. Division 26 – Electrical
- D. Division 28 – Electronic Safety & Security

1.4 QUALITY ASSURANCE

- A. Manufacturer: Obtain each type of hardware (latch and lock sets, etc.) from a single manufacturer.
- B. Supplier: Shall be an established firm dealing in contract builder's hardware, with adequate inventory and warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of not less than 2 years, has qualified personnel on staff, located within 100 miles and who is, or who employs an experienced architectural hardware consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor. The supplier must be a factory authorized dealer for all materials required
- C. Where emergency exit devices are required on fire rated doors (with supplementary marking on doors with labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide labels on exit devices indicating "Fire Exit Hardware."
- D. Hardware on doors from spaces of pupil occupancy shall be a type which will always permit the door to be opened from the inside of the room without direct manipulation of any type locking device.
- E. The supplier shall be responsible for field checking existing openings for proper application and sizes of strikes, hinges, locksets, closers, exit devices, etc. for all openings.

## 1.5 REGULATORY REQUIREMENTS

- A. Comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), “Accessibility Guidelines for Buildings and Facilities (ADAAG),” ANSI A117.1, FED-STD-795, “Uniform Federal Accessibility Standards.”
- B. Fire Rated Openings: Provide hardware for fire rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or an approved testing agency for types and sizes of doors required and complies with requirements of door and door frame labels.
- C. Fire-Rated Assemblies: Upon completion of the installation, all fire door assemblies shall be tested to confirm proper operation of the closing device and that it meets all criteria of a fire door assembly as per NFPA 80 2007 Edition. At completion of the project, written record shall be furnished by the door hardware supplier and given to the owner to be made available to the Authority Having Jurisdiction, “AHJ”. The record shall show all fire rated openings, door number and location, along with hardware supplied and installed for the opening. The inspection of the fire doors that are swinging doors with builders hardware type to be performed by individuals with knowledge and understanding of the operating components of the type of door being subjected to testing as required by the AHJ.

## 1.6 SUBMITTALS

- A. Product Data: Submit manufacturer’s technical product data for each item of hardware in accordance with Division-1 section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.
- B. Hardware Schedule: Submit final hardware schedule in a vertical format as recognized by the Door and Hardware Institute (DHI). Horizontal schedule format will not be accepted. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.
  - 1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
    - a. Type, style, function, size and finish of each hardware item.
    - b. Name and manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Index to include location of hardware set cross referenced to indications on drawings both on floor plans and in door and frame schedule.
    - e. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
    - f. Mounting locations for hardware.
    - g. Door and frame sizes and materials.
    - h. Keying information.
    - i. Wiring diagrams with theory of operation.
- C. Submittal Sequence: Submit schedule in accordance to Division 1, particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.
- D. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- E. Samples if Requested: Prior to submittal of the final hardware schedule and prior to final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finish as required, and tagged with full description for coordination with schedule.
- F. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

- G. Notify the Architect prior to submission of the required schedule, of any apparent discrepancies between the Hardware Specification, details or contract drawings.
  - H. Review of the schedule by the Architect is for compliance with design intent only and shall not relieve this supplier from his responsibility to furnish all finish hardware required by the Contract Documents, whether included in the reviewed schedules or not. After the schedule has been reviewed, no items therein shall be changed without written approval of the Architect.
  - G. Submit to General Contractor/Construction Manager, the factory order acknowledgement numbers for the various hardware items to be used on the project. The factory order acknowledgement numbers shall help to facilitate and expedite any service or warranty issues that may be required on a particular hardware item. General Contractor/Construction Manager shall keep these order acknowledgement numbers on file in the construction trailer.
- 1.7 PRODUCT HANDLING
- A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.
  - B. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
  - C. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.
  - D. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

## PART 2--PRODUCTS

### 2.1 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated in the Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following.
- B. Manufacturer's Product Designations:

Butt Hinges:	Ives
Mechanical Locksets:	Falcon
Exit Devices:	Von Duprin
Closers:	LCN
Overhead Stop & Holders:	Glynn-Johnson
Kickplates:	Ives
Silencers:	Ives
Wall Stops:	Ives
Threshold, Seals & Weatherstrip	National Guard Products

### 2.2 MATERIALS AND FABRICATION

- A. General:
  - 1. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
  - 2. Manufacturer's Name Plate: Do not use manufacturer's products which have manufacturer's name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels and as otherwise acceptable to Architect.
  - 3. Manufacturer's identification will be permitted on rim of lock cylinders only.

4. Finish: All hardware finish shall match US26D unless otherwise indicated. Closer bodies, covers and arms shall be painted to match.
5. Lockset Design: Lever handle design shall be similar to Dane as manufactured by Falcon Lock Co.
6. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
7. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
8. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.
9. Tools and Maintenance Instructions for Maintenance: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

## 2.3 HINGES, BUTTS AND PIVOTS

- A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.
- C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
  1. Steel Hinges: Steel pins.
  2. Non-ferrous Hinges: Stainless steel pins.
  3. Out-swing Corridor Doors: Non-removable pins.
  4. Interior Doors: Non-rising pins.
  5. Tips: Flat button and matching plug, finished to match leaves.
  6. Number of hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.
- D. Acceptable Manufacturers:
  1. Ives
  2. McKinney
  3. Hager
- E. Supplier shall be responsible for the correct hinge size to fit any existing frames or doors.
- F. Furnish hinges in sizes and types as required by architect's details to achieve maximum degree of opening.

## 2.5 LOCK CYLINDERS AND KEYING

- A. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- A. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system. If key pinning charts are required, owner to furnish charts to hardware supplier.
- B. Equip all locks and cylinders with Best compatible SFIC interchangeable cores. Furnish temporary keyed cores for the construction period. Contractor shall void the construction keying in the presence of the owner's representative.
- C. Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.

- D. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.
- E. Permanently inscribe each key and cylinder with Visual Key Control that identifies cylinder manufacturer key symbol, and inscribe key with the notation "DO NOT DUPLICATE".
- F. Key Material: Provide keys of nickel silver only.
- G. Key Quantity:
  - 1. Furnish 3 change keys for each lock.
  - 2. 5 master keys for each master system.
  - 3. 5 grandmaster keys for each grandmaster system.
  - 4. One extra blank for each lock.
  - 5. 6 Construction master keys.
  - 6. 6 Control Keys – Construction and Permanent
- I. Deliver keys as directed by the owner.

## 2.6 LOCKS, LATCHES AND BOLTS

- A. Locks shall meet these certifications:
  - 1. Cylindrical Locks - ANSI A156.2 Series 4000, Grade 1 Strength and Operational requirements. Meets A117.1 Accessibility Codes. Latch bolts shall be steel with minimum ½” throw, deadlocking on keyed and exterior functions. ¾” throw anti-friction latchbolt on pairs of fire doors. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame. Provide 5/8" minimum throw of latch and deadbolt used on pairs of doors.
    - a. Lock design shall be equal to Falcon “T” Series Dane design – Finish to be 626
- B. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
- C. Acceptable Manufacturers and Products:
  - 1. Falcon Lock Co. “T Series”
  - 2. Stanley/Best Lock Co. “93K Series”
  - 3. Sargent Lock Co. “10 Line”

## 2.7 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.
- B. Closers: All door closers shall be of one manufacturer to provide for proper installation and servicing after installation. All closers shall be inspected after installation by a factory representative to insure proper adjustment and operation. A report shall be filed with the architect after said visit has been made. Closer shall carry a manufacturer's TEN YEAR WARRANTY for hydraulic units and 2 year warranty for electrical and/or handicap power assist door closers against manufacturing defects and workmanship.
- C. Cylinder: Shall be of high strength cast iron construction. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified independent testing laboratory.
- D. All exterior door closers shall be fully hydraulic and have full rack and pinion action with a shaft diameter of a minimum of 5/8" and piston diameter of 1- 1/2".
- E. Parallel Arm Closers: Shall incorporate one piece solid forged steel arms with bronze bushings. All other closers to have forged steel main arms for strength and durability.
- F. Built-In Stops: Where closers with built-in positive stops are used, the stops shall be of one piece cast malleable iron material. Where field reversible arms are provided, one-piece screw applied stops are permitted. Where required, the hold-open assembly handle for these stops shall rotate on ball bearings.

- G. All door closers shall pass UL10C positive pressure fire test.
- H. Non-sized: All exterior closers shall be non-sized to provide a full range of Size 1 to 5 closing power.
- I. Hydraulic Fluid: All closers, with the exception of interior electronic closers, shall utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees F to –30 degrees F without requiring seasonal adjustment of closer speed to properly close the door.
- J. All closers shall have a powder coat finish on closer body, arm, cover and adapter plate. If powder coat finish is not available, pre-treat closer body, arm, cover and adapter plate with special rust inhibiting coating before painted finish is applied.
- K. All closers shall have metal covers, unless otherwise specified in Hardware Sets.
- L. Provide all drop plates, shoe supports, templates, etc. to properly mount closers according to manufacturers' recommendations.
- M. Closers that incorporate Pressure Relief Valve technology (PRV) will not be accepted.
- N. Acceptable Manufacturers and Types:
  - 1. LCN - 4011/4111 Series
  - 2. Sargent – 281 Series (Less PRV)

## 2.8 EXIT DEVICES

- A. General: All devices and mullions shall be of one manufacturer to provide for proper installation and servicing. Devices shall be furnished non-handed and capable of direct field conversion for all available trim functions. All devices shall carry a three year warranty against manufacturing defects and workmanship. Exit device(s) being submitted for approval shall have been manufactured for at least 10 years. A list of (10) years old projects using submitted exit device shall be available upon request.
- B. Provide maintenance kit VonDuprin #050046 to owner at closeout of project.
- C. Surface Mounted Exit Devices:
  - 1. Devices shall be push through type touch pad design with a straight or horizontal motion to eliminate pinch points. The angular motion type pad with end cavity exposed when depressed is unacceptable. Latch bolt shall have a self-lubricating coating which reduces friction and wear. Plated latch bolts are unacceptable. Device housing shall be heavy duty extruded aluminum.
  - 2. Mechanism Case or Housing: Shall have an average minimum thickness of .140" aluminum, and shall have the adaptability to convert from standard hex key dogging to a high security cylinder dog operation in the field. No exposed screws shall be seen from the back side (pull side) of the device. End cap shall be cast metal or forged aluminum and have a minimum thickness of .125". Plastic or metal stamping will not be acceptable. The use of plastic to retract the latchbolt is unacceptable.
  - 3. Springs: Only minimum (1/16") diameter compression springs are acceptable. All internal parts shall be zinc dichromate coated to prevent rusting.
  - 4. Quiet Feature: All devices shall incorporate a hydraulic sound damper to which decelerates the touchpad on its return stroke and eliminates noise associated with exit device operation.
  - 5. Touch Pad: Shall be architectural metal with a minimum height of 2-3/16". Plastic is not acceptable.
  - 6. Outside Trim: Shall be heavy duty type and fastened by means of concealed welded lugs and thru-bolts from the inside. Lever trim shall be forged brass with a minimum average thickness on the escutcheon of .130. Plate with pull shall be minimum average thickness of .090 and have forged pulls.
  - 7. All devices with US26D finish to have stainless steel touch bars with US26D trim.
  - 8. All floor strikes on interior vertical rod panic devices to be similar to Von Duprin 385A.

9. Provide all shim kits and filler plates to allow flush mounting of exit devices on all types of doors used in this project.
10. Surface Vertical Rod Series Exit Device shall be tested to ANSI/BHMA A156.3 test requirements by a BHMA certified independent testing laboratory; a written certification showing successful completion of a minimum of 5,000,000 cycles for surface vertical rod devices must be provided by the independent laboratory. Mortise Series Exit Device shall be tested to ANSI/BHMA A156.3 test requirements by a BHMA certified independent testing laboratory; a written certification showing successful completion of a minimum of 10,000,000 cycles must be provided by the independent laboratory. Rim Exit Device shall be tested to ANSI/BHMA A156.3 test requirements by a BHMA certified independent testing laboratory; a written certification showing successful completion of a minimum of 5,000,000 cycles must be provided by the independent laboratory.

## 2.9 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screws.
- B. Fabricate protection plates (armor, kick or mop) not more than 1-1/2" less than door width on stop side and not more than 1/2" less than door width on pull side, x the height indicated. All protection plates shall have all edges beveled (B4E).
- C. Metal Plates: Stainless steel, .050" (U.S. 18 ga.).
- D. All pull plates and handles to be thru-bolted. Install pull plate prior to push plate to conceal thru-bolts. Provide concealed fasteners for all push/pull applications.
- E. Acceptable Manufacturers:
  1. Ives
  2. Rockwood
  3. Quality

## 2.10 WEATHERSTRIP AND GASKETING

- A. General: Except as otherwise indicated, provide continuous weather stripping at each leaf of every exterior door. Provide type, sizes and profiles shown or scheduled. Provide non-corrosive fasteners as recommended by manufacturer for application indicated.
- B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips is easily replaceable and readily available from stocks maintained by the manufacturer.
- C. Acceptable Manufacturers:
  1. National Guard Products
  2. Reese
  3. Zero

## 2.11 THRESHOLDS

- A. General: Except as otherwise indicated provide standard aluminum threshold unit of type, size and profile as shown or detailed.
- B. Provide welded custom thresholds where scheduled and noted in the hardware sets. Provide cover plates where scheduled.
- C. Provide thresholds that are 1" wider than depth of frame unless specified or detailed otherwise.
- D. Acceptable Manufacturers:
  1. National Guard Products
  2. Reese
  3. Zero



## 2.12 DOOR SILENCERS

All hollow metal frames shall have grey resilient type silencers. Furnish quantity (3) on single doors and quantity (2) on pairs of doors. Install new silencers on all existing frames with new doors.

## PART 3--EXECUTION

### 3.1 HARDWARE SCHEDULE

#### HW Set 01

1	EA	CONT. HINGE	112HD EPT	628
1	EA	POWER TRANSFER	EPT10	689
1	EA	ELEC CLASSROOM LOCK	AD-300-993R-70-MT-RHO-BD	626
1	EA	ELEC PANIC HARDWARE	RX-LC-CD-99-EO	626
1	EA	MORT. CYLINDER	BLDG STANDARD	626
1	EA	SURFACE CLOSER	4111 CUSH MC	689
1	EA	CUSH SHOE SUPPORT	4110-30	689
1	EA	BLADE STOP SPACER	4110-61	689
1	EA	DOOR SWEEP	C627A	CL
1	EA	THRESHOLD	8426	AL

Integral weatherstrip by door and frame manufacturer.

See Miscellaneous Hardware set for power supplies, interface boards and relay boards.

Theory of operation: When latched and locked, lever rigid. Proper credential to reader, or remote release from Registrar allows lever to operate latch.

Free egress at all times.

#### HW Set 02

3	EA	HINGE	3CB1 4.5 X 4.5	652
1	EA	PASSAGE	T101BB7 DANE	626
1	EA	SURFACE CLOSER	4111 H MC	689
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B4E	630
1	EA	WALL STOP	WS406/407CVX	630
3	EA	SILENCER	SR64	GRY

#### HW Set 03

3	EA	HINGE	3CB1 4.5 X 4.5	652
1	EA	ENTRY / OFFICE LOCK	T511BB7 DANE	626
1	EA	WALL STOP	WS406/407CCV	630
3	EA	SILENCER	SR64	GRY

#### HW Set 04

3	EA	HINGE	3CB1 4.5 X 4.5	652
1	EA	STOREROOM LOCK	T581BB7 DANE	626
1	EA	OH STOP	450S	630
3	EA	SILENCER	SR64	GRY

#### HW Set 05

3	EA	HINGE	3CB1 4.5 X 4.5	652
1	EA	SURFACE CLOSER	4011 MC	689
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B4E	630
1	EA	CLASSROOM LOCK	T301S DANE	626
3	EA	SILENCER	SR64	GRY
1	SET	SEALS	5050B	BRN

#### HW Set 06

1	EA	CLOSER	4011MC	689
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Balance of existing hardware to be re-used including hinges and locksets.

### 3.2 INSTALLATION

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

- D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.
- F. Technical and Warranty Information:
  - 1. At the completion of the project, the technical and warranty information coalesced and kept on file by the General Contractor/Construction Manager shall be given to the Owner or Owner's Agent. In addition to both the technical and warranty information, all factory order acknowledgement numbers supplied to the General Contractor/Construction Manager during the construction period shall be given to the Owner or Owner's Agent. The warranty information and factory order acknowledgement numbers shall serve to both expedite and properly execute any warranty work that may be required on the various hardware items supplied on the project.
  - 2. Submit to General Contractor/Construction Manager, two copies each of parts and service manuals and two each of any special installation or adjustment tools. Include for locksets, exit devices, door closers and any electrical products.

### 3.3 ALTERATION NOTES

- A. Remove existing interfering hardware. All removed hardware shall remain the property of the Owner, unless otherwise directed.
- B. Remove all mechanical hold open devices from existing corridor and fire rated doors. Manual hold open closers shall be replaced or modified accordingly.
- C. This supplier shall be responsible to verify all existing condition and advise the architect of any discrepancies with scheduled hardware.
- D. Patch, repair and modify all doors, frames and hardware affected by scheduled replacement hardware.
- E. Install all surface mounted hardware on existing doors with thru bolts.

### 3.4 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.
- E. Continued Maintenance Service: Approximately six months after the acceptance of hardware in each area, the Installer, accompanied by the representative of the latch and lock manufacturer, shall return to the project and re-adjust every item of hardware to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

-END OF SECTION 087100-

## SECTION 088000 - GLAZING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
  - 1. Windows.
  - 2. Doors.
  - 3. Hollow Metal Frames

#### 1.3 DEFINITIONS

- A. Manufacturer: A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.
- B. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.
- C. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
- D. Deterioration of Insulating Glass: Failure of the hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
  - 1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
    - a. Specified Design Wind Loads: As indicated.

- b. Maximum Lateral Deflection: For the following types of glass supported on all four edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
      - 1) For monolithic-glass lites heat treated to resist wind loads.
      - 2) For insulating glass.
      - 3) For laminated-glass lites.
    - c. Minimum Glass Thickness for Exterior Lites: Not less than 6 mm.
  - C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. 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, ambient; 180 deg F, material surfaces.
- 1.5 SUBMITTALS
- A. Product Data: For each glass product and glazing material indicated.
  - B. Warranties: Special warranties specified in this Section.
- 1.6 QUALITY ASSURANCE
- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
  - B. Source Limitations for Clear Glass: Obtain clear float glass from one primary-glass manufacturer.
  - C. Source Limitations for Insulating Glass: Obtain insulating-glass units from one manufacturer using the same type of glass and other components for each type of unit indicated.
  - D. Source Limitations for Laminated Glass: Obtain laminated-glass units from one manufacturer using the same type of glass lites and interlayers for each type of unit indicated.
  - E. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
  - F. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
  - G. Fire-Rated Window Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257.
  - H. Safety Glass: Category I materials complying with testing requirements in 16 CFR 1201.
    - 1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.

- I. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
  - 1. GANA Publications: GANA'S "Glazing Manual" and "Laminated Glass Design Guide."
  - 2. SIGMA Publications: SIGMA TM-3000, "Vertical Glazing Guidelines," and SIGMA TB-3001, "Sloped Glazing Guidelines."
- J. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following inspecting and testing agency:
  - 1. Insulating Glass Certification Council.
- K. Fire Resistance Rated Glass: Each lite shall bear permanent, non-removable UL label certifying it for use in tested and rated fire resistive assemblies.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
  - 1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40 deg F.

#### 1.9 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty on Laminated Glass: Written warranty, made out to Owner and signed by laminated-glass manufacturer agreeing to furnish replacements for laminated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
  - 1. Warranty Period: Five years from date of Substantial Completion.
- C. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
  - 1. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS AND MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products indicated in schedules at the end of Part 3.

### 2.2 PRIMARY FLOAT GLASS

- A. Float Glass: ASTM C 1036, Type I (transparent glass, flat), Quality q3 (glazing select); class as indicated in schedules at the end of Part 3.

### 2.3 HEAT-TREATED FLOAT GLASS

- A. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.
- B. Fabrication Process: By vertical (tong-held) or horizontal (roller-hearth) process, at manufacturer's option, except provide horizontal process where indicated as tongless or free of tong marks.
- C. Heat-Treated Float Glass: ASTM C 1048; Type I (transparent glass, flat); Quality q3 (glazing select); class, kind, and condition as indicated in schedules at the end of Part 3.

### 2.4 LAMINATED GLASS

- A. Laminated Glass: Comply with ASTM C 1172 for kinds of laminated glass indicated and other requirements specified, including those in the Laminated-Glass Schedule at the end of Part 3.
- B. Interlayer: Interlayer material as indicated below, clear or in colors, and of thickness indicated with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.
  - 1. Interlayer Material: Polyvinyl butyral sheets.
- C. Laminating Process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets as follows:
  - 1. Laminate lites with polyvinyl butyral interlayer in autoclave with heat plus pressure.

### 2.5 INSULATING GLASS

- A. Insulating-Glass Units: Preassembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article and in the Insulating-Glass Schedule at the end of Part 3.
  - 1. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in "Performance Requirements" Article. Provide Kind FT (fully tempered) where safety glass is indicated.

- B. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated in the Insulating-Glass Schedule at the end of Part 3 are nominal and the overall thicknesses of units are measured perpendicularly from outer surfaces of glass lites at unit's edge.
- C. Sealing System: Dual seal, with primary and secondary sealants as follows:
  - 1. Manufacturer's standard sealants.
- D. Spacer Specifications: Manufacturer's standard spacer material and construction.

## 2.6 FIRE RATED SAFETY RATED GLAZING

- A. Clear, laminated, fully insulating fire-resistant safety glass for use in impact safety-rated locations such as doors, sidelites, transoms, borrowed lites, and wall applications with fire rating requirements ranging from 45 to 120 minutes and passing hose stream test; for use in interior and exterior applications.
- B. Fire-resistant glazing provides protection by effectively blocking radiant and conductive heat, and maximizing natural light and visibility.
- C. Passes positive pressure test standard; UL 10C.
- D. Fire Rating, 60 Minutes and Greater: Fire rating listed and labeled by UL for hourly fire ratings as scheduled at opening locations on Drawings, when tested in accordance with ASTM E119 and UL 263.
- E. Impact Safety Resistance: ANSI Z97.1 and CPSC 16 CFR 1201 (Categories I and II).
- F. Glazing Tape: Provide closed cell polyvinyl chloride foam that is coiled on release paper over adhesive on two sides with maximum water absorption of 2 percent by volume and compression of 25 percent to ensure air and vapor seal, and also non-combustible and flexible.
- G. Silicone Sealant: Non-combustible, one-part neutral curing silicone, medium modulus sealant, in accordance with ASTM C920; Type S, Grade NS, Class 25 with additional movement capability of 50 percent in both extension and compression for total of 100 percent, Exposure NT, Substrates G, A, and O as applicable.
  - 1. Acceptable Manufacturers:
    - a. Product; Dow Corning 795 Silicone Building Sealant manufactured by Dow Corning Corp.: [www.dowcorning.com](http://www.dowcorning.com)
    - b. Product; SilGlaze II SCS2800 manufactured by Momentive Performance Materials: [www.momentive.com](http://www.momentive.com)
    - c. Product; Spectrem 2 manufactured by Tremco Inc.: [www.tremcosealants.com](http://www.tremcosealants.com)

## 2.7 ELASTOMERIC GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:
  - 1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  - 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.



3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range for this characteristic.

- B. Elastomeric Glazing Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied, chemically curing sealant in the Glazing Sealant Schedule at the end of Part 3, including those referencing ASTM C 920 classifications for type, grade, class, and uses.

## 2.8 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800.
- B. Expanded Cellular Glazing Tape: Closed-cell, PVC foam tape; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
  1. Type 1, for glazing applications in which tape acts as the primary sealant.
  2. Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

## 2.9 GLAZING GASKETS

- A. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542, black.
- B. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:
  1. Neoprene, ASTM C 864.
  2. EPDM, ASTM C 864.
  3. Silicone, ASTM C 1115.
  4. Thermoplastic polyolefin rubber, ASTM C 1115.
  5. Any material indicated above.
- C. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
  1. Neoprene.
  2. EPDM.
  3. Silicone.
  4. Thermoplastic polyolefin rubber.
  5. Any material indicated above.

## 2.10 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

- C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

#### 2.11 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.
- B. Grind smooth and polish exposed glass edges.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine framing glazing, with Installer present, for compliance with the following:
  - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
  - 2. Presence and functioning of weep system.
  - 3. Minimum required face or edge clearances.
  - 4. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

#### 3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where the length plus width is larger than 50 inches (1270 mm) as follows:
  - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
  - 2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
- I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

### 3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

### 3.5 GASKET GLAZING (DRY)

- A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with stretch allowance during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Install gaskets so they protrude past face of glazing stops.

### 3.6 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

### 3.7 LOCK-STRIP GASKET GLAZING

- A. Comply with ASTM C 716 and gasket manufacturer's written instructions. Provide supplementary wet seal and weep system, unless otherwise indicated.

### 3.8 PROTECTION AND CLEANING

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents, and vandalism, during construction period.
- E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

### 3.9 GLAZING SCHEDULE

#### A. Type GL1: Safety Glass

1. ¼ inch thick clear tempered glass or laminated glass. CPSC 16 CFR 1201
2. Tempered lights must have label on glass indicating temper.
3. Application: for use within non fire rated interior frames, door vision lites, and where indicated or required.

#### B. Type 3GL2: Fire Rated Safety Glazing

1. 1/8” thick laminated fire rated and impact safety rated glazing material. CPSC 16 CFR 1201 Category I and Category II.
2. Manufacturer: Technical Glass Products or approved equal.
3. Product: FireLite Plus
4. Application: For use within fire-rated assemblies.

#### C. Type GL3: Dual-glazed Insulating Glass Units shall be comprised of the following:

1. Exterior pane: ¼ inch thick clear tempered glass.
2. Interior pane: ¼ inch thick clear advance comfort low-e coated tempered glass.
3. Overall width: 1 inch nominal.
4. Application: For use within exterior window systems

END OF SECTION 088000

## SECTION 092600 GYPSUM BOARD ASSEMBLIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Interior gypsum wallboard.
  - 2. Non-load-bearing steel framing.
  - 3. Direct Suspension Ceiling Systems

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

#### 1.4 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

#### 1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory."
- B. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
  - 1. STC-Rated Assemblies: Indicated by design designations from GA-600, "Fire Resistance Design Manual."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

#### 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

## PART 2 - PRODUCTS

### 2.1 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Components, General: Comply with ASTM C 754 for conditions indicated.
- B. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.
- C. Hangers: As follows:
  - 1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch diameter.
  - 2. Rod Hangers: ASTM A 510, mild carbon steel.
    - a. Diameter: 7/32-inch.
    - b. Protective Coating: ASTM A 153/A 153M, hot-dip galvanized.
  - 3. Flat Hangers: Commercial-steel sheet, ASTM A 653/A 653M, G40, hot-dip galvanized.
    - a. Size: As indicated.
  - 4. Angle Hangers: ASTM A 653/A 653M, G60, hot-dip galvanized commercial-steel sheet.
    - a. Minimum Base Metal Thickness: 0.0312 inch.
    - b. Size: As indicated , but not less than 1-5/8 by 1-5/8 inches.
- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch, a minimum 1/2-inch- wide flange, with ASTM A 653/A 653M, G40, hot-dip galvanized zinc coating.
  - 1. Depth: 2 inches.
- E. Furring Channels (Furring Members): Commercial-steel sheet with ASTM A 653/A 653M, G40, hot-dip galvanized zinc coating.
  - 1. Cold Rolled Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flange, 3/4 inch deep.
  - 2. Steel Studs: ASTM C 645.
    - a. Minimum Base Metal Thickness: 0.0312 inch.
    - b. Depth: As indicated, but not less than 2-1/2 inches.
  - 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.
    - a. Minimum Base Metal Thickness: 0.0179 inch.
  - 4. Resilient Furring Channels: 1/2-inch- deep members designed to reduce sound transmission.
    - a. Configuration: Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs.
- F. Grid Suspension System for Interior Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
  - 1. Chicago Metallic 640 series Ceiling suspension for drywall ceilings consisting of heavy-duty 1-3/8" wide knurled faced furring runners made from galvanized steel that are factory punched for accurate cross member spacing. Provide cross furring channels or 1-3/8" Hook or Stab based furring cross tees. Provide 15/16" cross tees to provide accurate module sizes for Nema Type G light fixtures. Drywall ceiling grid systems shall be flame spread Class A and suitable for seismic applications.

### 2.2 STEEL PARTITION AND SOFFIT FRAMING

- A. Components, General: As follows:
  - 1. Comply with ASTM C 754 for conditions indicated.
  - 2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with manufacturer's standard corrosion-resistant zinc coating.
- B. Steel Studs and Runners: ASTM C 645.
  - 1. Minimum Base Metal Thickness: 0.3529 (20 gauge)
  - 2. Depth: As indicated.
- C. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch- deep flanges.

- D. Proprietary Firestop Track: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
  - 1. Product: Subject to compliance with requirements, provide the following:
    - a. Fire Trak Corp.; Fire Trak attached to studs with Fire Trak Slip Clip.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
  - 1. Minimum Base Metal Thickness: 0.027 inch.
- F. Cold-Rolled Channel Bridging: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flange.
  - 1. Depth: 1-1/2 inches.
  - 2. Clip Angle: 1-1/2 by 1-1/2 inch, 0.068-inch- thick, galvanized steel.
- G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
  - 1. Minimum Base Metal Thickness: 0.0179 inch.
  - 2. Depth: As indicated.
- H. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.
  - 1. Configuration: Asymmetrical, with face attached to single flange by a slotted leg (web).
- I. Cold-Rolled Furring Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flange.
  - 1. Depth: 3/4 inch.
  - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of 0.0312 inch.
  - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.
- J. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8 inch, minimum bare metal thickness of 0.0179 inch, and depth required to fit insulation thickness indicated.
- K. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

## 2.3 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36.
  - 1. Regular Type:
    - a. Thickness: 5/8".
    - b. Long Edges: Tapered.
    - c. Location: Only as indicated.
  - 2. Type X:
    - a. Thickness: 5/8 inch.
    - b. Long Edges: Tapered.
    - c. Location: Where required for fire-resistance-rated assembly and at Vertical surfaces, unless otherwise indicated.
- C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
  - 1. Core: 5/8 inch (15.9 mm), Type X.
  - 2. Long Edges: Tapered.
  - 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
  - 4. Product: National Gypsum Company; Gold Bond XP



## 2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
  - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
  - 2. Shapes:
    - a. Cornerbead: Use at outside corners, unless otherwise indicated.
    - b. LC-Bead: J-shaped; exposed long flange receives joint compound; use at exposed panel edges.
    - c. L-Bead: L-shaped; exposed long leg receives joint compound; use where indicated.
    - d. Expansion (Control) Joint: Use where indicated.
    - e. Curved-Edge Cornerbead: With notched or flexible flanges; use at curved openings.
- B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
  - 1. 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:
    - a. Fry Reglet Corp.
    - b. Gordon, Inc.
    - c. MM Systems Corporation.
    - d. Pittcon Industries.
  - 2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, alloy 6063-T5.
  - 3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

## 2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
  - 1. Interior Gypsum Wallboard: Paper.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
  - 1. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  - 2. Fill Coat: For second coat, use drying-type, all-purpose compound.
  - 3. Finish Coat: For third coat, use drying-type, all-purpose compound.
  - 4. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

## 2.6 ACOUSTICAL SEALANT

- A. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
- B. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Acoustical Sealant for Exposed and Concealed Joints:
    - a. Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
    - b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.

## 2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. C. Steel drill screws complying with ASTM C 1002 for the following applications
  - 1. Fastening gypsum board to steel members less than 0.033 inch thick.
  - 2. Product: USG Type S bugle head screws, providing a minimum of 5/8" penetration into steel framing.
- D. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch thick.
  - 1. Product: USG type S-12 bugle head screws.
- E. Isolation Strip at Exterior Walls:
  - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
  - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.
- F. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
  - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- G. Thermal Insulation: As specified in Division 7 Section "Building Insulation."
- H. Polyethylene Vapor Retarder: ASTM D4397, 6 mils, 0.13 perms maximum permeance rating, with pressure sensitive tape for sealing joints, seams and penetrations.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.

### 3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."

- C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.
  - 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
  - 2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.
    - a. Use deep-leg deflection track and firestop track where indicated.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

### 3.4 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Suspend ceiling hangers from building structure as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
  - 3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
  - 4. Secure hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
  - 5. Do not attach hangers to steel deck tabs.
  - 6. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  - 7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.
- C. For exterior soffits, install cross bracing and framing to resist wind uplift.
- D. Screw furring to wood framing.
- E. Wire-tie furring channels to supports, as required to comply with requirements for assemblies indicated.
- F. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.
  - 1. Hangers: 48 inches o.c.
  - 2. Carrying Channels (Main Runners): 48 inches o.c.
  - 3. Furring Channels (Furring Members): 16 inches o.c.
- G. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

### 3.5 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.

1. Where studs are installed directly against exterior walls, install asphalt-felt or foam-gasket isolation strip between studs and wall.
- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch from the plane formed by the faces of adjacent framing.
- C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.
  1. Cut studs 1/2 inch short of full height to provide perimeter relief.
  2. For fire-resistance-rated and STC-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.
    - a. Terminate partition framing at suspended ceilings where indicated.
- D. Install steel studs and furring at 16 inches on center unless indicated otherwise.
- E. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
- F. Curved Partitions:
  1. Cut top and bottom track (runners) through leg and web at 2-inch intervals for arc length. In cutting lengths of track, allow for uncut straight lengths of not less than 12 inches at ends of arcs.
  2. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
  3. Support outside (cut) leg of track by clinching steel sheet strip, 1-inch- high-by-thickness of track metal, to inside of cut legs using metal lock fasteners.
  4. Begin and end each arc with a stud, and space intermediate studs equally along arcs at stud spacing recommended in writing by gypsum board manufacturer for radii indicated. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches o.c.
- G. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
  1. Install two studs at each jamb, unless otherwise indicated.
  2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint.
  3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
- H. Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- I. Z-Furring Members:
  1. Erect insulation vertically and hold in place with Z-furring members spaced 24 inches o.c.
  2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
  3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.
  4. Until gypsum board is installed, hold insulation in place with 10-inch staples fabricated from 0.0625-inch- diameter, tie wire and inserted through slot in web of member.
- J. Polyethylene Vapor Retarder: Install to comply with the following requirements.

1. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with mechanical fasteners or adhesives. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose mineral-fiber insulation.
2. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches o.c.
3. Seal joints in vapor retarders caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor retarder tape.
4. Repair any tears or punctures in vapor retarder immediately before concealing it with the installation of gypsum board or other construction.

### 3.6 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.
- C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.
- I. Form control and expansion joints with space between edges of adjoining gypsum panels.
- J. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
  1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
  2. Fit gypsum panels around ducts, pipes, and conduits.
  3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- K. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

- L. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install gypsum panels over wood framing, with floating internal corner construction.
- M. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.
- N. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
  - 1. Space screws a maximum of 12 inches o.c. for vertical applications.
- O. Finish water-resistant gypsum backing board forming base for ceramic tile to comply with ASTM C 840 and gypsum board manufacturer's directions for treatment of joints behind tile.
  - 1. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.

### 3.7 PANEL APPLICATION METHODS

- A. Single-Layer Application:
  - 1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
  - 2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
    - a. Stagger abutting end joints not less than one framing member in alternate courses of board.
    - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
  - 3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
- B. Multilayer Application on Ceilings: Apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
- C. Multilayer Application on Partitions/Walls: Apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
  - 1. Z-Furring Members: Apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
- D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- E. Multilayer Fastening Methods: Fasten base layers and face layers separately to supports with screws.
- F. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.
- G. Curved Partitions:
  - 1. Install panels horizontally and unbroken, to the extent possible, across curved surface plus 12-inch-long straight sections at ends of curves and tangent to them.
  - 2. Wet gypsum panels on surfaces that will become compressed where curve radius prevents using dry panels. Comply with gypsum board manufacturer's written recommendations for curve radii,

wetting methods, stacking panels after wetting, and other preparations that precede installing wetted gypsum panels.

3. On convex sides of partitions, begin installation at one end of curved surface and fasten gypsum panels to studs as they are wrapped around curve. On concave side, start fastening panels to stud at center of curve and work outward to panel ends. Fasten panels to framing with screws spaced 12 inches o.c.
4. For double-layer construction, fasten base layer to studs with screws 16 inches o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches o.c.
5. Allow wetted gypsum panels to dry before applying joint treatment.

### 3.8 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

### 3.9 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
  1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
  2. Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for tile and where indicated
  3. Level 3: Not used
  4. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.
  5. Level 5: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface where indicated.
  - 6.

### 3.10 CLEANING AND PROTECTION

- A. Promptly remove any residual joint compound from adjacent surfaces.
- E. B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 092600

## SECTION 093013 - CERAMIC TILE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Ceramic Wall Tile in toilet rooms.
  - 2. Stone thresholds

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:
  - 1. Level Surfaces: Minimum 0.6. dry

### PART 2 - PRODUCTS

#### 2.1 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting Materials" and "Grouting Materials" articles.

#### 2.3 TILE PRODUCTS

- A. Glazed Ceramic Mosaic Tile: Provide flat tile complying with the following requirements:
  - 1. Composition: Ceramic
  - 2. Module Size: As shown on drawings
  - 3. Nominal Thickness: 1/4 inch.
  - 4. Face: Plain with cushion edges.
  - 5. Colors & Pattern: As selected from the manufacturers full range to match existing units
  - 6. Application: Toilet room walls
  - 7. Manufacturer: American Olean - Urban Canvas. Accent color Bright collection.



- B. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with the following requirements:
  - 1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.
  - 2. Shapes: As follows, selected from manufacturer's standard shapes:
    - a. Wainscot Cap for Thin-Set Mortar Installations: Surface bullnose.
    - b. External Corners for Thin-Set Mortar Installations: Surface bullnose.
    - c. Internal Corners: Field-butt square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.

## 2.4 STONE THRESHOLDS

- A. Marble Thresholds:
  - 1. Provide white, honed marble complying with the Marble Institute of America's Group A requirements for soundness.
  - 2. Fabricate thresholds to heights indicated, but not more than 1/2 inch above adjoining finished floor surfaces, with transition edges beveled on a slope of no greater than 1:2

## 2.5 SETTING MATERIALS

- A. Latex-Portland Cement Mortar: ANSI A118.4, composed as follows:
  - 1. Mixture of Dry-Mortar Mix and Latex Additive: Mixture of prepackaged dry-mortar mix and liquid-latex additive complying with the following requirements:
    - a. Latex Additive: Acrylic resin.
    - b. For wall applications, provide nonsagging, latex-portland cement mortar complying with ANSI A118.4 for mortar of this type defined in Section F-2.1.2.
- B. Modified-Epoxy Emulsion Mortar: ANSI A118.8.
- C. Organic Adhesive: ANSI A136.1, Type I.
- D. Waterproofing and Crack-Suppression Membrane: ANSI A118.10, Nobleseal TS

## 2.6 GROUTING MATERIALS

- A. Latex-Portland Cement Grout: ANSI A118.6 for materials described in Section H-2.4, composed as follows:
  - 1. Mixture of Dry-Grout Mix and Latex Additive: Mixture of factory-prepared, dry-grout mix and latex additive complying with the following requirements:
    - a. Unsanded Dry-Grout Mix: Dry-set grout complying with ANSI A118.6 for materials described in Section H-2.3, for joints 1/8 inch and narrower.

- b. Sanded Dry-Grout Mix: Commercial portland cement grout complying with ANSI A118.6 for materials described in Section H-2.1, for joints 1/8 inch and wider.
  - c. Latex Additive: Laticrete 253 polymer
- B. Modified Epoxy Grout: ANSI A118.8, two part modified epoxy emulsion additive. color as selected.
  - 1. Product: Spectra-Lock epoxy grout.
    - 1. Provide product capable of resisting continuous and intermittent exposure to temperatures of up to 140 deg F and 212 deg F, respectively, as certified by mortar manufacturer for intended use.
    - 2. Product: Hydroment 1900 by Bostik

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
- B. Verify that existing ceramic tile removals have been completed and that the substrate is clean and suitable for new tile. Remove projections as required.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Remove coatings, including curing compounds, and other substances that contain soap, wax, oil, or silicone and are incompatible with tile-setting materials by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.
- B. Provide concrete substrates for tile floors installed with dry-set or latex-portland cement mortars that comply with flatness tolerances specified in referenced ANSI A108 series of tile installation standards for installations indicated.
  - 1. Use trowelable leveling and patching compounds per tile-setting material manufacturer's written instructions to fill cracks, holes, and depressions.
  - 2. Remove protrusions, bumps, and ridges by sanding or grinding.
- C. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent adhesion or staining of exposed tile surfaces by grout, protect exposed surfaces of tile against adherence of mortar and grout by precoating them with a continuous film of temporary protective coating indicated below, taking care not to coat unexposed tile surfaces:
  - 1. Petroleum paraffin wax or grout release.

### 3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in Ceramic Tile Installation Schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
  - 1. For tile mounted in sheets, make joints between tile sheets the same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- F. Lay out tile wainscots to next full tile beyond dimensions indicated.
- G. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
  - 1. Locate joints in tile surfaces directly above joints in concrete substrates.
  - 2. Prepare joints and apply sealants to comply with requirements of Division 7 Section "Joint Sealants."
- H. Grout tile to comply with the requirements of the following tile installation standards:
  - 1. For ceramic tile grouts (sand-portland cement, dry-set, commercial portland cement, and latex-portland cement grouts), comply with ANSI A108.10.
  - 2. For modified epoxy grouts, comply with ANSI A108.9.
- I. Install moisture and crack-suppression membrane to comply with manufacturer's written instructions.

### 3.4 FLOOR TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Ceramic Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 series of tile installation standards.
- B. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.

### 3.5 WALL TILE INSTALLATION

- A. Install types of tile designated for wall installations to comply with requirements in the Ceramic Tile Wall Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.
- B. Joint Widths: Install tile on walls with the following joint widths:
  - 1. Ceramic Mosaic Tile: 1/16 inch.
- C. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.

### 3.6 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
  - 1. Remove latex-portland cement grout residue from tile as soon as possible.
  - 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
  - 3. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
- B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.
- C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure tile is without damage or deterioration at the time of Substantial Completion.

1. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

### 3.7 TILE REPAIR

- A. Cut out defective tile and prepare substrate for new tile installation. Defective tile are defined as existing tile with cracks, screw holes, scratches, nicks or broken edges or failed surface glazing.
- B. Cut out and regrout tile joints that are loose, or that have deteriorated.

### 3.8 CERAMIC TILE INSTALLATION SCHEDULE

- A. Ceramic Mosaic Tile on concrete subfloor:
  1. Mortar: Epoxy
  2. Grout: Epoxy
  3. TCNA Method: F113
- B. Glazed Ceramic Mosaic Tile thinset on masonry:
  1. Mortar: Latex Portland Cement
  2. Grout: Latex Portland Cement
  3. TCNA Method: B419

END OF SECTION 09310

## SECTION 095110 - ACOUSTICAL PANEL CEILINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes:
  - 1. Removal of existing ceiling suspension systems and acoustical panels.
  - 2. Maintain existing devices and fixtures in place where shown.
  - 3. Secure loose cables and devices above ceiling to structure
  - 4. New ceilings consisting of acoustical panels and exposed suspension systems.

#### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed acoustical panel ceilings similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- B. Source Limitations for Ceiling Units: Obtain each acoustical ceiling panel from one source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
- C. Fire-Test-Response Characteristics: Provide acoustical panel ceilings that comply with the following requirements:
  - 1. Fire-response tests were performed by UL, ITS/Warnock Hersey, or another independent testing and inspecting agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.
  - 2. Surface-burning characteristics of acoustical panels comply with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84.
  - 3. Products are identified with appropriate markings of applicable testing and inspecting agency.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels and suspension system components to Project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

#### 1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

- B. The work includes removing and replacing existing ceilings. Existing devices and fixtures in the ceiling shall remain and be re-incorporated into the new ceilings. Existing cables and items above the ceiling shall be supported and secured to the structure.

#### 1.6 COORDINATION

- A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.
- B. Delay installation of ceiling panels in completed grid for as long as possible to allow installation of above ceiling items and to reduce damage to installed panels by other trades.

#### 1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
  - 1. Acoustical Ceiling Units: Full-size units equal to 1.0 percent of amount installed.
  - 2. Suspension System Components: Quantity of each exposed component equal to 1.0 percent of amount installed.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide the products indicated for each designation in the Acoustical Panel Ceiling Schedule at the end of Part 3.

#### 2.2 ACOUSTICAL PANELS, GENERAL

- A. Panel Characteristics: Comply with requirements indicated in the Acoustical Panel Ceiling Schedule at the end of Part 3, including those referencing ASTM E 1264 classifications.

#### 2.3 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements.
- B. Metal Suspension System Characteristics: Comply with requirements indicated in the Acoustical Panel Ceiling Schedule at the end of Part 3.
- C. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
- D. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung, unless otherwise indicated.
  - 1. Post installed Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.

- E. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
  - 1. Zinc-Coated Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
  - 2. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
  - 3. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, Direct Hung) will be less than yield stress of wire, but provide not less than 0.106-inch-diameter wire.
- F. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- G. Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that fit acoustical panel edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners.
  - 1. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
  - 2. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- H. Impact Clips: Where indicated, provide manufacturer's standard impact-clip system designed to absorb impact forces against acoustical panels.

## 2.4 ACOUSTICAL SEALANT

- A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following requirements:
  - 1. Product is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
- B. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Acoustical Sealant for Exposed and Concealed Joints:
    - a. PL Acoustical Sealant; Chemrex, Inc., Contech Brands.
    - b. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
    - c. SHEETROCK Acoustical Sealant; United States Gypsum Co.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage, and other conditions affecting performance of acoustical panel ceilings.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.



### 3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

### 3.2 REMOVALS

- A. General: Remove existing panel ceilings as indicated in the contract documents. Support existing fixtures and devices for re-installation in the new ceiling.
- B. Secure loose cables and other unsupported devices to the structure.

### 3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with publications referenced below per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
  - 1. Standard for Ceiling Suspension System Installations: Comply with ASTM C 636.
  - 2. CISCA's Recommendations for Acoustical Ceilings: Comply with CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings--Seismic Zones 0-2."
- B. Suspend ceiling hangers from building's structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
  - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 3. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 4. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
  - 5. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  - 6. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both structure to which hangers are attached and type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
  - 7. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, powder-actuated fasteners, or drilled-in anchors that extend through forms into concrete.
  - 8. Do not attach hangers to steel deck tabs.
  - 9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  - 10. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than 8 inches from ends of each member.
- C. Existing edge moldings are scheduled to remain. Clean and paint in place. New edge moldings shall be installed as necessary to provide for support of the perimeter of acoustical ceiling areas and where necessary to conceal edges of acoustical panels.

1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
  2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
  3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical panels with undamaged edges and fitted accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension system runners and moldings.
  2. For reveal-edged panels on suspension system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
  3. For reveal-edged panels on suspension system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension system surfaces and panel faces flush with bottom face of runners.
  4. Paint cut panel edges remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
  5. Install hold-down clips in areas indicated, in areas required by authorities having jurisdiction, and for fire-resistance ratings; space as recommended by panel manufacturer's written instructions, unless otherwise indicated or required.
- F. Re-install existing fixtures and devices in the new ceiling panels. Fit accurately into the new ceiling system. Scribe and cut panels at recessed fixtures to provide a neat, precise fit.
1. Verify proper operation of re-installed fixtures and devices.
- 3.4 CLEANING
- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- 3.5 INSPECTION
- A. Obtain Owner's inspection and acceptance of installed ceiling tiles in writing. Replace damaged or stained ceiling tiles until receipt of Owner's written acceptance.

### 3.5 ACOUSTICAL PANEL CEILING SCHEDULE

- A. Acoustical Panel Ceilings and Suspension Systems used to patch existing ceilings shall match existing ceiling systems in style and size, unless noted otherwise.
- B. **APC-1:** Square Cut, Wet Formed, Mineral Fiber Acoustical Panels.  
Provide acoustical panels complying with the following:
  - 1. Product: Armstrong Fine Fissured 1810
  - 2. Classification: Panels fitting ASTM E 1264, type III, mineral base with painted finish; Form 1.
  - 3. Pattern: as specified by product designation.
  - 4. Color: White.
  - 5. Light Reflectance Coefficient: Not less than LR 0.84
  - 6. Noise Reduction Coefficient: NRC 0.70
  - 7. Edge Detail: square
  - 8. Thickness: 15/16 inch
  - 9. Size: 24 by 24 inches
  - 10. Location: Typical ceiling tile
- D. **Suspension System** for Acoustical Panel Ceilings **APC-1:** Provide acoustical panel ceiling suspension system complying with the following:
  - 1. Product: Armstrong Prelude 15/16 inch Exposed Tee Grid System, white, intermediate-duty.
  - 2. Product: Armstrong perimeter molding to match existing.

END OF SECTION 095110

## SECTION 096519 - RESILIENT TILE FLOORING

### 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. Vinyl Composition Flooring and Base Removal
  - 2. Substrate Preparation including Leveling Materials and Moisture Control System.
  - 3. Vinyl Composition Floor Tile.
  - 4. Resilient Base.
  - 5. Resilient Molding Accessories.
- B. Work Specified In Other Sections:
  - 1. Division 2 Section 020800 Requirements for Removal of Vinyl Asbestos Tiles and Mastics

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For each type of floor tile indicated.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.
  - 2. Vinyl Base: Furnish not less than 50 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.
  - 1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.9 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following time periods:
  - 1. 48 hours before installation.
  - 2. During installation.
  - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install the products of this section after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient tile flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
  - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.
- B. FloorScore Compliance: Resilient tile flooring shall comply with requirements of FloorScore certification.
- C. Low-Emitting Materials: Flooring system shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 VINYL COMPOSITION FLOOR TILE

- A. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Product Schedule at the end of Part 3.
- B. Tile Standard: ASTM F 1066, Class 2, through-pattern tile.
- C. Wearing Surface: Smooth.
- D. Thickness: 1/8 inch.
- E. Size: 12 by 12 inches.

- F. Colors and Patterns: As indicated on documents

## 2.3 RESILIENT BASE

- A. Subject to compliance with requirements, provide one of the products indicated for each designation in the Product Schedule at the end of Part 3
- B. Product Standard: ASTM F 1861, Type TP (rubber, thermoplastic).
  - 1. Group: I solid, homogeneous
  - 2. Style and Location:
    - a. Style - Cove: Provide in all areas with resilient flooring.
- C. Thickness: 1/8 inch.
- D. Height: 4 inches.
- E. Lengths: coils in manufacturer's standard length.
- F. Outside Corners: Job formed.
- G. Inside Corners: Job formed.
- H. Colors: As shown on documents.

## 2.4 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.
  - 1. Adhesives shall comply with the following limits for VOC content:
    - a. Vinyl Composition Tile Adhesives: 50 g/L or less.
  - 2. Adhesives shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.
- D. Epoxy Concrete Moisture Barrier and Leveling System
  - 1. Application: Over existing exterior concrete slabs scheduled to receive new flooring.
  - 2. Moisture Barrier: CMP Specialty Products "Lockdown" two part 100% solids epoxy resin system
  - 3. Leveling compound: CMP Specialty Products "Level 1" Cementitious Topping 1/4" minimum thickness, 3" maximum thickness without aggregate.
  - 4. Primer: CMP Specialty Products AS-100

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
  - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
  - 2. Include flash patching 25% of floor areas to a depth of 1/8" to bring existing slabs scheduled to receive VCT to level.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
  - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
  - 2. Mechanically remove, according to manufacturer's written instructions, laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants that might impair underlayment bond.
  - 3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
  - 4. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:
    - a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
- C. Remove bumps and ridges to produce a uniform and smooth substrate, Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound.
- D. Do not install resilient products until they are the same temperature as the space where they are to be installed.
  - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

#### 3.3 UNDERLAYMENT APPLICATION

- A. General: Mix and apply underlayment components according to manufacturer's written instructions.
  - 1. Close areas to traffic during underlayment application and for time period after application recommended in writing by manufacturer.

2. Coordinate application of components to provide optimum adhesion to substrate and between coats.
  3. At substrate expansion, isolation, and other moving joints, allow joint of same width to continue through underlayment.
- B. Apply primer over prepared substrate at manufacturer's recommended spreading rate.
1. Apply underlayment to produce uniform, level surface. Feather edges to match adjacent floor elevations.
- C. Cure underlayment according to manufacturer's written instructions. Prevent contamination during application and curing processes.
- D. Do not install floor coverings over underlayment until after time period recommended in writing by underlayment manufacturer.
- E. Apply surface sealer at rate recommended by manufacturer.
- F. Remove and replace underlayment areas that evidence lack of bond with substrate, including areas that emit a "hollow" sound when tapped.

### 3.4 MOISTURE BARRIER INSTALLATION

- A. Where indicated, prepare concrete surface by shot blasting the top surface.
- B. Comply with manufacturer's written instructions for installing epoxy coating, leveling course and primer.

### 3.5 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
1. Lay tiles square with room axis in pattern indicated.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
1. Lay tiles with grain direction alternating in adjacent tiles (basket-weave pattern).
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile



installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

- H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- I. Do not install floor tiles that span over existing moving joints in concrete substrate. Review discovered joints with the Architect and determine status of existing joints prior to installing tile.

### 3.6 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
  - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.
    - a. Form without producing discoloration (whitening) at bends.
  - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.
    - a. Cope corners to minimize open joints.

### 3.7 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.
- C. Resilient Stair Accessories:
  - 1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
  - 2. Tightly adhere to substrates throughout length of each piece.
  - 3. For treads installed as separate, equal-length units, install to produce a flush joint between units.

### 3.8 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing floor tile installation:
  - 1. Remove adhesive and other blemishes from exposed surfaces.
  - 2. Sweep and vacuum surfaces thoroughly.
  - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.
  - 1. Apply three coats.
- E. Cover floor tile until Substantial Completion.

### 3.5 PRODUCT SCHEDULE

- A. Vinyl Composition Floor Tile: Products complying with ASTM F 1066, Type IV, Composition 1, (nonasbestos formulated) and the following:
  - 1. Size: 12" x 12" x 1/8"
  - 2. Product: Armstrong Standard Excelon Imperial Texture or equal.
  - 3. Product: Armstrong Safety Zone Tile or equal at all ramp areas.
  - 4. Patterns and Color: As indicated on drawings or as selected by the architect.
- 2. Rubber Base: Products by the following:
  - 1. Style: Cove base (at all new VCT locations).
  - 2. Product: Johnsonite Rubber Base or equal
  - 3. Color: As indicated on drawings or as selected by the architect.
- 3. Transitional Mouldings:
  - 1. Product: Mercer #800 Imperial Reducer, or equal (at all VCT to non VCT locations).
  - 2. Color: As selected by Architect from manufacturers full color range.
- 4. Miscellaneous Resilient Accessories: Provide reducers, termination strips, transitions and other trim as needed. Accessories shall match vinyl base material and colors. Provide vinyl transitions and reducers at edges of resilient flooring that do not abut vertical surfaces whether detailed or not.

END OF SECTION 096519



## SECTION 096723 RESINOUS FLOORING AND BASE

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This section includes the following:
  - 1. Resinous flooring system and base.

#### 1.3 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with decorative quartz aggregate broadcast and Epoxy broadcast and topcoats.
- B. The system shall provide a non-slip texture with a nominal thickness of 1/4 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
- C. Cove base shall be applied per manufacturers standard details unless otherwise noted

#### 1.4 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. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

#### 1.5 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.
- D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
- E. System shall be in compliance with the Indoor Air Quality requirements of California section 01350 as verified by a qualified independent testing laboratory.
- F. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

## 1.6 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

1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 F and 85 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

### C. Waste Disposal

1. Remove all waste generated during installation of the system.

## 1.7 PROJECT CONDITIONS

### A. Site Requirements

1. Application may proceed while air, material and substrate temperatures are between 60 F and 85 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 85 % and the surface temperature shall be at least 5 F above the dew point.
3. Provide adequate ventilation is available for the work area.
4. Provide adequate lighting equal to the final lighting level during the preparation and installation of the system.

### B. Conditions of concrete to be coated with cementitious urethane material.

1. Concrete patching shall be moisture cured for a minimum of 3 days and have fully cured a minimum of 5 days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
3. Sealers and curing agents should not to be used.
4. Concrete shall have minimum design strength of 3,500 psi. and a maximum water/cement ratio of 0.45
5. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

### 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.

## PART 2 – PRODUCTS

### 2.1 FLOORING

#### A. Basis of Design: PalmaLite PlaiFlake 100 decorative flake resinous flooring

1. System Materials:
  - a. Topping - PalmaLite clear epoxy top coats
  - b. Broadcast Coat - applied with color flakes

- c. Primer/Membrane/Bodycoat - applied with colored quartz.

## 2.2 MANUFACTURER

- A. Pamalite Incorporated
- B. Manufacturer of Approved System shall be single source and made in the USA.

## 2.3 PRODUCT REQUIREMENTS

### A. Test Data

- |  |                           |
|--|---------------------------|
| 1. VOC                                       | 0 g/L                     |
| 3. Bond Strength to Concrete ASTM D 4541     | 535 psi, substrates fails |
| 4. Compressive Strength, ASTM C579           | 13,500 psi                |
| 5. Tensile Strength, ASTM D 638              | 1,790 psi                 |
| 6. Flexural Strength, ASTM D 790             | 5,030 psi                 |
| 7. Impact Resistance @ 125 mils, MIL D-3134, | 160 inch lbs              |
| No visible damage or deterioration           |                           |

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
  - 1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

### 3.2 PREPARATION

#### A. General

- 1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
- 2. Moisture Testing: Perform tests recommended by manufacturer and as follows.
  - a. Perform anhydrous calcium chloride test ASTM F 1869-98. Application will proceed only when the vapor/moisture emission rates from the slab is less than and not higher than 20 lbs/1,000 sf/24 hrs.
  - b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 99% relative humidity level measurement.
- 3. Mechanical surface preparation
  - a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 as described by the International Concrete Repair Institute.
  - b. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
  - c. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
  - d. Diamond grind ceramic tile surfaces to achieve a positive bond.
- 4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufacturer's recommendations.

### 3.3 APPLICATION

#### A. General

1. The system shall be applied in five distinct steps as listed below:
  - a. Substrate preparation
  - b. Topping/overlay application with quartz aggregate broadcast.
  - c. Resin application with flake broadcast.
  - d. Topcoat application
  - e. Second topcoat application.
2. 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.
3. 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.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.
6. Apply manufacturer recommended bonding coat to the prepared ceramic tile area.

#### B. Topping

1. Trowel primer-membrane-bodycoat onto surface then broadcast colored quartz into wet epoxy.
2. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

#### C. Broadcast

1. Trowel broadcast coat onto surface then full broadcast color flakes aggregate into wet surface, allow to dry.
2. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose flakes, stone and sweep.

#### D. Topcoat

1. Apply standard slip resistant finish: Apply 2 coats of PamaLite clear top coat.
2. The finished floor will have a nominal thickness of 3/32 inch and be non-slip.

### 3.4 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.

### 3.5 CLEANING AND 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. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION 096723

## SECTION 099000 - PAINTING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes surface preparation and field painting of the following:
  - 1. Exposed exterior items and surfaces.
  - 2. Exposed interior items and surfaces.
  - 3. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
  - 4. Concealed CMU wall surface behind metal casework and unit ventilators.
- B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.
  - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
  - 1. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

#### 1.3 SUBMITTALS

- A. Product Data: For each paint system specified. Include block fillers and primers.
  - 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
  - 2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.

#### 1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.



- C. Fire-Test-Response Characteristics: Provide intumescent paint materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Flame Spread: 25.
  - 2. Smoke Developed: 25.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
  - 1. Product name or title of material.
  - 2. Product description (generic classification or binder type).
  - 3. Manufacturer's stock number and date of manufacture.
  - 4. Contents by volume, for pigment and vehicle constituents.
  - 5. Thinning instructions.
  - 6. Application instructions.
  - 7. Color name and number.
  - 8. VOC content.
  - 9. UL label indicating tested fire rating. (Intumescent Paint)
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
  - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

#### 1.6 PROJECT CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F.
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F.
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
  - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

#### 1.7 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.
  - 1. Quantity: Furnish the Owner with an additional 2 percent, but not less than 1 gal. or 1 case, as appropriate, of each material and color applied.

## 1.8 STANDARDS

- A. Contractor shall comply with OSHA CFR 1920 and 1926 requirements relative to lead paint.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide the products in the paint schedules.

### 2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat 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.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors: Match colors indicated by reference to manufacturer's color designations.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
  - 1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
  - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
  - 1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

### 3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide barrier coats over incompatible primers or remove and reprime.
  2. Cementitious Materials: Prepare concrete, concrete masonry block, brick, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
    - a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
    - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.
    - c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
  3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
    - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
    - b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
    - c. When transparent finish is required, backprime with spar varnish.
    - d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
  4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.
    - a. Blast steel surfaces clean as recommended by paint system manufacturer and according to requirements of SSPC-SP 6.
    - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
    - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.
  5. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
  6. Prepare existing, previously painted surfaces per paint manufacturer's written instructions to ready the surfaces for new paint.

D. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

### 3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the schedules.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convactor covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
9. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer on metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
  2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
  3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Piping, pipe hangers, and supports.
  2. Heat exchangers.
  3. Tanks.
  4. Ductwork.
  5. Insulation.
  6. Accessory items.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Conduit and fittings.
  2. Panelboards.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- K. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
1. Provide satin finish for final coats.
- L. Completed Work-General: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.
- 3.4 FIELD QUALITY CONTROL
- A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:

1. The Owner will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
2. The testing agency will perform appropriate tests for the following characteristics as required by the Owner:
3. The Owner may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.

### 3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
  1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

### 3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
  1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.6 PAINT SCHEDULE

- A. Products: Pittsburg Paints or equal
- B. Interior Paint Schedule
  1. Gypsum Board Walls and Toilet Room ceilings: Eggshell Latex Finish:  
Primer: PPG Speedhide Interior Latex Primer 6-2  
1st & 2nd finish coats: PPG Speedhide Interior Eggshell Latex Enamel 6-4 Series
  2. Gypsum Board: Flat Latex Finish:  
Spot Primer: PPG Speedhide Interior Latex Primer 6-2  
1st and 2nd finish coats: PPG Speedcraft Interior Flat Latex 5-70 Series
  3. Ferrous metal: (hollow metal frames and doors, rails, stairs, exposed steel, iron and ductwork): Semi-gloss Alkyd Finish  
Primer: PPG Pitt-Tech DTM Primer/Finish Enamel 90-712  
1st and 2nd finish coats: PPG Int/Ext. Industrial Gloss Alkyd Enamel 7-282

4. Wood: Clear Transparent Finish:  
Stain: PPG Rez Interior Semi-Trans Stain Oil 77-560 Series.  
1st and 2nd finish coats: PPG Rez Interior Polyurethane Stain Clear Varnish 77-89
5. Wood: Opaque Finish: Interior Semigloss finish:  
Primer: PPG Seal Grip Interior Latex Enamel Undercoater 17-955  
1st and 2nd finish coats: PPG Speedhide Interior Alkyd Semi Gloss 6-1110 Series
6. Masonry and Concrete walls: Eggshell latex finish:  
Primer: PPG Speedhide Latex Block Filler 6-7  
2 Finish coats: PPG Speedhide Interior Eggshell Latex Enamel 6-4xx
7. CMU walls behind unit ventilator/metal cabinetry: Air and Vapor Barrier Coating  
Henry Air-Bloc 16MR: Fluid Applied air & vapor barrier.  
Apply per manufacturers recommendations, dry film thickness of 54 mils..

B. Exterior Paint Schedule

1. Ferrous Metal: High Gloss alkyd enamel  
Primer: PPG Multiprime Quick Dry Universal Primer 97-680 Series  
1st and 2nd finish coats: Sun Proof Exterior House & Trim Gloss Oil 1-45 Series
2. Galvanized Metal including loose lintels: Semi gloss polyamide epoxy  
Primer: PPG Metalhide 1001 Zinc Rich Primer 97-673 Series  
Finish coat: PPG Aquapon High Build Polymide Epoxy Semi Gloss 97-130
3. Wood : Semi Gloss alkyd enamel  
Primer: PPG Speedhide Exterior Alkyd Wood Primer 6-9  
1st and 2nd finish coats: Manor Hall Exterior Premium Semi Gloss Acrylic Latex 79-45
4. Aluminum: Eggshell alkyd enamel  
Primer: PPG Pitt-Tech DTM Primer/Finish Enamel 90-712  
1st and 2nd finish coats: Manor Hall Exterior Premium Eggshell Acrylic Latex 79-45

END OF SECTION 099000

## SECTION 101100 - VISUAL DISPLAY BOARDS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Porcelain enamel marker boards.
  - 2. Vinyl-fabric-faced cork tackboards.

#### 1.3 SUBMITTALS

- A. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors and textures available for the following:
  - 1. Markerboards: Actual sections of porcelain enamel finish for each type of markerboard required.
  - 2. Vinyl-Fabric-Faced Cork Tackboards: Fabric swatches for each type of vinyl-fabric-faced cork tackboard indicated.
- B. Product Certificates: Signed by manufacturers of tackboards certifying that vinyl-fabric-faced cork tackboard materials furnished comply with requirements specified for flame-spread ratings.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage experienced installers who are authorized representatives of each manufacturer of the respective product for both installation and maintenance of the type of units required for this Project.
- B. Source Limitations: Obtain visual display boards through one source from a single manufacturer. Obtain display cases through one source from a single manufacturer.
- C. Fire-Test-Response Characteristics: Provide vinyl-fabric-faced tackboards with the following surface-burning characteristics as determined by testing assembled materials composed of facings and backings identical to those required in this Section per ASTM E 84 by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify vinyl-fabric-faced tackboards with appropriate markings of applicable testing and inspecting agency.
  - 1. Flame Spread: 25 or less.
  - 2. Smoke Developed: 10 or less.

#### 1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify field measurements before fabrication to ensure proper fitting. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.



- B. Coordination: Coordinate with the work of Division 9 Gypsum Board Assemblies for the installation of manufacturer's recommended wall blocking within walls and for units scheduled to be recessed into wall construction.

## 1.6 WARRANTY

- A. General Warranty: The special porcelain enamel chalkboard warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Porcelain Enamel Markerboard Warranty: Submit a written warranty executed by manufacturer agreeing to replace porcelain enamel chalkboards that do not retain their original writing and erasing qualities, become slick and shiny, or exhibit crazing, cracking, or flaking within the specified warranty period, provided the manufacturer's written instructions for handling, installation, protection, and maintenance have been followed.
  - 1. Warranty Period: 50 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
  - 1. Porcelain Enamel Marker Boards:
    - a. Claridge Products and Equipment, Inc.
    - b. Greensteel, Inc.
  - 2. Tackboards:
    - a. Claridge Products and Equipment, Inc.
    - b. Greensteel, Inc.

### 2.2 MATERIALS

- A. Porcelain Enamel Markerboards: Balanced, high-pressure-laminated, porcelain enamel marker of 3-ply construction consisting of face sheet, core material, and backing.
  - 1. Face Sheet: 0.024-inch enameling grade steel especially processed for temperatures used in coating porcelain on steel. Coat exposed face and edges with a 3-coat process consisting of primer, ground coat, and color cover coat. Coat concealed face with a 2-coat process consisting of primer and ground coat. Fuse cover and ground coats to steel at manufacturer's standard firing temperatures, but not less than 1200 deg F.
    - a. Cover Coat: Provide manufacturer's standard, light-colored, special writing surface with gloss finish intended for use with erasable dry markers.
  - 2. Core: 3/8-inch-thick, particleboard core material complying with requirements of ANSI A208.1, Grade 1-M-1.
  - 3. Backing Sheet: 0.015-inch-thick, aluminum-sheet backing.
  - 4. Laminating Adhesive: Manufacturer's standard, moisture-resistant, thermoplastic-type adhesive.

5. Product: Claridge Series 4, LCS Face Sheet.

- B. Vinyl-Fabric-Faced Tackboards: Mildew-resistant, washable vinyl fabric complying with FS CCC-W-408, Type II, weighing not less than 13 oz./sq. yd., laminated to 1/4-inch-thick cork sheet. Provide fabric with a flame-spread rating of 25 or less when tested according to ASTM E 84. Provide color and texture as scheduled or as selected from manufacturer's standards.
1. Backing: Factory laminate cork face sheet under pressure to 3/8-inch-thick fiberboard backing.
  2. Product: Claridge Fabricork #1381FR, with frame same as markerboard.
  3. Sizes: As shown on documents in classrooms.

## 2.3 ACCESSORIES

- A. Metal Trim and Accessories: Fabricate frames and trim of not less than 0.062-inch-thick, extruded-aluminum alloy, size and shape as indicated, to suit type of installation. Provide straight, single-length units. Keep joints to a minimum. Miter corners to a neat, hairline closure.
1. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.
  2. Markertray: Manufacturer's standard, continuous, solid, extrusion-type, aluminum tray with ribbed section and smoothly curved exposed ends for each markerboard.
  3. Exposed trim width: 5/8" wide
  4. Map Rail: Furnish map rail at top of each unit, complete with the following accessories:
    - a. Display Rail: Provide continuous cork display rail approximately 1 or 2 inches wide, as indicated, integral with map rail.
    - b. End Stops: Provide one end stop at each end of map rail.
    - c. Map Hooks: Provide 2 map hooks with flexible metal clips for every 48 inches of map rail or fraction thereof.
    - d. Flag Holder: Provide one flag holder for each room.
- B. Tack Strip: Claridge No. EDR Exhibit Rail, with flame resistant Fabricork insert, color as selected.

## 2.4 FABRICATION

- A. Porcelain Enamel Markerboards: Laminate facing sheet and backing sheet to core material under pressure with manufacturer's recommended flexible, waterproof adhesive.
- B. Assembly: Provide factory-assembled chalkboard and tackboard units, unless field-assembled units are required.
1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect.
  2. Provide manufacturer's standard vertical joint system between abutting sections of chalkboards.
  3. Provide manufacturer's standard mullion trim at joints between markerboards and tackboards.

## 2.5 FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
- B. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

- C. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 607.1.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine wall surfaces, with Installer present, for compliance with requirements and other conditions affecting installation of visual display boards.
  - 1. Surfaces to receive chalkboards or markerboards shall be free of dirt, scaling paint, and projections or depressions that would affect smooth, finished surfaces of chalkboards or markerboards.
  - 2. Surfaces to receive tackboards shall be dry and free of substances that would impair the bond between tackboards and substrate.
  - 3. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Deliver factory-built visual display boards completely assembled in one piece without joints, where possible. If dimensions exceed panel size, provide 2 or more pieces of equal length as acceptable to Architect. When overall dimensions require delivery in separate units, prefabricate components at the factory, disassemble for delivery, and make final joints at the site. Use splines at joints to maintain surface alignment.
- B. Install units in locations and at mounting heights indicated and according to manufacturer's written instructions. Keep perimeter lines straight, plumb, and level. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation. No exposed mounting clips or fasteners will be accepted.
- C. Coordinate Project-site-assembled units with grounds, trim, and accessories. Join parts with a neat, precision fit.

### 3.3 ADJUSTING AND CLEANING

- A. Verify that accessories required for each unit have been properly installed and that operating units function properly.
- B. Clean units according to manufacturer's written instructions.

END OF SECTION 101100

## SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

### 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. Cutout dimensional characters.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: 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 other installers, and accessories.
  - 3. Show message list, typestyles, graphic elements, and layout for each sign at least half size.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
  - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:
  - 1. Dimensional Characters: Half-size Sample of dimensional character.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For signs to include in maintenance manuals.

#### 1.5 FIELD CONDITIONS

- A. Field Measurements: Verify field conditions and dimensions before fabrication, and indicate measurements on Shop Drawings.

## 1.6 WARRANTY

- A. Special Warranty: 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 finishes beyond normal weathering.
    - b. Separation or delamination of sheet materials and components.
  - 2. Warranty Period: Five years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 DIMENSIONAL CHARACTERS

- A. Cutout Characters: Characters with uniform faces; square-cut, smooth edges; precisely formed lines and profiles; and as follows:
  - 1. Character Material: Sheet or plate aluminum
  - 2. Character Height: 6 inches
  - 3. Thickness: Manufacturer's standard for size of character to prevent distortion or oil canning.
  - 4. Finishes:
    - a. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard, in color as selected by Architect from manufacturer's full range.
  - 5. Mounting: Flush mount with adhesive tape
  - 6. Typeface: Calibri, Arial or similar sans serif font, as approved by the Architect
  - 7. Color: as selected by Architect to provide high contrast with canopy color.

### 2.2 DIMENSIONAL CHARACTER MATERIALS

- A. Aluminum Sheet and Plate: ASTM B209 (ASTM B209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- B. Aluminum Extrusions: ASTM B221 (ASTM B221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- C. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

### 2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:
  - 1. Use concealed fasteners and anchors unless indicated to be exposed.
  - 2. For exterior exposure, furnish nonferrous-metal or stainless-steel] devices unless otherwise indicated.

3. Exposed Metal-Fastener Components, General:
  - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
4. Sign Mounting Fasteners:
  - a. Adhesive tape

## 2.4 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
  1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
  2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
  3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
  4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
  5. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

## 2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

## 2.6 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
  - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
  - 2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
  - 3. 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.
- B. Mounting Methods:

### 3.3 Adhesive Tape: Provide adhesive tape for exterior mounting onto new aluminum faced canopy.

- A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101419

## SECTION 102113 PLASTIC TOILET COMPARTMENTS

### 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. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.
- B. Related Requirements:
  - 1. Section 102800 "Toilet and Bath, Accessories" for toilet tissue dispensers, grab bars and similar accessories mounted on toilet compartments.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.
- B. Shop Drawings: For toilet compartments.
  - 1. Include plans, elevations, sections, details, and attachment details.
  - 2. Show locations of cutouts for compartment-mounted toilet accessories.
  - 3. Show locations of centerlines of toilet fixtures.
  - 4. Show locations of floor drains.
- C. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:
  - 1. Each type of material, color, and finish required for toilet compartments, prepared on 6-inch square Samples of same thickness and material indicated for Work.
  - 2. Each type of hardware and accessory.
- D. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For toilet compartments to include in maintenance manuals.



## 1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

## 1.6 WARRANTIES

- A. Provide manufacturer's 25 year warranty against breakage, corrosion, and delamination under normal conditions.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: 25 or less.
  - 2. Smoke-Developed Index: 450 or less.
- B. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for toilet compartments designated as accessible.

### 2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Basis of design: Scranton Products.
- B. Toilet-Enclosure Style: Overhead braced.
- C. Entrance-Screen Style: Overhead braced.
- D. Urinal-Screen Style: Floor anchored.
- E. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch thick, seamless, with eased edges, no-sightline system, and with homogenous color and pattern throughout thickness of material.
  - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges, 8 inches long, fabricated from heavy-duty extruded aluminum with bright dip anodized finish, wrap-around flanges, adjustable on 30-degree increments, through bolted to doors and pilasters with stainless steel, Torx head sex bolts.
  - 2. Hinges operate on field-adjustable nylon cams, field adjustable in 30 degree increments.
  - 3. Doors and Dividing Panels: 55 inches high, mounted 14 inches above finished floor, with aluminum heat-sink fastened to bottom edges.
  - 4. Pilasters: 82 inches high, fastened to pilaster sleeves with stainless steel tamper resistant Torx head sex bolt.

5. Pilaster Sleeves: 3 inches high, [20 gage stainless steel, secured to pilaster with stainless steel tamper resistant Torx head sex bolt.
  6. Wall Brackets: 54 inches long, heavy-duty aluminum, bright dip anodized finish, fastened to pilasters and panels with stainless steel tamper resistant Torx head sex bolts.
  7. Headrail: Heavy-duty extruded aluminum, anti-grip design, clear anodized finish, fastened to headrail bracket with stainless steel tamper resistant Torx head sex bolt and at top of pilaster with stainless steel tamper resistant Torx head screws.
  8. Headrail Brackets: 20 gage stainless steel, satin finish, secured to wall with stainless steel tamper resistant Torx head screws.
  9. Color and Pattern: as indicated on the drawings, or as selected from the manufacturer's Traditional, Bold or Warm Tone color ranges.
- F. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
- G. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe matching that on the pilaster.
- H. Brackets (Fittings):
1. Full-Height (Continuous) Type: Manufacturer's standard design; extruded aluminum.
    - a. Provide shims and sealant where wall finishes are not continuous so that brackets are installed plumb.
- I. Colors: As indicated on the drawings.
- ## 2.3 HARDWARE AND ACCESSORIES
- A. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.
1. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
  2. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
  3. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors. Mount with through-bolts.
  4. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.
- B. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.
- ## 2.4 MATERIALS
- A. Aluminum Castings: ASTM B 26/B 26M.

- B. Aluminum Extrusions: ASTM B 221.
- C. Brass Castings: ASTM B 584.
- D. Brass Extrusions: ASTM B 455.
- E. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- F. Stainless-Steel Castings: ASTM A 743/A 743M.
- G. Zamac: ASTM B 86, commercial zinc-alloy die castings.

## 2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- C. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at bottoms of posts. Provide shoes at posts to conceal anchorage.
- D. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide, in-swinging doors for standard toilet compartments and 36-inch wide, out-swinging doors with a minimum 32-inch wide, clear opening for compartments designated as accessible.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
  - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
  - 1. Maximum Clearances:

- a. Pilasters and Panels: 1/2 inch.
    - b. Panels and Walls: 1 inch.
  - 2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
    - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
    - b. Align brackets at pilasters with brackets at walls.
  - B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
  - C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.
- 3.3 ADJUSTING
- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113



## SECTION 102801 - TOILET AND BATH ACCESSORIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Toilet and bath accessories.
  - 2. Underlavatory guards.

#### 1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory specified.
- B. Maintenance Data: For accessories to include in maintenance manuals specified in Division 1. Provide lists of replacement parts and service recommendations.

#### 1.4 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Manufacturer's Mirror Warranty: Written warranty, executed by mirror manufacturer agreeing to replace mirrors that develop visible silver spoilage defects within minimum warranty period indicated.
  - 1. Minimum Warranty Period: 15 years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Toilet and Bath Accessory Schedule at the end of Part 3.

#### 2.2 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch minimum nominal thickness, unless otherwise indicated.
- B. Brass: ASTM B 19, leaded and unleaded flat products; ASTM B 16, rods, shapes, forgings, and flat products with finished edges; ASTM B 30, castings.
- C. Sheet Steel: ASTM A 366/A 366M, cold rolled, commercial quality, 0.0359-inch minimum nominal thickness; surface preparation and metal pretreatment as required for applied finish.

- D. Galvanized Steel Sheet: ASTM A 653/A 653M, G60.
- E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service), nickel plus chromium electrodeposited on base metal.
- F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.
- G. Mirror Glass: ASTM C 1036, Type I, Class 1, Quality q2, nominal 6.0 mm thick, with silvering, electroplated copper coating, and protective organic coating complying with FS DD-M-411.
- H. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- I. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

## 2.3 FABRICATION

- A. General: One, maximum 1-1/2-inch-diameter, unobtrusive stamped manufacturer logo, as approved by Architect, is permitted on exposed face of accessories. On interior surface not exposed to view or back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer's name and product model number.
- B. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.
- C. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.
- D. Framed Glass-Mirror Units: Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.
  - 1. Provide galvanized steel backing sheet, not less than 0.034 inch and full mirror size, with nonabsorptive filler material. Corrugated cardboard is not an acceptable filler material.
- E. Mirror-Unit Hangers: Provide mirror-unit mounting system that permits rigid, tamper- and theft-resistant installation, as follows:
  - 1. One-piece, galvanized steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
- F. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

- B. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.
- C. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to method in ASTM F 446. Mount grab bars only on completed walls and partitions. Do not support grab bars temporarily by any means not satisfying structural requirements. Mount on gypsum board assemblies only where reinforced and where location of concealed anchor plates are clearly marked for benefit of the installers.
- D. Installation of all handicap accessible accessories to be in accordance with ADA, ANSI A117.1 and NYS BC Chapter 11.

### 3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

### 3.3 TOILET AND BATH ACCESSORY SCHEDULE

- A. Toilet Paper Dispenser-**TPD**: Provided by Owner
- B. Paper Towel Dispenser- **PTD**: Provided by Owner
- C. Electric Hand Drier: **EHD**:
  - 1. Surface-Mounted Hand Dryer: Model B-778 of Bobrick Washroom Equipment, Inc.,
  - 2. Surface-mounted hand dryer shall have a one-piece, cast aluminum cover with chrome finish (B-778). Motor shall be 75W (1/10hp) universal type on resilient mountings with shielded ball-bearings, equipped with an integral automatic thermal-overload device. The unit shall be uniquely designed to have a sound pressure level of 72dB(A) measured at 39" (1 metre) from source. The unit shall be CE marked, cULus Listed, & VDE approved.
  - 3. Unit shall be protected by a limited 10 year warranty on all parts except motor brushes, in turn warranted for 3 years from date of purchase.
- D. Soap Dispenser-**SD**: Bobrick B-818615,
  - 1. Container — Body is 18-8 , type-316, 20-gauge (0.9mm) stainless steel with satin finish. Drawn, one-piece, seamless construction. Arced Front and radius on corners. Back plate is 22-gauge (0.8mm) stainless steel with 20-gauge (0.9mm) stainless steel mounting bracket attached. Container body and back plate are epoxy-sealed to prevent warping and leakage.
  - 2. Concealed wall plate is 20-gauge (0.9mm) stainless steel. Equipped with a plastic soap refill-indicator window and a locked, hinged stainless steel lid for top filling. Capacity: 40-fl oz (1.2-L).
  - 3. Valve — Black molded plastic push button. Soap head-holding mushroom valve. Stainless steel spring. U-packing seal and duckbill. Antibacterial-soap-resistant plastic cylinder'



- E. Grab Bar-**GB**: Where this designation is indicated, provide stainless-steel grab bar complying with the following:

1. Product: Bobrick B-6806 series
2. Stainless-Steel Nominal Thickness: Minimum 0.05 inch.
3. Mounting: Concealed with manufacturer's standard flanges and anchors
4. Gripping Surfaces: Smooth, satin finish
5. Outside Diameter: 1-1/2 inches for heavy-duty applications.

- F. Mirror Unit-**MIR-1**:

1. Product: Bobrick Co. Model No. B-165 1830 Channel Frame Mirror.
2. Fabricate frame from minimum nominal 0.0375-inch-thick type 304 stainless steel, with all joints mitered, welded, and ground smooth and constructed so frame tapers not less than 3 inches from top to bottom. Provide No. 1 quality, 1/4" glass mirror electrolytically copper-plated.

- G. Mirror Unit-**MIR-2**:

1. Product: Bobrick Co. Model No. B-293 1830 Tilt Mirror.
2. Fabricate frame from minimum nominal 0.0375-inch-thick type 304 stainless steel, with all joints mitered, welded, and ground smooth and constructed so frame tapers not less than 3 inches from top to bottom. Provide No. 1 quality, 1/4" glass mirror electrolytically copper-plated.

- H. Underlavatory Guard: Provide underlavatory guard complying with the following:

1. Product: Truebro Handi-Guard Series
2. Insulating Piping Coverings: White, antimicrobial, molded-vinyl covering for supply and drain piping assemblies intended for use at accessible lavatories to prevent direct contact with and burns from piping. Provide components as required for applications indicated with flip tops at valves that allow service access without removing coverings.
3. Provide at all disabled accessible lavatories and sinks.

- I. Sanitary Napkin Vending -**SNV**:

1. Product: Bobrick Co. Model No. B-2706 Surface mounted napkin/tampon vendor. Type 304 stainless steel. Free, no coin operation. Classic Services. Provide one in each toilet room per plans

- J. Sanitary Napkin Disposal-**SND**:

1. Product: Bobrick Co. Model No. B-270 Surface mounted type 304 22ga. stainless steel. Contoura Series. Provide one in each stall per plans.

END OF SECTION 102801

*WAPPINGERS CENTRAL SCHOOL DISTRICT  
2023 DISTRICT WIDE RENOVATIONS – PHASE 2*



## SECTION 105220 - FIRE-PROTECTION SPECIALTIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Portable fire extinguishers.
  - 2. Fire Blankets
  - 2. Fire-protection cabinets for portable fire extinguishers and blankets.
  - 3. Fire-protection accessories.
- B. Related Sections include the following:
  - 1. Division 7 Section "Firestopping" for firestopping sealants at fire-rated cabinets.
  - 2. Division 9 Section "Painting" for field-painting fire-protection cabinets.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for extinguishers and cabinets.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain fire extinguishers and cabinets through one source from a single manufacturer.
- B. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Standard for Portable Fire Extinguishers."
- C. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
  - 1. Provide extinguishers listed and labeled by FM.

#### 1.5 COORDINATION

- A. Coordinate location and rough in dimensions of recessed cabinets with appropriate trade.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. J.L. Industries, Inc.
  - 2. Larsen's Manufacturing Company.
- B. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Fire-Protection Specialties Schedule at the end of Part 3.

### 2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: Carbon steel, complying with ASTM A 366/A 366M, commercial quality, stretcher leveled, temper rolled.

### 2.3 PORTABLE FIRE EXTINGUISHERS

- A. General: Provide fire extinguishers of type, size, and capacity for each cabinet and other locations indicated.
- B. Multipurpose Dry-Chemical Type: UL-rated 1-A:10-B:C, 10 lb. nominal capacity, in enameled-steel container.

### 2.4 FIRE-PROTECTION CABINETS

- A. Cabinet Construction: Provide manufacturer's standard box (tub), with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated on the Cabinet Schedule at the end of Part 3. Weld joints and grind smooth. Miter and weld perimeter door frames.
  - 1. Fire-Rated Cabinets: Listed and labeled to meet requirements of ASTM E 814 for fire-resistance rating of wall where it is installed.
    - a. Construct fire-rated cabinets with double walls fabricated from 0.0478 inch-thick, cold-rolled steel sheet lined with minimum 16-mm-thick, fire-barrier material.
    - b. Provide factory-drilled mounting holes.
  - 2. Cabinet Metal: Enameled-steel sheet.
  - 3. Shelf: Same metal and finish as cabinet.
- B. Cabinet Mounting: Suitable for the following mounting conditions:
  - 1. Surface Mount: Cabinet box finished on all exposed faces, suitable for wall mounting.
- C. Cabinet Trim Style: Fabricate cabinet trim in one piece with corners mitered, welded, and ground smooth.

1. Exposed Trim for recessed units: One-piece combination trim and perimeter door frame overlapping surrounding wall surface with exposed trim face and wall return at outer edge (backbend).

- a. Flat Trim: ¼ to 5/16 inch backbend depth.
- b. Steel sheet, same metal and finish as door.

D. Door Material: Manufacturer's standard steel sheet.

E. Door Glazing: Clear acrylic sheet, 1/8" thick.

F. Door Style: Vertical duo panel with frame.

G. Door Hardware: Provide manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide recessed door pull and friction latch. Provide concealed or continuous-type hinge permitting door to open 180 degrees.

## 2.5 ACCESSORIES

A. Mounting Brackets: Manufacturer's standard steel, designed to secure extinguisher, of sizes required for types and capacities of extinguishers indicated, with plated or baked-enamel finish.

1. Provide brackets for extinguishers not located in cabinets.
2. Provide brackets for extinguishers located in cabinets.

B. Identification: Provide lettering to comply with authorities having jurisdiction for letter style, color, size, spacing, and location.

1. Identify bracket-mounted extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to wall surface.
2. Identify fire extinguisher and fire blanket in cabinet with the words "FIRE EXTINGUISHER" applied vertically to door and "FIRE BLANKET" applied horizontally.

- a. Application Process: Vinyl letters
- b. Lettering Color: Black.

## 2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Cabinet and Door Finishes: Provide manufacturer's standard white baked-enamel paint for cabinets and doors, interior and exterior.

## 2.7 STEEL FINISHES

- A. Surface Preparation: Clean surfaces of dirt, oil, grease, mill scale, rust, and other contaminants that could impair paint bond using manufacturer's standard methods.
- B. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine walls and partitions for suitable framing and blocking where cabinets are to be installed. Verify locations with Owner.
- B. Examine fire extinguishers for proper charging and tagging.
  - 1. Remove and replace damaged, defective, or undercharged units.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Do not install fire extinguishers until time of Substantial Completion.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing fire-protection specialties.
- B. Install in locations and at mounting heights indicated or, if not indicated, at heights acceptable to authorities having jurisdiction.
  - 1. Prepare recesses for cabinets as required by type and size of cabinet and trim style.
  - 2. Fasten mounting brackets to structure and cabinets, square and plumb.
  - 3. Fasten cabinets to structure, square and plumb.

### 3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust cabinet doors that do not swing or operate freely.
- B. Refinish or replace cabinets and doors damaged during installation.
- C. Provide final protection and maintain conditions that ensure that cabinets and doors are without damage or deterioration at the time of Substantial Completion.

### 3.4 FIRE-PROTECTION SPECIALTIES SCHEDULE

- B. Fire-Protection Cabinet (**FEC**) : Where this designation is indicated, provide fire-protection cabinet complying with the following:

Product: Larsen Model No. FB3612-SM, Architectural Series

2. Construction: Steel.
3. Mounting: Surface
4. Trim Style: Trimless
5. Door Style: Vertical duo, with recessed handle, with 1/8" acrylic glazing.
6. Accessories: Identification lettering: decals indicating "Fire Extinguisher" and "Fire Blanket" in contrasting color to cabinet finish.
7. Contents: One MP 10 fire extinguisher and bracket. Product: Larsen Model No. MP 10 Multi Purpose Dry Chemical Fire Extinguisher with No. 817 Bracket, and one 62" x 80" fire blanket fabricated of reprocessed wool meeting federal specification #CS-191-53.

END OF SECTION 105220





## SECTION 113100 - RESIDENTIAL APPLIANCES

### 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. Slide in Electric Ranges
  - 2. Refrigerators
  - 3. Dishwashers
  - 4. Clothes Washer/Dryer

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, dimensions, furnished accessories, and finishes for each appliance.
- B. Product Schedule: For appliances. Use same designations indicated on Drawings.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of appliance, from manufacturer.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each residential appliance to include in operation and maintenance manuals.

#### 1.6 WARRANTY

- A. Limited warranty including parts and labor for first year and parts thereafter for on-site service.
  - 1. Warranty Period: Two years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 ELECTRIC RANGES

- 1. Basis-of-Design Product: General Electric Energy Star Model Number GRF400SVSS
- 2. Type: Free Standing, Electric range 208v/240v, 40A
- 3. Dimensions:
  - a. Width: 30 inches

- b. Depth: 24 inches
  - c. Height: 36 inches.
- 4. Features:
  - a. 6”/9” inch-31000 watt power boil elements
  - b. 5.3 cf capacity oven
  - c. Black Ceramic Glass cook top
  - d. Dual element bake
- 5. Energy Performance, ENERGY STAR: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program
- 6. Appliance Color/Finish: Stainless steel

## 2.2 REFRIGERATOR/FREEZER

### A. Refrigerator/Freezer

- 1. Basis-of-Design Product: General Electric Energy Star Model Number GTE21GTHSS
- 2. Type: Freestanding, 21 cu. Ft. top freezer, 120 v, 15A
- 3. Dimensions:
  - a. Width: 32 inches
  - b. Depth: 30 1/2 inches
  - c. Height: 66 7/8 inches.
- 4. Energy Performance, ENERGY STAR: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program
- 5. Appliance Color/Finish: Stainless Steel

## 2.3 DISH WASHERS

### A. Dishwasher

- 1. Basis-of-Design Product: GDT670SYVFS
- 2. Type: Stainless steel interior, 120v, 6.6A
- 3. Dimensions:
  - a. Width: 24 inches
  - b. Depth: 24 inches
- 4. Energy Performance, ENERGY STAR: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program
- 5. Appliance Color/Finish: Stainless Steel

## 2.4 CLOTHES WASHER/DRYER

### A. Clothes Washer/Dryer

1. Basis-of-Design Product: General Electric Energy Star Model Number GUD27ESSMWW
2. Type: Stainless steel wash basket
  - a. Washer Capacity: 3.8.Cu. Ft.
  - b. Dryer Capacity: 5.9 Cu. Ft.
3. Dimensions:
  - a. Width: 27 inches
  - b. Depth: 31 inches
  - c. Height: 76 inches
4. Energy Performance, ENERGY STAR: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program
5. Appliance Color/Finish: White
6. Appliance shall be connected to individual branch circuit with 120/240V or 120/208V single phase 60 hertz electrical service protected by a 30 amp circuit breaker.

## 2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, power connections, and other conditions affecting installation and performance of residential appliances.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. General: Comply with manufacturer's written instructions.
- B. Built-in Equipment: Securely anchor units to supporting cabinets or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed.
- C. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.

- D. Range Anti-Tip Device: Install at each range according to manufacturer's written instructions.
- E. Utilities: Comply with plumbing and electrical requirements.

### 3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
  - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:
  - 1. Perform visual, mechanical, and electrical inspection and testing for each appliance according to manufacturers' written recommendations. Certify compliance with each manufacturer's appliance-performance parameters.
  - 2. Operational Test: After installation, start units to confirm proper operation.
  - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and components.
- C. An appliance will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 113100