BID DOCUMENTS: October 13, 2026

PROJECT MANUAL

VOLUME 1 OF 2: Divisions 00 - 18

Newburgh Enlarged City School District

Newburgh Free Academy North Campus Auditorium Renovation

Newburgh Free Academy North Campus SED No. **44-16-00-01-0-002-016**

CSArch Project # 108-2504



REGISTRATION EXPIRATION DATE 12/31/2026

The design of this project conforms to applicable provisions of the New York State Uniform Fire Prevention and Building Code the New York State Energy Conservation Construction Code and the Manual of Planning Standards of the New York State Education Department

CSARCH

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SECTION 000105 - CERTIFICATIONS PAGE

PROJECT TEAM PROFESSIONAL SEAL

ARCHITECTURAL:

COLLINS+SCOVILLE
ARCHITECT | ENGINEERING | CONSTRUCTION MANAGEMENT, D.P.C.
DBA CSARCH
19 FRONT STREET
NEWBURGH, NY 12550
PHONE: 845-561-3179

RICHARD L. PECKHAM, AIA
LICENSE NUMBER: 019884
EXPIRATION DATE: 12/31/2026



REGISTRATION EXPIRATION DATE 12/31/2026

STRUCTURAL:

PASSERO ASSOCIATES
242 WEST MAIN STREET, SUITE 100
ROCHESTER, NY 14614
PHONE: 585-325-1000

LAURA C. ALEXANDER, PE
LICENSE NUMBER: 106311
EXPIRATION DATE: 03/31/2028



Expiration Date: 03/31/2028
Certificate of Authorization: 021475

MECHANICAL, AND PLUMBING:

COLLINS+SCOVILLE
ARCHITECT | ENGINEERING | CONSTRUCTION MANAGEMENT, D.P.C.
DBA CSARCH
40 BEAVER STREET
ALBANY, NY 12207
PHONE: 518-463-8068

ZACHARY MALISON, PE
LICENSE NUMBER: 097797
EXPIRATION DATE: 06/30/2028



Expires : 06/30/2028

ELECTRICAL:

COLLINS+SCOVILLE
ARCHITECT | ENGINEERING | CONSTRUCTION MANAGEMENT, D.P.C.
DBA CSARCH
40 BEAVER STREET
ALBANY, NY 12207
PHONE: 518-463-8068

JAMES R. BARRETT, PE
LICENSE NUMBER: 073467
EXPIRATION DATE: 05/31/2029



EXPIRES 5/31/2029

HAZARDOUS MATERIALS:

ATLANTIC TESTING LABORATORIES - ATL

CSArch
Project No. 108-2504
22 CORPORATE DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-383-9144

CHEYENNE J. DASHNAW
LICENSE NUMBER: 089577-01
EXPIRATION DATE: 10/31/2028



Expires: 10/31/2028

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM ON THIS DOCUMENT IN ANY WAY.

THE DESIGN OF THIS PROJECT CONFORMS TO APPLICABLE PROVISIONS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE AND THE MANUAL OF PLANNING STANDARDS OF THE NEW YORK STATE EDUCATION DEPARTMENT

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PIPING AND INSTRUMENTATION DIAGRAM DRAWINGS

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MECHANICAL GENERAL DRAWING

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END OF SECTION 000115

SECTION 001113 - ADVERTISEMENT FOR BIDS

PROJECT INFORMATION

1.1 THE Owner (HEREINAFTER REFERRED TO AS Owner):

A. Newburgh Enlarged City School District

B. Address:
124 Grand Street
Newburgh, New York 12550
845-563-3400

1.2 AND THE Architect (HEREINAFTER REFERRED TO AS Architect):

A. Address:
19 Front Street
Newburgh, New York 12550
845-561-3179

1.3 AND THE Construction Manager (HEREINAFTER REFERRED TO AS Construction Manager):

A. Schoolhouse Construction Services, LLC
59 Main Street
Delhi, NY 13753
607-930-4888

SED Control Numbers

NFA North Campus 44-16-00-01-0-002-016

The Owner, the Newburgh Enlarged City School District will receive sealed bids to furnish material and labor to complete the NFA North Auditorium Renovation which includes renovations. Each bid shall be on a stipulated sum basis for the following contracts:

CONTRACTS

Contract No. 01	General Construction Work Prime Contract (GC)
Contract No. 02	Mechanical Work Prime Contract (MC)
Contract No. 03	Electrical Work Prime Contract (EC)

BID INFORMATION

2.1 Sealed bids will be received until the time indicated below. Bids received after this time will not be accepted and returned to the Bidder unopened. Bids will be opened publicly and read aloud after specified receipt time. An abstract of Bids received will be made available via www.csarchplanroom.com.

Due Date/ Time	November 6, 2026 at 3:00pm
Attention	Purchasing Agent
Location	124 Grand Street, Newburgh NY 12550
# of copies	2

BIDDING DOCUMENTS

3.1 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 viewed online free of charge beginning October 13, 2026 at www.csarchplanroom.com under 'Public Projects', or electronically downloaded for a non-refundable fee of one-hundred dollars ($100.00).

3.2 Complete sets of Bidding Documents, Drawings, and Specifications, on compact disc (CD) or USB flash drive may be obtained from Rev, 28 Church Street, Warwick, New York 10990 Tel: (845) 651-3845, upon depositing the sum of one-hundred dollars ($100.00). Checks or money orders shall be made payable to Newburgh Enlarged City School District.

3.3 Bidder must provide Bid Security in the amount and form, per the terms indicated in Section *Instructions to Bidders*. All Bids will remain subject to acceptance for forty-five (45) days following the receipt of Bids. The Owner may, in its sole discretion, reject any Bid and return Bid Security prior to that date.

3.4 A Pre-Bid Conference will be held at 4:00pm Eastern Standard Time, October 21, 2026 at NFA North Campus, 301 Robinson Avenue, Newburgh, NY 12550. Attendance of this meeting is recommended as the Owner, Architect and/or consultants will be present to discuss the Project. Attendees should anticipate 30 minutes Q & A session.

3.5 Bids shall not include New York State sales and compensating use taxes on materials and supplies incorporated into the Work, as the Owner being exempt therefrom. Bidders must comply with New York State Department of Labor Prevailing Wage Rate Schedule and conditions of employment.

3.6 A Project Labor Agreement (PLA) applies to all contracts.

PLAN CENTERS

4.1 Bidding/Contract Documents (drawings and project manuals) may be examined as of October 13, 2026 at the following locations:

CSArch
19 Front Street
Newburgh, New York 12550
Phone: 845-561-3179

Newburgh Enlarged City School District
124 Grand Street
Newburgh, New York12550
Phone: 845-563-3400

Note: Examination by appointment only.

This project is publicly funded. The Bidders must comply with New York State Department of Labor Prevailing Wage Rate Schedule and conditions of employment.

The Newburgh Enlarged City School District reserves the right to waive any informalities or irregularities in the Bids received, and/ or to reject all Bids without explanation.

By Order of: Newburgh Enlarged City School District, Board of Education

END OF SECTION 001113

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SECTION 002113 - INSTRUCTIONS TO BIDDERS

PART 1 – DEFINITIONS

A. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Invitation to Bid, Instruction to Bidders, the Bid Form, Supplementary Bid Forms and other sample bidding and contract forms.

B. Contract Documents include the Contract Forms between the Owner and Contractor, Contractor's executed Bid Form and executed Supplementary Bid Forms, Conditions of the Contract (General, supplemental and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

C. Definitions set forth in the General Conditions of the Contract of Construction, or in other Contract Documents are applicable to the Bidding Documents.

D. Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

E. A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
   1. Wherever the word "Bid" occurs in the documents, it refers to Bidders Proposal.

F. The Base Bid is an amount stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents.

G. An Alternate is an amount stated on the Bid Form to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

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

I. A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.
   1. 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.

PART 2 – BIDDER'S REPRESENTATIONS

A. The Bidder by making a Bid represents that:
   1. The Bidder has read and understands the Bidding Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being Bid concurrently or presently under construction.
   2. The Bid is made in compliance with the Bidding Documents.
   3. 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 personal observations with the requirements of the proposed Contract Documents.
   4. The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

B. 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.

PART 3 – BIDDING DOCUMENTS

3.1 COPIES

A. 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 viewed online free of charge beginning 10-13-2026 at www.csarchplanroom.com under "Public Projects," or electronically downloaded for a non-refundable charge of one hundred dollars. ($100.00)
   1. 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."
   2. Complete sets of Bidding Documents, Drawings, and Specifications, on compact disc (CD) or USB flash drive may be obtained from Rev, 28 Church Street, Unit 7, Warwick, New York 10990 Tel: (845) 651-3845, upon depositing the sum of one-hundred dollars ($100.00). Checks or money orders shall be made payable to Newburgh Enlarged City School District.

3. Deposit is refundable in accordance with the terms in the Instructions to Bidders to all submitting bids. Any bidder requiring (CD's) to be shipped shall make arrangements directly with the printer and pay for all packaging and shipping costs.
4. Any bidder requiring paper copies of the Bidding Documents, Drawings and Specifications shall make arrangements directly with the printer and pay for all printing, packaging and shipping costs. Such costs are non-refundable.

B. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

C. The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

A. 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 at once report to the Architect errors, inconsistencies or ambiguities discovered. All reports to the Architect shall be in writing.

B. No interpretation of the meaning of the Contract Documents, the existing conditions, or of the scope of Work will be made verbally. Provide every request for such interpretation in writing, addressed to CSArch, Attention: **Richard Peckham, 40 Beaver Street, Albany, New York 12207, by e-mail: rpeckham@csarchpc.com with a copy to ksolis@csarchpc.com,** with the subject line to read " NECSD NFA North Auditorium Renovation Bid Question" and to be given consideration must be received at least seven (7) business days prior to the date of the Bid Opening.

C. Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders are not required to rely upon them.

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

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 EQUIVALENTS

A. Each Bidder shall base his Bid upon the materials and equipment described in the Bidding Documents to the fullest extent possible.

B. 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 equalivent 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).

3.4 ADDENDA

A. Addenda will be transmitted to all that are known to have received a complete set of Bidding Documents.
   1. Provide Bidding Document distributor with full company name, address, telephone and facsimile numbers and contact person’s name.

B. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

C. Addenda will not be issued later than five (5) working days prior to the time specified for receipt of Bids, except any Addendum withdrawing the request for Bids or one which includes postponement of the time for receipt of Bids.

D. Each Bidder shall ascertain upon submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt on the Bid Form.

3.5 TAX LIABILITY

A. 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.

B. 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.

C. All other taxes shall be included in the Bid.

3.6 PRE-BID CONFERENCE

A. There will be a Pre-bid Conference as detailed in the Advertisement for Bids. 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.

PART 4 – BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

A. Bids shall be submitted on forms identical to the Bid Forms contained in this Project Manual, or submitted using unaltered and legible copies thereof.

B. All blanks on the Bid Form shall be legible and executed in a non-erasable medium.

C. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in word shall govern.

D. Interlineations, alterations and erasures must be initialed by the signer of the Bid.

E. Bid all requested alternates. If no change in the Base Bid is required, enter "No Change."

F. Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each Bid copy shall be signed by the person or persons legally authorized to bind the Bidder to a Contract. A Bid by a corporation shall further give 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.

4.2 BID SECURITY

A. 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.
   1. Bid Security shall be provided in the amount of five (5) percent of the dollar amount of the Base Bid.
   2. Bid Security shall be payable to Newburgh Enlarged City School District.
   3. 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. 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.
5. The successful Bidders shall have the Bid Security returned upon execution of an Owner/Contractor Agreement.
6. 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.
7. The Bid Security shall not be forfeited to the Owner in the event the Owner fails to comply with subparagraph 6.2.

B. Surety Bond shall be written on AIA Document A310, Bid Bond, and the attorney-in-fact that executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

C. The Owner will have the right to retain the Bid Security of Bidders to whom an award is being considered until either:
1. The Contract has been executed and bonds, when required, have been furnished, or;
2. The specified time has elapsed so that Bids may be withdrawn or;
3. All Bids have been rejected.

4.3 SUBMISSION OF BIDS

A. All copies of the Bid, the Bid Security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated Contract 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.
1. If Bidder submits for different Contracts, each shall be submitted individually and so labeled for that Contract.

B. Bids shall be deposited at the designated location prior to the time and date indicated in the Invitation to Bidders for the receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.
1. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
2. Oral, telephonic, telegraphic, facsimile or other electronically transmitted Bids will not be considered.

C. Bids not exhibiting original signatures or seals will not be accepted as a responsive Bid.

D. Bids shall be submitted in duplicate. Executed forms required for each submitted Bid are as follows:
   1. Bid Form.
   2. Resolution.
   3. Non-Collusive Bid Certification.
   4. Bid Security.

4.4 MODIFICATION OR WITHDRAWAL OF BID

A. A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid. No Bidder may withdraw a Bid within the forty-five (45) day period following the time of the Bid Opening.

B. Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

C. Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

PART 5 – CONSIDERATION OF BIDS

5.1 OPENING OF BIDS

A. The properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

5.2 REJECTION OF BIDS

A. The Owner shall maintain the right to reject any or all Bids. A Bid not accompanied by the required Bid Security or by other data required by the Bidding Documents, or which is in any way incomplete or irregular may be subject to rejection.

5.3 AWARD OF BID

A. It is the intent of the Owner to award Contracts to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the 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 own best interest.

B. 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 low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

PART 6 – SUPPLEMENTARY BID FORMS

6.1 CONTRACTOR'S QUALIFICATION STATEMENT

A. Bidders to whom award of a Contract is under consideration shall submit to the Construction Manager, within three (3) calendar days, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

6.2 OWNERS FINANCIAL CAPABILITY

A. The Owner shall, at the request of the Bidder to whom award of a Contract is under consideration and no later than seven (7) days prior to the expiration of the time for withdrawal of Bids, furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

6.3 SUBMITTALS

A. Within three (3) calendar days following the Bid Opening time, the apparent lowest Bidder, shall furnish to the Owner through the Architect the following information:
   1. Contractor’s Qualification Statement – AIA Document 305, 1986 edition.
   2. Subcontractor List.
   3. Substitution List.
   4. Material and Equipment List.
   5. Schedule of Values.
   6. Full time on Site Superintendent or Foreman

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

C. Upon request only, the apparent second and third low Bidders shall be prepared to submit the information of paragraphs 6.1 and 6.3.A.

D. Prior to the execution of the Contract, the Construction Manager will notify the Bidder in writing if either the Owner, Architect/Engineer or Construction Manager, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Construction Manager has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity. In the event of withdrawal or disqualification, Bid Security will not be forfeited.

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

F. Any Bidder, upon failure to submit the information required in subparagraphs 6.1.A, 6.3.A, and 6.3.B in the allowed time, may have the Bid rejected. In that event, the Bidder shall forfeit the Bid Security to the Owner as liquidated damages for such failure or refusal, and not as penalty.

6.4 BOND REQUIREMENTS

A. The Owner requires the apparent successful Bidder to furnish and deliver bonds, covering the faithful performance of the Contract Work and payment of all obligations arising thereunder duly executed by the Bidder and a surety company licensed to do business in New York State rating.

B. The premiums shall be included in the Bid and paid by the Contractor. The Bidder shall proportionally distribute the costs of such bonds between the Base Bid and any Alternates.

6.5 TIME OF DELIVERY AND FORM OF BONDS

A. The Bidder shall deliver the required bonds to the Owner through the Construction Manager on or before the time of execution of the Owner/Contractor Agreement. Bonds shall be payable to Newburgh Enlarged City School District.

B. Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond, Version 2010. Both bonds shall be written in the amount of the Contract Sum.

C. The bonds shall be dated the same as the Owner/Contractor Agreement.

D. The Bidder 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.

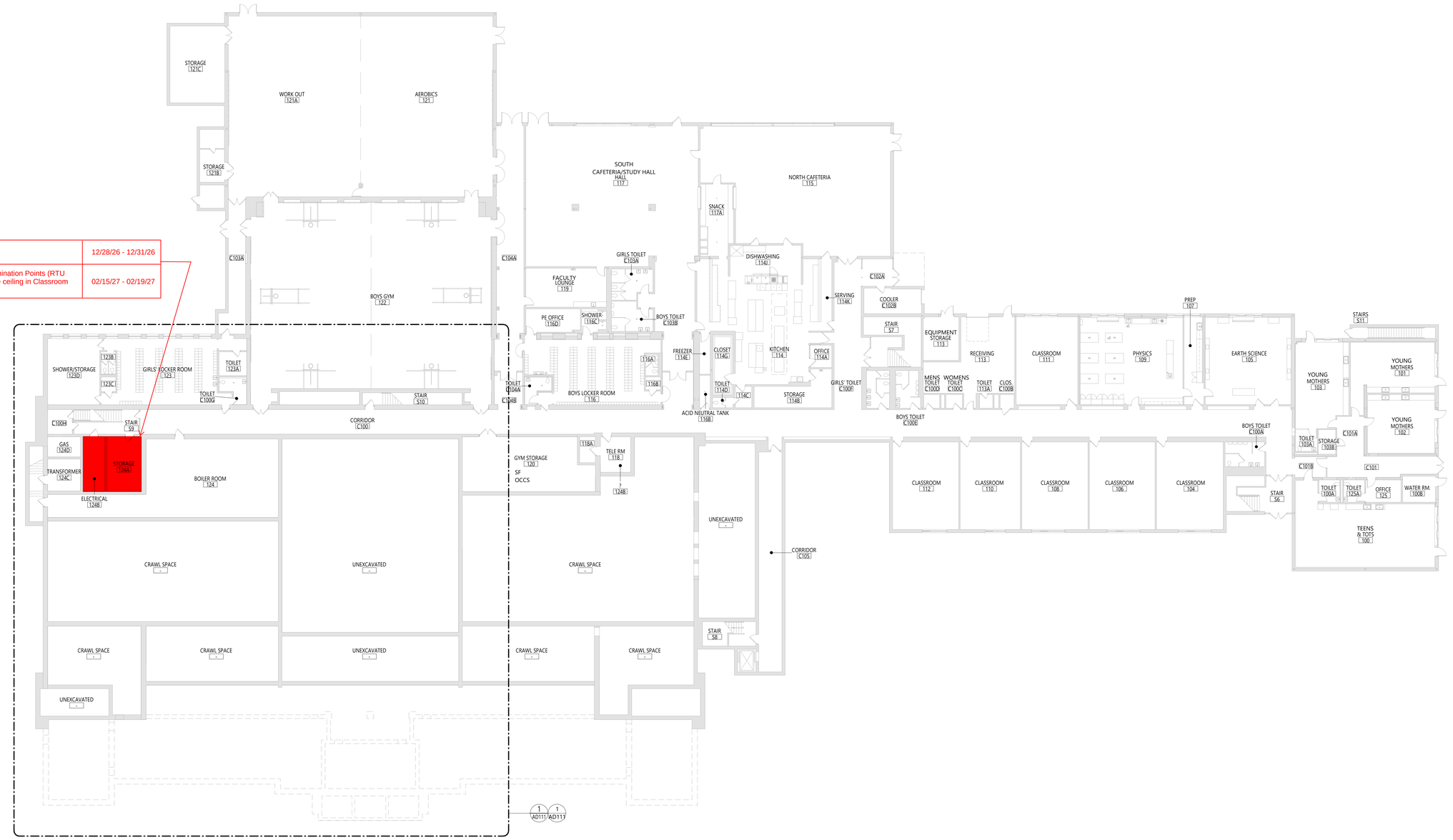
PART 7 – AGREEMENT FORM BETWEEN OWNER AND CONTRACTOR

A. The form of agreement between Owner and Contractor shall be based on an amended Standard Form of Agreement between Owner and Contractor where the basis of payment is a Stipulated Sum, Owner/Contractor Agreement – AIA Document A101.

END OF SECTION 002113

Item	Description of Work	Path 1 - Early Winter 2027	
		Start	Substantial Completion
Newburgh Free Academy – North Campus Auditorium Renovation			
1	General Removals and Abatement Scope	**December 28, 2027**	**January 3, 2028**
2	Staging of Complete Ceiling Area, Along with General Demolition of Existing Ceiling System	**January 4, 2027**	**February 5, 2027**
3	Replacement of Designated Above Ceiling Mechanical, HVAC Ductwork, Electrical, Structural, and Lighting	**February 8, 2027**	**March 5, 2027**
4	Electrical Panel Work and Routing to Termination Points (RTU and TL Relay Panel). Includes work above ceiling in Classroom 219 and Computer Classroom 214B	**February 15, 2027**	**February 19, 2027**
5	Installation and Painting of Ceiling System and Associated Details, Rigging/Lighting on Ceiling, Along with Removal of Complete Staging System	**March 8, 2027**	**April 9, 2027**
6	Construction of New Stage Lift Assembly and Remaining Below Ceiling Scope	**April 12, 2027**	**April 23, 2027**
7	Back of Stage Ceiling and Remaining Work	**April 12, 2027**	**April 23, 2027**
8	Finishing of Stage Flooring and Wood Details· Note: No Other Construction Activities Shall Take Place During Application of Floor Finishes	**April 26, 2027**	**May 14, 2027**
9	Finishing and Painting of Walls and Balcony Surfaces	**May 17, 2027**	**June 4, 2027**
10	Floor Patching and Finishes in Main Front of Stage Auditorium Area – Aisles, Beneath Seating, etc.	**June 7, 2027**	**June 25, 2027**
11	Complete Installation of Auditorium Specialty Systems	**June 21, 2027**	**July 30, 2027**
12	Roof Penetrations for RTU and other mechanical equipment, set steel dunnage, pick and set RTU and other mechanical equipment. Finalize ceiling installation.	**June 28, 2027**	**July 9, 2027**
13	Installation of New Auditorium Seating	**July 12, 2027**	**July 16, 2027**
14	Final and Professional Cleaning of Auditorium Space	**July 19, 2027**	**July 23, 2027**
15	Install New Stage Curtain System and Finalize Rigging	**July 26, 2027**	**July 30, 2027**
16	Auditorium Systems – Final System Programing, Troubleshooting, Owner Training, etc.	**August 2, 2027**	**August 20, 2027**

1	General Removals and Abatement Scope	12/28/26 - 12/31/26
4	Electrical Panel Work and Routing to Termination Points (RTU and TL Relay Panel). Includes work above ceiling in Classroom 219 and Computer Classroom 214B	02/15/27 - 02/19/27



1 OVERALL - FIRST FLOOR PLAN

G111 1/16" = 1'-0"

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Project Title

NEWBURGH ENLARGED CSD
NEWBURGH FREE ACADEMY NORTH CAMPUS
AUDITORIUM RENOVATION

#	DATE	DESCRIPTION

Drawn By:	Author
Checked By:	Checker
Proj. #:	44-16-00-01-0-002-016
CSArch Proj. #:	108-2504
Issued for Bid:	

Sheet Title

OVERALL - FIRST FLOOR PLAN

Sheet No.

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CL001

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4	Electrical Panel Work and Routing to Termination Points (RTU and TL Relay Panel). Includes work above ceiling in Classroom 219 and Computer Classroom 214B	02/15/27 - 02/19/27



1 OVERALL - SECOND FLOOR PLAN

G121 1/16" = 1'-0"

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Project Title

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NEWBURGH FREE ACADEMY NORTH CAMPUS
AUDITORIUM RENOVATION

#	DATE	DESCRIPTION

Drawn By:	Author
Checked By:	Checker
Proj. #:	44-16-00-01-0-002-016
CSArch Proj. #:	108-2504
Issued for Bid:	

Sheet Title

OVERALL-
SECOND
FLOOR PLAN

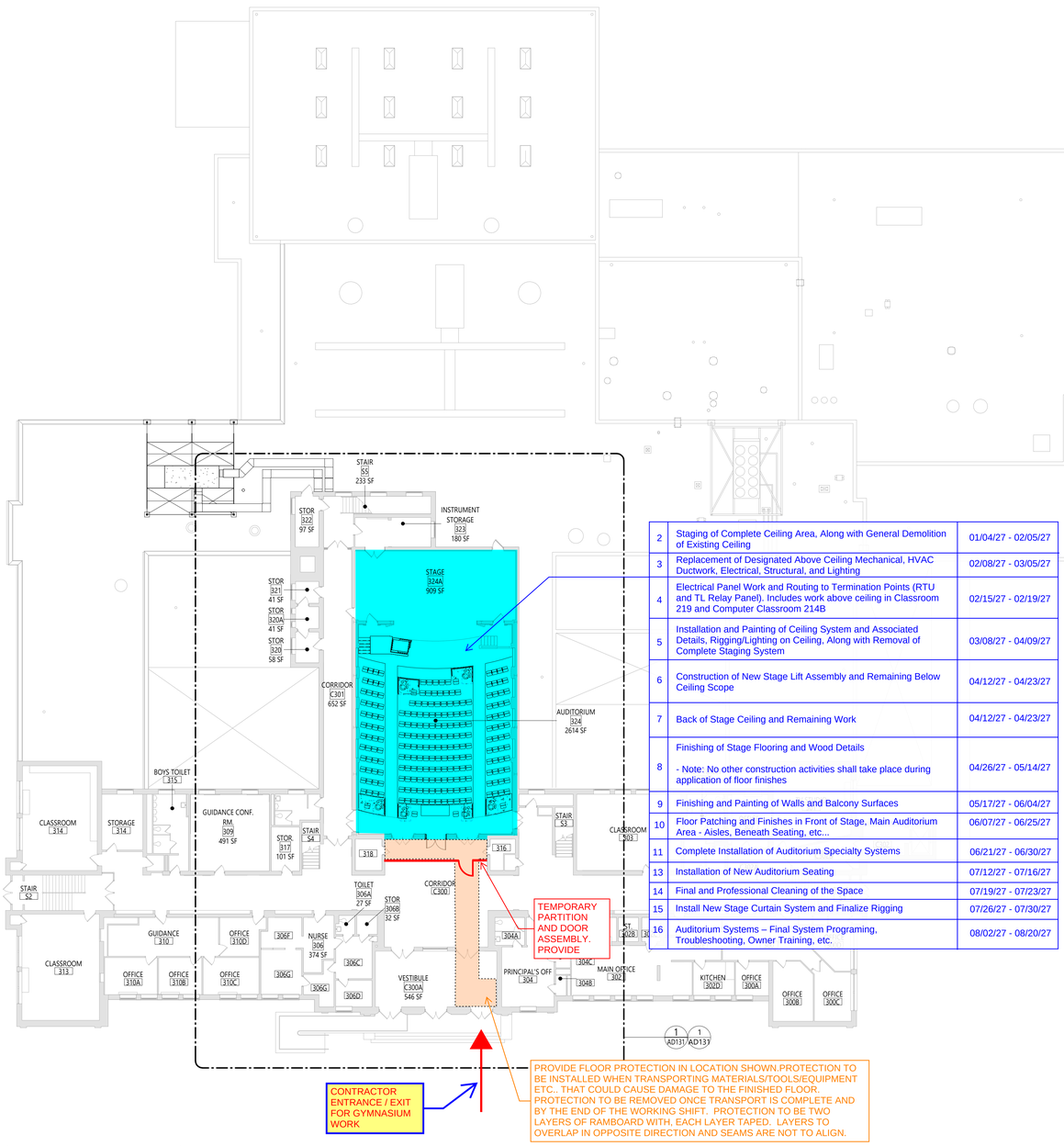
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2	Staging of Complete Ceiling Area, Along with General Demolition of Existing Ceiling	01/04/27 - 02/05/27
3	Replacement of Designated Above Ceiling Mechanical, HVAC Ductwork, Electrical, Structural, and Lighting	02/08/27 - 03/05/27
4	Electrical Panel Work and Routing to Termination Points (RTU and TL Relay Panel). Includes work above ceiling in Classroom 219 and Computer Classroom 214B	02/15/27 - 02/19/27
5	Installation and Painting of Ceiling System and Associated Details, Rigging/Lighting on Ceiling, Along with Removal of Complete Staging System	03/08/27 - 04/09/27
6	Construction of New Stage Lift Assembly and Remaining Below Ceiling Scope	04/12/27 - 04/23/27
7	Back of Stage Ceiling and Remaining Work	04/12/27 - 04/23/27
8	Finishing of Stage Flooring and Wood Details - Note: No other construction activities shall take place during application of floor finishes	04/26/27 - 05/14/27
9	Finishing and Painting of Walls and Balcony Surfaces	05/17/27 - 06/04/27
10	Floor Patching and Finishes in Front of Stage, Main Auditorium Area - Aisles, Beneath Seating, etc...	06/07/27 - 06/25/27
11	Complete Installation of Auditorium Specialty Systems	06/21/27 - 06/30/27
13	Installation of New Auditorium Seating	07/12/27 - 07/16/27
14	Final and Professional Cleaning of the Space	07/19/27 - 07/23/27
15	Install New Stage Curtain System and Finalize Rigging	07/26/27 - 07/30/27
16	Auditorium Systems – Final System Programing, Troubleshooting, Owner Training, etc.	08/02/27 - 08/20/27

1 OVERALL - THIRD FLOOR PLAN

G131 1/16" = 1'-0"

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Project Title

NEWBURGH ENLARGED CSD
NEWBURGH FREE ACADEMY NORTH CAMPUS
AUDITORIUM RENOVATION

#	DATE	DESCRIPTION
2	Date 2	SED ADDENDUM 2
1	01/28/26	SED ADDENDUM 1

Drawn By: KS
Checked By: VA
Proj. #: 44-16-00-01-0-002-016
CSArch Proj. #: 108-2504
Issued for Bid:

Sheet Title

OVERALL- THIRD FLOOR PLAN

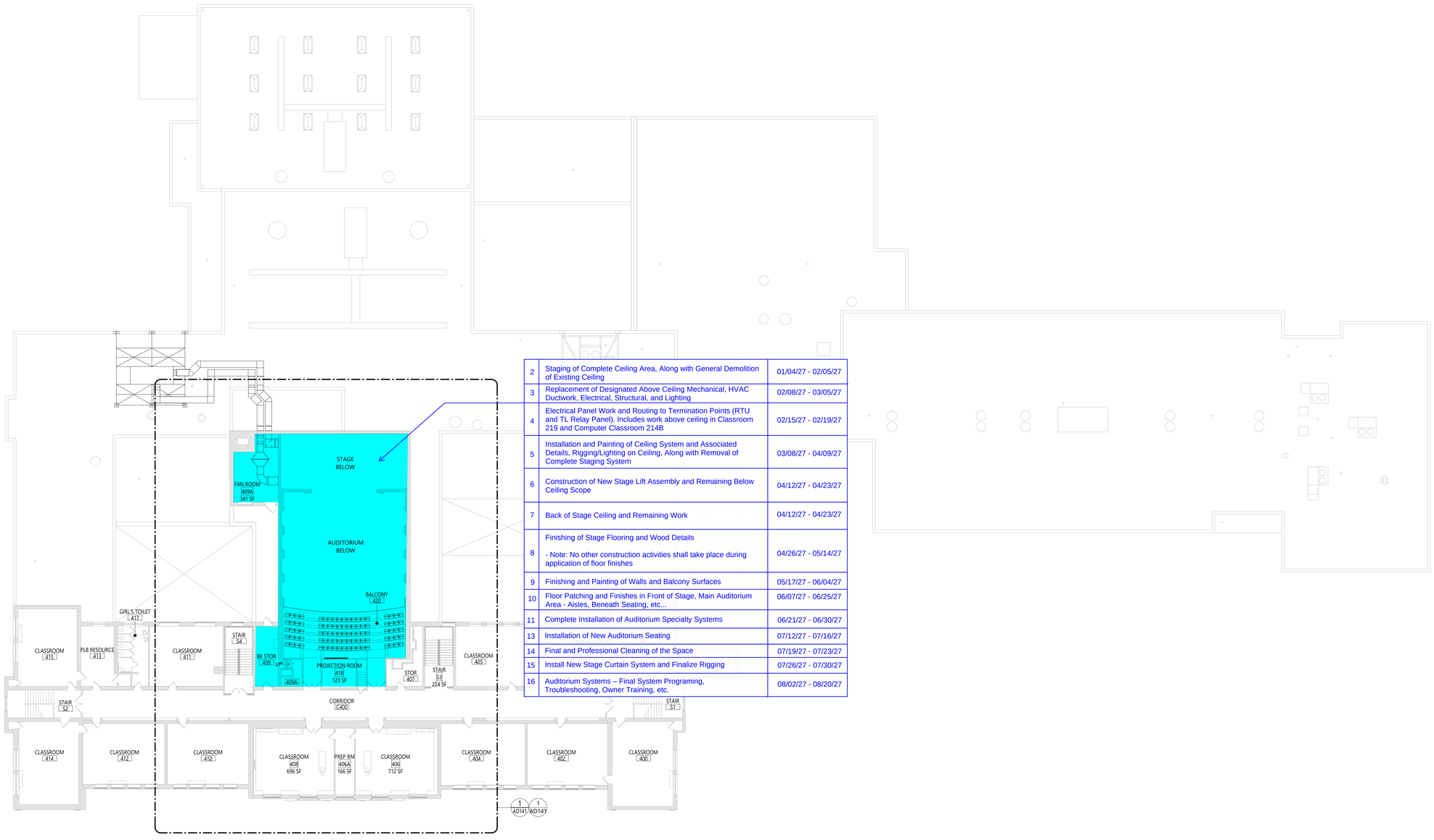
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2	Staging of Complete Ceiling Area, Along with General Demolition of Existing Ceiling	01/04/27 - 02/05/27
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11	Complete Installation of Auditorium Specialty Systems	06/21/27 - 06/30/27
13	Installation of New Auditorium Seating	07/12/27 - 07/16/27
14	Final and Professional Cleaning of the Space	07/19/27 - 07/23/27
15	Install New Stage Curtain System and Finalize Rigging	07/26/27 - 07/30/27
16	Auditorium Systems – Final System Programing, Troubleshooting, Owner Training, etc.	08/02/27 - 08/20/27

1 OVERALL - FOURTH FLOOR PLAN

G141 1/16" = 1'-0"

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Project Title

NEWBURGH ENLARGED CSD
NEWBURGH FREE ACADEMY NORTH CAMPUS
AUDITORIUM RENOVATION

#	DATE	DESCRIPTION
2	Date 2	SED ADDENDUM 2

Drawn By: KS
Checked By: VA
Proj. #: 44-16-00-01-0-002-016
CSArch Proj. #: 108-2504
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Sheet Title

OVERALL-
FOURTH
FLOOR PLAN

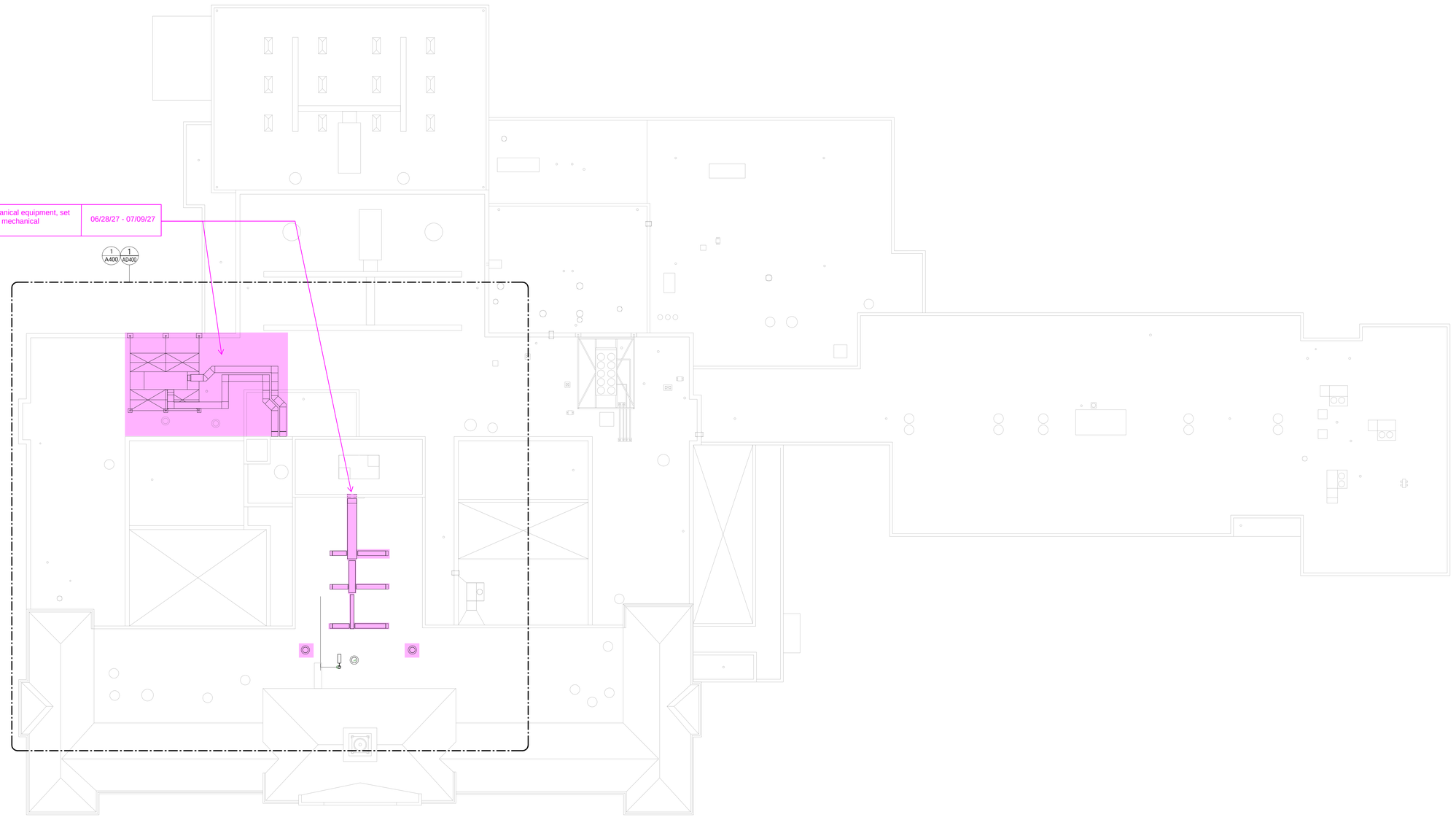
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12	Roof Penetrations for RTU and other mechanical equipment, set steel dunnage, pick and set RTU and other mechanical equipment. Finalize ceiling installation.	06/28/27 - 07/09/27



1 OVERALL - ROOF PLAN
G400 1/16" = 1'-0"

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Project Title
NEWBURGH ENLARGED CSD
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AUDITORIUM RENOVATION

#	DATE	DESCRIPTION
2	Date 2	SED ADDENDUM 2

Drawn By:	KS
Checked By:	VA
Proj. #:	44-16-00-01-0-002-016
CSArch Proj. #:	108-2504
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OVERALL-
ROOF PLAN

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SECTION 004101 - BID FORM CONTRACT NO.01– GENERAL CONSTRUCTION (GC)

BIDDER INFORMATION

CONTACT: _____

COMPANY: _____

ADDRESS: _____

TELEPHONE: _____

FACSIMILE: _____

E-MAIL: _____

GENERAL & ABATEMENT CONSTRUCTION CONTRACT: CONTRACT NO. 01 GC

BID TO (OWNER):

Newburgh Enlarged City School District

124 Grand Street

Newburgh, New York12550

PROJECT TITLE:

Newburgh Enlarged City School District

NFA North Auditorium Renovation

301 Robinson Avenue, Newburgh, New York 12550

SED CONTROL NUMBERS

NFA North Campus (NFA): SED No. 44-16-00-01-0-002-016

ARCHITECTS PROJECT NO: 108-2504

1.1 **Representations**: By making this Bid, the Bidder represents that:

A. The Bidder (identified above) hereby certifies that they have examined and fully understands the requirements and intent of the Bidding and Contract Documents, including Drawings, Project Manuals, and Addenda; and proposes to provide all labor, material, and equipment necessary to complete the Work on, or before, the dates specified in the Agreement for the Base Bid of:

1.2 **Base Bid for: NFA North Auditorium Renovation SED No. 44-16-00-01-0-022-016:**

A.

_____ *Written Numerical Value*

($_____). *Numerical Value*

1.3 **Addenda for NFA North Auditorium Renovation SED No. 44-16-00-01-0-022-016:**

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
1. Addendum # _____ Dated _____.
2. Addendum # _____ Dated _____.
3. Addendum # _____ Dated _____.
4. Addendum # _____ Dated _____.

1.4 **Unit Costs:** Refer to Section 012200 - "Unit Prices" for additional information.

A. The following are Unit Prices for specific portions of the Work as listed. The following is the list of Unit Prices:

Unit Price No. GC-UP-01 - Floor Patching - Cost per Square Foot -
_____ (Written Numerical Value)
$ _____ (Numerical Value)

Unit Price No. GC-UP-02 - Plaster Patching - Cost per Square Foot -
_____ (Written Numerical Value)
$ _____ (Numerical Value)

1.5 **Bid Security**: Attached hereto is Bid Security in the form of (circle correct form) Bid Bond, Certified Check, Cash in the amount of 5 percent of the written Base Bid amount.

1.6 **Allowances:** Refer to Section 012100 - "Allowances" for additional information.

1.7 **Time of Commencement and Completion:** The Bidder agrees to commence Work on the stipulated starting date(s) and will substantially complete the Work in accordance with the project schedule stipulated in Bidding Documents.

1.8 **Rejection of Bids:** The Bidder acknowledges that the Owner reserves the right to waive any informality in, or to reject any or all Bids.

1.9 **Execution of Contract:** If notice of the acceptance of this Bid is mailed, telegraphed, or otherwise delivered to the undersigned within forty-five (45) days after the date of the Bid Opening, or any time thereafter, the undersigned will, within ten (10) working days after the receipt of the form of Agreement, execute and deliver the Contract.

1.10 **Site Visit:** By initialing at the end of this paragraph the Bidder acknowledges visiting the project Site as requested by the Bidding Documents.

_____ (Name-Printed)

_____ (Initials)

1.11 **Authorized Signature:**

_____ (Signature)

_____ (Name-Printed)

_____ (Title-Printed)

_____ (Date)

1.12 **Attachments:** As itemized in the “Instructions to Bidders” for a complete Bid Form include the following:

A. Bid Form.

B. Bid Bond – AIA Document A310.

C. Corporate Resolutions.

D. Non-Collusive Affidavit.

E. Iran Divestment Act Certificate.

F. New York State Department of Labor Certificate of Registration.

1.13 **Supplementary Bid Information:** If apparent lowest Bidder upon Bid Opening, submit in accordance with the "Instruction To Bidders" within 3 working days the following:

A. Contractor Statement of Qualifications – AIA Document A305.

B. Proposed Subcontractor List.

C. Proposed Equivalent List.

D. Schedule of Values.

E. Project Manager Resume.

F. Bi-Weekly Material Equipment Status Report.

1.14 **Work Cost Breakdown:** This form shall be filled out and submitted by the Contractor. The grand total must equal the BASE BID under Section I (A) "THE BID". UNIT PRICES are required for the items listed in the Unit Prices section of the work cost breakdown. Unit prices will be provided for use if the required quantities are more or less than the quantities indicated in the plans and specifications. Failure to complete the work cost breakdown may result in the disqualification of the bid. As itemized in the "Instructions to Bidders" for a complete Bid Form include the following which must be filled out completely, failure to comply with any listed below bid will be a rejected bid:

A. Bid Form, all costs must be shown in each CSI section and totaled, failure to breakdown these costs will be subject to disqualification of bid.

END OF SECTION 004101

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SECTION 004102 - BID FORM CONTRACT NO.02 – MECHANICAL CONSTRUCTION (MC)

BIDDER INFORMATION

CONTACT: _____

COMPANY: _____

ADDRESS: _____

TELEPHONE: _____

FACSIMILE: _____

E-MAIL: _____

PRIME CONTRACT: CONTRACT NO. 02 MC

BID TO (OWNER):

Newburgh Enlarged City School District

124 Grand Street

Newburgh, New York12550

PROJECT TITLE:

Newburgh Enlarged City School District

NFA North Auditorium Renovation

301 Robinson Avenue Newburgh, New York12550

SED CONTROL NUMBERS

NFA North Campus (NFA): SED No. 44-16-00-01-0-022-016

ARCHITECTS PROJECT NO: 108-2504

1.1 **Representations**: By making this Bid, the Bidder represents that:

A. The Bidder (identified above) hereby certifies that they have examined and fully understands the requirements and intent of the Bidding and Contract Documents, including Drawings, Project Manuals, and Addenda; and proposes to provide all labor, material, and equipment necessary to complete the Work on, or before, the dates specified in the Agreement for the Base Bid of:

1.2 **Base Bid: NFA North Auditorium Renovation SED No. 44-16-00-01-0-022-016**

A. _____
_____ dollars ($_____).

1.3 **Addenda: NFA North Auditorium Renovation SED No. 44-16-00-01-0-022-016**

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
1. Addendum # _____ Dated _____.
2. Addendum # _____ Dated _____.
3. Addendum # _____ Dated _____.
4. Addendum # _____ Dated _____.

1.4 **Bid Security:** Attached hereto is Bid Security in the form of (circle correct form) Bid Bond, Certified Check, Cash in the amount of 5 percent of the written Base Bid amount.

1.5 **Allowances:** refer to Section 012100 – "Allowances" for additional information.

1.6 **Time of Commencement and Completion:** The Bidder agrees to commence Work on the stipulated starting date(s) and will substantially complete the Work in accordance with the project schedule stipulated in Bidding Documents.

1.7 **Rejection of Bids:** The Bidder acknowledges that the Owner reserves the right to waive any informality in, or to reject any or all Bids.

1.8 **Execution of Contract:** If notice of the acceptance of this Bid is mailed, telegraphed, or otherwise delivered to the undersigned within forty-five (45) days after the date of the Bid Opening, or any time thereafter, the undersigned will, within ten (10) working days after the receipt of the form of Agreement, execute and deliver the Contract.

1.9 **Site Visit:** By initialing at the end of this paragraph the Bidder acknowledges visiting the project Site as requested by the Bidding Documents.

_____ (Name-Printed)

_____ (Initials)

1.10 **Signature:**

_____ (Signature)

_____ (Name-Printed)

_____ (Title-Printed)

_____ (Date)

1.11 **Attachments:** As itemized in the "Instructions to Bidders" for a complete Bid Form include the following:

A. Bid Form.

B. Bid Bond – AIA Document A310.

C. Corporate Resolutions.

D. Non-Collusive Affidavit.

E. Iran Divestment Act Certificate.

1.12 **Supplementary Bid Information:** If apparent lowest Bidder upon Bid Opening, submit in accordance with the "Instruction To Bidders" within 3 working days the following:

A. Contractor Statement of Qualifications – AIA Document A305.

B. Proposed Subcontractor List.

C. Proposed Equivalent List.

D. Schedule of Values.

E. Project Manager Resume.

F. Bi-Weekly Material Equipment Status Report

END OF SECTION 004102

SECTION 004103 - BID FORM CONTRACT NO.03 – ELECTRICAL CONSTRUCTION (EC)

BIDDER INFORMATION

CONTACT: _____

COMPANY: _____

ADDRESS: _____

TELEPHONE: _____

FACSIMILE: _____

E-MAIL: _____

PRIME CONTRACT: CONTRACT NO. 03 EC

BID TO (OWNER):

Newburgh Enlarged City School District

301 Robinson Avenue

Newburgh, New York12550

PROJECT TITLE:

Newburgh Enlarged City School District

NFA North Auditorium Renovation

301 Robinson Avenue, Newburgh, New York 12550

SED CONTROL NUMBERS

NFA North Campus (NFA): SED No. 44-16-00-01-0-022-016

ARCHITECTS PROJECT NO: 108-2504

1.1 **Representations**: By making this Bid, the Bidder represents that:

A. The Bidder (identified above) hereby certifies that they have examined and fully understands the requirements and intent of the Bidding and Contract Documents, including Drawings, Project Manuals, and Addenda; and proposes to provide all labor, material, and equipment necessary to complete the Work on, or before, the dates specified in the Agreement for the Base Bid of:

1.2 **Base Bid: NFA North Auditorium Renovation SED No. 44-16-00-01-0-022-016:**

A. _____
_____ dollars ($_____).

1.3 **Addenda: NFA North Auditorium Renovation SED no. 44-16-00-01-0-022-016:**

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
1. Addendum # _____ Dated _____.
2. Addendum # _____ Dated _____.
3. Addendum # _____ Dated _____.
4. Addendum # _____ Dated _____.

1.4 **Bid Security**: Attached hereto is Bid Security in the form of (circle correct form) Bid Bond, Certified Check, Cash in the amount of 5 percent of the written Base Bid amount.

1.5 **Allowances:** Refer to Section 012100 – "Allowances" for additional information.

1.6 **Time of Commencement and Completion:** The Bidder agrees to commence Work on the stipulated starting date(s) and will substantially complete the Work in accordance with the project schedule stipulated in Bidding Documents.

1.7 **Rejection of Bids:** The Bidder acknowledges that the Owner reserves the right to waive any informality in, or to reject any or all Bids.

1.8 **Execution of Contract:** If notice of the acceptance of this Bid is mailed, telegraphed, or otherwise delivered to the undersigned within forty-five (45) days after the date of the Bid Opening, or any time thereafter, the undersigned will, within ten (10) working days after the receipt of the form of Agreement, execute and deliver the Contract.

1.9 **Site Visit:** By initialing at the end of this paragraph the Bidder acknowledges visiting the project Site as requested by the Bidding Documents.

_____ (Name-Printed)

_____ (Initials)

1.10 **Signature:**

_____ (Signature)

_____ (Name-Printed)

_____ (Title-Printed)

_____ (Date)

1.11 **Attachments:** As itemized in the "Instructions to Bidders" for a complete Bid Form include the following:

A. Bid Form.

B. Bid Bond – AIA Document A310.

C. Corporate Resolutions.

D. Non-Collusive Affidavit.

E. Iran Divestment Act Certificate.

1.12 **Supplementary Bid Information:** If apparent lowest Bidder upon Bid Opening, submit in accordance with the "Instruction To Bidders" within 3 working days the following:

A. Contractor Statement of Qualifications – AIA Document A305.

B. Proposed Subcontractor List.

C. Proposed Equivalent List.

D. Schedule of Values.

E. Project Manager Resume.

F. Bi-Weekly Material Equipment Status Report

END OF SECTION 004103

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AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

BOND AMOUNT: $

PROJECT:
(Name, location or address, and Project number, if any)
Newburgh Enlarged City School District
NFA North Auditorium Renovation

SED #44-16-00-01-0-002-016
CSArch Project No. 108-2504

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.

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

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

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herein. When so 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 Eighth day of September , Two Thousand Twenty-Five

CONTRACTOR AS PRINCIPAL *(Signature)*	**SURETY** *(Signature)*
BY: TBD	BY: TBD
(Printed name and title)	*(Printed name and title)*
(Witness)	*(Witness)*

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SECTION 004333 - PROPOSED PRODUCTS FORM

PARTICULARS

1.1 The following is the List of Equipment referenced in the bid submitted by:

1.2 (Bidder) _____

1.3 TO (Owner): Newburgh Enlarged City School District

1.4 dated _____ and which is an integral part of the Bid Form.

IF BIDDER PROPOSES TO USE MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED, HE SHALL LIST BELOW ANY EQUIVALENTS HE PROPOSES TO USE.

MATERIALS AND EQUIPMENT NOT LISTED ON THIS SHEET AND NOT PROPOSED, AS EQUIVALENTS IN THE BID MAY NOT BE CONSIDERED, EVALUATED, OR ACCEPTED AS EQUIVALENTS AFTER THE BIDS ARE RECEIVED.

THIS IDENTIFICATION OF EQUIVALENT IS REQUIRED OF BIDDER(S) AS PART OF THE SUPPLEMENTARY BID FORMS AND IS IN PARTIAL FULFILLMENT OF REQUIREMENTS OF THE INSTRUCTIONS TO BIDDERS. EQUIVALENTS MAY AFFECT OWNER'S ACCEPTANCE OF THE BID AND DECISION TO AWARD CONTRACT. ADDITIONAL DATA ON EQUIVALENTS MAY BE REQUESTED FROM SELECTED BIDDER(S) AFTER THE BID OPENING IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS.

ADDITIONAL SHEETS WILL BE PROVIDED ON REQUEST:

	SPECIFICATION SECTION	SPECIFIED ITEM	PROPOSED EQUIVALENT
A.	_____	_____	_____
B.	_____	_____	_____
C.	_____	_____	_____
D.	_____	_____	_____
E.	_____	_____	_____
F.	_____	_____	_____

G. _____ _____ _____

H. _____ _____ _____

I. _____ _____ _____

END PROPOSED PRODUCTS FORM

SECTION 004336 - PROPOSED SUBCONTRACTORS FORM

PARTICULARS

1.1 Herewith is the list of Subcontractors referenced in the bid submitted by:

1.2 (Bidder) _____

1.3 TO (Owner): Newburgh Enlarged City School District

1.4 Dated _____ and which is an integral part of the Bid Form.

1.5 The following work will be performed (or provided) by Subcontractors and coordinated by us:

SHOULD ANY PART OR PORTION OF THE WORK BE PLANNED FOR SUBCONTRACTING, LIST THE NAME, ADDRESS, AND PHONE NUMBERS OF ALL SUBCONTRACTORS THAT BIDDER(S) PROPOSES TO USE ON THIS CONTRACT AND THE WORK ASSIGNED TO EACH. PLEASE PRINT IN INK OR TYPE IN THE SPACES PROVIDED. ATTACH ADDITIONAL SHEETS IF NECESSARY.

THIS IDENTIFICATION OF SUBCONTRACTORS IS REQUIRED OF BIDDER(S) AS PART OF THE SUPPLEMENTARY BID FORMS AND IS IN PARTIAL FULFILLMENT OF REQUIREMENTS OF THE INSTRUCTIONS TO BIDDERS. ADDITIONAL DATA ON PROPOSED SUBCONTRACTORS MAY BE REQUESTED FROM SELECTED BIDDERS AFTER THE BID OPENING IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS.

LIST OF SUBCONTRACTORS

NAME	DISCIPLINE	ADDRESS	PHONE
_____			
_____			
_____			
_____			
_____			

_____

_____

_____

END OF SECTION 004336

AIA® Document A305® – 2020

Contractor's Qualification Statement

THE PARTIES SHOULD EXECUTE A SEPARATE CONFIDENTIALITY AGREEMENT IF THEY INTEND FOR ANY OF THE INFORMATION IN THIS A305-2020 TO BE HELD CONFIDENTIAL.

SUBMITTED BY:
(Organization name and address.)

SUBMITTED TO:
(Organization name and address.)

NAME OF PROJECT:

Newburgh Enlarged City School District
NFA North Auditorium Renovation
SED #44-16-00-01-0-002-016
CSArch Project No. 108-2504

TYPE OF WORK TYPICALLY PERFORMED
(Indicate the type of work your organization typically performs, such as general contracting, construction manager as constructor services, HVAC contracting, electrical contracting, plumbing contracting, or other.)

THIS CONTRACTOR'S QUALIFICATION STATEMENT INCLUDES THE FOLLOWING:
(Check all that apply.)

[ ] Exhibit A – General Information
[ ] Exhibit B – Financial and Performance Information
[ ] Exhibit C – Project-Specific Information
[ ] Exhibit D – Past Project Experience
[ ] Exhibit E – Past Project Experience (Continued)

CONTRACTOR CERTIFICATION
The undersigned certifies under oath that the information provided in this Contractor's Qualification Statement is true and sufficiently complete so as not to be misleading.

CONTRACTOR'S Authorized Representative *(Signature)*

BY: TBD

(Printed name and title)

Date

NOTARY
State of:
County of:
Signed and sworn to before me this day of

ADDITIONS AND DELETIONS:
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Notary Signature
My commission expires:

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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.)

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.

§ 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.

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.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.

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§ 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)

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User Notes: (1211520339)

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.)

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.

§ 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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User Notes: (1247235399)

.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?

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User Notes: (1247235399)

AIA® Document A305™ – 2020 Exhibit C

Project Specific 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.)

PROJECT:
(Name and location or address.)

CONTRACTOR'S PROJECT OFFICE:
(Identify the office out of which the contractor proposes to perform the work for the Project.)

TYPE OF WORK SOUGHT
(Indicate the type of work you are seeking for this Project, such as general contracting, construction manager as constructor, design-build, HVAC subcontracting, electrical subcontracting, plumbing subcontracting, etc.)

CONFLICT OF INTEREST
Describe any conflict of interest 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, may have regarding this Project.

§ C.1 PERFORMANCE OF THE WORK
§ C.1.1 When was the Contractor's Project Office established?

§ C.1.2 How many full-time field and office staff are respectively employed at the Contractor's Project Office?

§ C.1.3 List the business license and contractor license or registration numbers for the Contractor's Project Office that pertain to the Project.

§ C.1.4 Identify key personnel from your organization who will be meaningfully involved with work on this Project and indicate (1) their position on the Project team, (2) their office location, (3) their expertise and experience, and (4) projects similar to the Project on which they have worked.

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.

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§ C.1.5 Identify portions of work that you intend to self-perform on this Project.

§ C.1.6 To the extent known, list the subcontractors you intend to use for major portions of work on the Project.

§ C.2 EXPERIENCE RELATED TO THE PROJECT

§ C.2.1 Complete Exhibit D to describe up to four projects performed by the Contractor's Project Office, either completed or in progress, that are relevant to this Project, such as projects in a similar geographic area or of similar project type. If you have already completed Exhibit D, but want to provide further examples of projects that are relevant to this Project, you may complete Exhibit E.

§ C.2.2 State the total dollar value of work currently under contract at the Contractor's Project Office:

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

§ C.2.4 State the average annual dollar value of construction work performed by the Contractor's Project Office during the last five years.

§ C.2.5 List the total number of projects the Contractor's Project Office has completed in the last five years and state the dollar value of the largest contract the Contractor's Project Office has completed during that time.

§ C.3 SAFETY PROGRAM AND RECORD

§ C.3.1 Does the Contractor's Project Office have a written safety program?

§ C.3.2 List all safety-related citations and penalties the Contractor's Project Office has received in the last three years.

§ C.3.3 Attach the Contractor's Project Office's OSHA 300a Summary of Work-Related Injuries and Illnesses form for the last three years.

§ C.3.4 Attach a copy of your insurance agent's verification letter for your organization's current workers' compensation experience modification rate and rates for the last three years.

§ C.4 INSURANCE

§ C.4.1 Attach current certificates of insurance for your commercial general liability policy, umbrella insurance policy, and professional liability insurance policy, if any. Identify deductibles or self-insured retentions for your commercial general liability policy.

§ C.4.2 If requested, will your organization be able to provide property insurance for the Project written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis?

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§ C.4.3 Does your commercial general liability policy contain any exclusions or restrictions of coverage that are prohibited in AIA Document A101-2017, Exhibit A, Insurance A.3.2.2.2? If so, identify.

§ C.5 SURETY

§ C.5.1 If requested, will your organization be able to provide a performance and payment bond for this Project?

§ C.5.2 Surety company name:

§ C.5.3 Surety agent name and contact information:

§ C.5.4 Total bonding capacity:

§ C.5.5 Available bonding capacity as of the date of this qualification statement:

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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	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:
SUSTAINABILITY CERTIFICATIONS				

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(3B9ADA3A)

AIA® Document A305® – 2020 Exhibit E

Contractor's Past Project Experience, Continued

	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	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:	☐ Design-bid-build ☐ Design-build ☐ CM constructor ☐ CM advisor ☐ Other:
SUSTAINABILITY CERTIFICATIONS				

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User Notes:
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SECTION 004519 - CERTIFICATE OF NON-COLLUSION

The following provisions of the New York State General Municipal Law form a part of the Bidding Requirements:

NON-COLLUSIVE BIDDING CERTIFICATE

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

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

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

(3) No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(b) A Bid shall not be considered for award nor shall any award be made where (a) (1), (2) and (3) above have not been complied with; provided, however, that if in any case the Bidder cannot make the foregoing certification, the Bidder shall so state and shall so furnish with the Bid, a signed statement which sets forth in detail the reasons therefore. Where (a) (1), (2) and (3) above have not been complied with, the Bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting 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, without more, a disclosure within the meaning of subparagraph (a).

(c) Any bid hereafter made to any political subdivision of the State or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

(d) The person signing this Bid or Proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder as well to the person signing in his behalf.

Signature_____

Date_____

Title:_____Federal ID NO.: _____

Business Address: _____

Telephone:_____ Facsimile:_____

END OF SECTION 004519

DOCUMENT 004520 - IRAN DIVESTMENT ACT AFFIDAVIT

The following provisions of the New York State General Municipal Law form a part of the Bidding Requirements:

IRAN DIVESTMENT ACT CERTIFICATE

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

(1) That the Bidder is not on the list created pursuant to Paragraph (b) of Subdivision 3 of Section 165-a of the New York State finance law.

(2) By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, Bidder / Contractor (or any assignee) certifies that once the prohibited entities list is posted on the Office of General Services (OGS) website, it will not utilize on such Contract any subcontractor that is identified on the prohibited entities list; and

(3) Additionally, Bidder / Contractor is advised that once the list is posted on the OGS website, any Contractor seeking to renew or extend a Contract or assume the responsibility of a contract awarded in response to the solicitation, must certify at the time the Contract is renewed, extended or assigned that it is not included on the prohibited entities list.

(b) A bid shall not be considered for award nor shall any award be made where the condition set forth in paragraph a of this subdivision has not been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefor. A political subdivision may award a bid to a bidder who cannot make the certification pursuant to paragraph (a) of this subdivision on a case-by-case basis if:

(1) The investment activities in Iran were made before the effective date of this section, 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 political subdivision makes a determination that the goods or services are necessary for the political subdivision to perform its functions and that, absent such an exemption, the political subdivision 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.

(c) Any bid hereafter made to any political subdivision of the State or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-engagement in investment activities in Iran as the act and deed of the corporation.

(d) The person signing this Bid or Proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder as well to the person signing in his behalf.

Signature

Date

Title _____ Federal ID No.:

Business Address:

Telephone: _____ Email: _____

DOCUMENT 004543 - CORPORATE RESOLUTIONS

INCLUDE WITH BID FORM(S) IF BIDDER IS AN INDIVIDUAL:

By:_____
(Signature)

_____
(Print or type individual's name and title)

_____
(Business Address)

_____

Business Phone Facsimile

INCLUDE WITH BID FORM(S) IF BIDDER IS A PARTNERSHIP:

_____

(Print or type name of firm)

BY:_____

(Signature of general partner)

_____

(Print or type general partner's name and title)

_____

(Business Address)

_____

Business Phone Facsimile

INCLUDE WITH BID FORM(S) IF BIDDER IS A CORPORATION:

_____

(Print or type name of corporation)

_____

(State of incorporation)

BY:_____

(Signature of president or vice-president)

_____

(Print or type individual's name and title)

_____

(Business Address)

_____

Business Phone Facsimile

ATTEST: _____

(By corporate secretary or assistant secretary)

_____

(Print name and title)

Corporate Seal

AIA® Document A132® – 2019

Standard Form of Agreement Between Owner and Contractor, *Construction Manager as Adviser Edition*

AGREEMENT made as of the Twenty-eighth day of August in the year Two Thousand Twenty-Five
(In words, indicate day, month, and year.)

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

Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

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

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

Newburgh Enlarged City School District - NFA North Auditorium Renovation
Newburgh Free Academy North
301 Robinson Avenue
Newburgh, New York 12550
SED# 44-16-00-01-0-001-030

CSArch Project No. 108-2504

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

Schoolhouse Construction Services, LLC
5 Main Street, Suite 7
Delhi, NY 13753

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

Collins+Scoville Architecture | Engineering | Construction Management D.P.C dba CSArch
19 Front Street
Newburgh, NY 12550

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes 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 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.

This document is intended to be used in conjunction with AIA Documents A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

AIA Document A232™–2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

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8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

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 Modifications, 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 DATES OF 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 of the Project or Portions Thereof

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the date of Substantial Completion of the Work of all of the Contractors for the Project will be:
(Insert the date of Substantial Completion of the Work of all Contractors for the Project.)

]

ARTICLE 4 CONTRACT SUM

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§ 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 one of the following:
(Check the appropriate box.)

[X] Stipulated Sum, in accordance with Section 4.2 below

[ ] Cost of the Work plus the Contractor's Fee, in accordance with Section 4.3 below

[ ] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below

(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below.)

§ 4.2 Stipulated Sum
§ 4.2.1 The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2.2 Alternates
§ 4.2.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2.2 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

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

Item	Price

§ 4.2.4 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)

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and Certificates for Payment issued by the Construction Manager and 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 Construction Manager not later than the Twenty-Seventh day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the last day of the following month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner not later than Forty-Five (45) days after the Construction Manager receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 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 Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 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.

§ 5.1.4.3 In accordance with AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.4.3.1 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.

§ 5.1.4.3.2 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 A232–2019;
- **.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

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Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019; 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 when the Work of this Contract is substantially complete, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

Five Percent (5%)

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

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to when the entire Work of this Contract is substantially complete, including modifications for completion of portions of the Work as provided in Section 3.4.2, insert provisions for such modifications.)

At the discretion of the Owner.

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 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 A232–2019, and to satisfy other requirements, if any, which extend beyond final payment; and

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

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

§ 5.3 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.)

Zero Percent (0%)

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ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Article 15 of AIA Document A232–2019, unless the parties appoint below another individual, not a party to this Agreement, to serve as 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 A232–2019, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[ ] Arbitration pursuant to Article 15 of AIA Document A232–2019.

[ ] Litigation in a court of competent jurisdiction.

[X] Other: *(Specify)*

Litigation in courts located in Orange County, New York.

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 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2019 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)

Newburgh Enlarged City School District
124 Grand Street
Newburgh, New York 12550

§ 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.

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§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A232™–2019, General Conditions of the Contract, Construction Manager as Adviser Edition and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A232™–2019, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A232–2019, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

§ 8.8 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

.2 AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

.3 Drawings

Number	Title	Date
Exhibit B	List of Drawings	

.4 Specifications

Section	Title	Date	Pages
Exhibit A	Table of Contents		

.5 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.

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

[ ] AIA Document A132™–2019, Exhibit B, Determination of the Cost of the Work

[ ] AIA Document E235™–2019, Sustainable Projects Exhibit, Construction Manager as Adviser

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Edition, dated as indicated below:
(Insert the date of the E235-2019 incorporated into this Agreement.)

[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.7 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A232–2019 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.)

Exhibit C - Prevailing Rate of Wage Specification 007343 outlining responsibility and instructions to obtain the Prevailing Wage Schedule and respective updates

Execution of the Agreement acknowledges the receipt of these Exhibits and access to this information hereto.

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

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
BY: TBD	BY: TBD
(Printed name and title)	*(Printed name and title)*

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AIA® Document A312® – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

CONSTRUCTION CONTRACT
Date: 09-08-2025
Amount: $
Description:
(Name and location)
Newburgh Enlarged City School District - NFA North Auditorium Renovation
SED #44-16-00-01-0-002-016
CSArch Project No. 108-2504

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: $
Modifications to this Bond:

Company: *(Corporate seal)* Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL *(Signature)*	**SURETY** *(Signature)*
BY: TBD	BY: TBD
(Printed name and title)	*(Printed name and title)*

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes 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 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.

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Collins+Scoville Architecture | Engineering | Construction Management, D.P.C. dba CSArch

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 16 Definitions

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

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

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

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

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required

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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.)

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AIA® Document A312® – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)
Newburgh Enlarged City School District
NFA North Auditorium Renovations
SED #44-16-00-01-0-002-016
CSArch Project No. 108-2504

BOND
Date:
(Not earlier than Construction Contract Date)
Amount: $

Modifications to this Bond:		None		See Section 16

Company: *(Corporate seal)*

Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL
(Signature)

BY: TBD

(Printed name and title)

SURETY *(Signature)*

BY: TBD

(Printed name and title)

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.

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

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**	**OWNER'S REPRESENTATIVE:** *(Architect, Engineer or other party:)*
	Collins+Scoville Architecture | Engineering | Construction Management, D.P.C. dba CSArch

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

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

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

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

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

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

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

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner 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

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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.)

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Digital Data Licensing Agreement

AGREEMENT made as of the Eighth day of September in the year Two Thousand Twenty-Five
(In words, indicate day, month, and year.)

BETWEEN the Party transmitting Digital Data ("Transmitting Party"):
(Name, address, and contact information, including electronic addresses)

and the Party receiving the Digital Data ("Receiving Party"):
(Name, address, and contact information, including electronic addresses)

for the following Project:
(Name and location or address of the Project)

Newburgh Enlarged City School District
NFA North Auditorium Renovation
SED #44-16-00-01-0-002-016
CSArch Project No. 108-2504

for the following Digital Data ("Digital Data"):
(Identify below, in detail, the information created or stored in digital form that the Parties intend to be subject to this Agreement.)

The Transmitting Party and Receiving Party agree as follows.

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes 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 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.

TABLE OF ARTICLES

1 GENERAL PROVISIONS

2 TRANSMISSION OF DIGITAL DATA

3 LICENSE CONDITIONS

4 LICENSING FEE OR OTHER COMPENSATION

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 The purpose of this Agreement is to grant a license from the Transmitting Party to the Receiving Party for the Receiving Party's use of Digital Data and to set forth the license terms.

§ 1.2 This Agreement is the entire and integrated agreement between the Parties. Except as specifically set forth herein, this Agreement does not create any other contractual relationship between the Parties.

§ 1.3 Confidential Digital Data is Digital Data containing confidential or business proprietary information that the Transmitting Party designates as "confidential."

ARTICLE 2 TRANSMISSION OF DIGITAL DATA

§ 2.1 The Transmitting Party grants to the Receiving Party a nonexclusive limited license to use the Digital Data solely and exclusively for the uses, and in accordance

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with the terms, set forth in Article 3.

§ 2.2 Only the Receiving Party is permitted to access and use the Digital Data. Unlicensed and unauthorized access or use by third parties is strictly prohibited except as set forth in Section 2.4.1.

§ 2.3 The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party is the copyright owner of the Digital Data or otherwise has permission to transmit the Digital Data to the Receiving Party for its use on the Project in accordance with the terms and conditions of this Agreement.

§ 2.4 Where the Transmitting Party has designated information furnished pursuant to this Agreement as "confidential," the Receiving Party shall keep the information confidential and shall not disclose it to any other person or entity except as set forth in Section 2.4.1.

§ 2.4.1 The Receiving Party may disclose Confidential Digital Data after seven (7) days' notice to the Transmitting Party 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 Receiving Party may also disclose Confidential Digital Data 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.

§ 2.5 By transmitting Digital Data, the Transmitting Party does not convey any ownership right in the Digital Data or in the software used to generate the Digital Data. Unless otherwise granted in a separate license, the Receiving Party's right to use, modify, or further transmit Digital Data is specifically limited to those uses, and in accordance with the terms, set forth in Article 3, and nothing contained in this Agreement conveys any other right to use the Digital Data.

§ 2.6 To the fullest extent permitted by law, the Receiving Party shall indemnify and defend the Transmitting Party from and against all claims arising from or related to the Receiving Party's modification to, or unlicensed use of, the Digital Data.

§ 2.7 Transmission of the Digital Data does not abridge or extinguish the Transmitting Party's rights, including, to the extent applicable, exclusive ownership interest, in such information under all applicable state, federal, and international laws including, without limitation, laws governing the protection of copyrights and intellectual property.

§ 2.8 The provisions of this Article 2 shall survive the termination of this Agreement.

ARTICLE 3 LICENSE CONDITIONS

§ 3.1 The Receiving Party may use and rely upon the Digital Data to the extent set forth in this Article 3.
(Choose only one option below.)

[ ] **§ 3.1.1** The Digital Data is transmitted solely for the Receiving Party's information. Receiving Party acknowledges that any use of the Digital Data shall be at Receiving Party's sole risk. The Receiving Party accepts the Digital Data "as is" without any warranty or representations from the Transmitting Party as to whether the Digital Data is accurate, complete, or fit for use as intended by the Receiving Party. The Receiving Party is solely responsible for verifying whether the Digital Data is accurate, complete, or fit for the Receiving Party's intended use.

[X] **§ 3.1.2** Other:
(Identify terms, permitted uses, or other conditions related to the Digital Data.)

Revit and/or AutoCAD files will be provided as an accommodation at your request. Due to the nature of electronic data files, the Transmittal Party does not guarantee that the information in these files is identical to the bidding documents. Bid addenda may not have been incorporated into these files. If there are any discrepancies, the bidding documents and subsequent addenda constitute the contract requirements.

The Receiving Party agrees to transmit to the Transmitting Party at the end of the term of this agreement the Revit model including any information added by the Receiving Party.

§ 3.2 If no specific terms or uses are selected or set forth in Section 3.1, then the Receiving Party may use the Digital

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Data at its sole risk pursuant to the terms and conditions set forth in Section 3.1.1.

ARTICLE 4 LICENSING FEE OR OTHER COMPENSATION

The Receiving Party agrees to pay the Transmitting Party the following fee or other compensation for the Receiving Party's use of the Digital Data:

(State the fee, in dollars, or other method by which the Receiving Party will compensate the Transmitting Party for the Receiving Party's use of the Digital Data.)

This Agreement is entered into as of the day and year first written above and terminates one year from said date, except as set forth below.

(Indicate when this Agreement will terminate, if other than one year from the date it was entered into, and other conditions related to termination.)

TRANSMITTING PARTY *(Signature)*	**RECEIVING PARTY** *(Signature)*
BY: TBD	BY: TBD
(Printed name and title)	*(Printed name and title)*

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SECTION 006273 - SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Instructions to Bidders and other related Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for the Schedule of Values.

B. Provide summary for all scheduled values as approved by the Architect.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 FORMS

A. Use the following form:
   1. Schedule of Values: Provide on AIA G732 – Continuation Sheet, 1992 edition.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SCHEDULE OF VALUES

A. Coordination: Each Prime Contract shall coordinate preparation of its Schedule of Values for its portion of Work.
   1. Due to different funding sources, all contractors shall provide a break out of their schedule of values as follows:

a. Scope 1 - All work associated with the HVAC system and affected work. In addition to the HVAC system, this shall include the supporting steel and roof modifications, penetrations for ductwork, removal and replacement of the auditorium ceiling including lights and other devices but not theatrical lighting and electrical work associated with the HVAC system. Include appropriatee allocations of all general conditions.
b. Scope 2 - All other work.

2. Correlate line items in the Schedule of Value with other required administrative forms and schedules, including the following:
   a. Application for Payment forms with Continuation Sheets.
   b. Submittals Schedule.
   c. Material/Equipment status report.

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 Section under Division 1, including, but not limited to, those indicated within Prime Contract scope under Division 1 Section 01125 "Summary of Work."
   1. Include and complete all header information on the Schedule of Values forms.
   2. No longer than 7 days after Contract award, each Contractor will submit toArchitect and Construction Manager a detailed schedule of values, which will be used as the basis for monthly requisitions. This schedule must be submitted on the appropriate AIA G702 and AIA G703. To speed-up the invoicing process, the schedule of values must be broken down by SED number, building, and separated into new construction and renovation work. In addition, each line item should be broken into labor and material. Contract total must be broken into a level of detail that may be easily reviewed each month (i.e. by work category, by area, etc.). In addition, please incorporate the following items as separate breakout items:
      a. Hold 5% retainage
      b. Hold 1% for closeout
      c. Hold 1% for safety and cleanup
      d. Hold 1% for job meeting attendance
      e. Hold 1% for Project Scheduling
      f. Hold 1% for Project Coordination
      g. Performance and Payment Bonds
      h. Project Insurance
      i. Mobilization & Demobilization
      j. Field supervision and layout
      k. Temporary facilities
      l. Hold 12% Submittals
      m. Record Drawings and Construction Progress Documentation
      n. Hold 1.5% Punch list
      o. Testing or Balancing (if applicable)

p. System Commissioning (if applicable)
q. Allowances: Provide a separate line item for each Allowance (if applicable).
r. Alternates: Provide a separate line item for each Alternate (if applicable).
s. Unit Prices: Itemize each unit price for the Prime Contract (if applicable).
t. Change Orders: On separate AIA G703, add each Change Order for the Prime Contract Contract, as cumulatively issued/approved through duration of project.

3. Itemize separate line item cost for work required by each basic activity or operation by specification Section numbers.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
   a. Show total costs including overhead and profit.
   b. Percentage of total Contract Sum adjusted to equal 100 percent.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include progress payments for 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.
6. After review by the Architect and Construction Manager, revise and resubmit Schedule of Values if required.

END OF SECTION 006273

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AIA® Document G732® – 2019

Application and Certificate for Payment, Construction Manager as Adviser Edition

TO OWNER:	Newburgh Enlarged City School District 124 Grand Street Newburgh, NY 12550	**PROJECT:**	Newburgh ECSD	**APPLICATION NO:** 001	**DISTRIBUTION TO:** OWNER : [ ] CONSTRUCTION MANAGER : [ ] ARCHITECT : [ ] CONTRACTOR : [ ] FIELD : [ ] OTHER : [ ]
				PERIOD TO:	
FROM CONTRACTOR:		**VIA CONSTRUCTION MANAGER:**	Schoolhouse Construction Services, LLC	**CONTRACT DATE:**	
CONTRACT FOR:		**VIA ARCHITECT:**	CSArch	**PROJECT NOS:**	108-2504

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM		0.00
2. NET CHANGES IN THE WORK		0.00
3. CONTRACT SUM TO DATE *(Line 1 ± 2)*		0.00
4. TOTAL COMPLETED AND STORED TO DATE *(Column G on G703)*		0.00
5. RETAINAGE:		
a. 0.00% of Completed Work *(Column D + E on G703:* 0.00*)*	0.00	
b. 0.00% of Stored Material *(Column F on G703:* 0.00*)*	0.00	
Total Retainage *(Lines 5a + 5b, or Total in Column I on G703)*		0.00
6. TOTAL EARNED LESS RETAINAGE *(Line 4 minus Line 5 Total)*		0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT *(Line 6 from prior Certificate)*		0.00
8. CURRENT PAYMENT DUE		0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE *(Line 3 minus Line 6)*		0.00

SUMMARY OF CHANGES IN THE WORK	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	0.00	0.00
Total approved this month including Constructions Change Directives	0.00	0.00
TOTALS	0.00	0.00
NET CHANGES IN THE WORK		0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of:

County of:

Subscribed and sworn to before me this day of

Notary Public:

My Commission expires:

CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on evaluations of the Work and the data comprising this application, the Construction Manager and Architect certify to the Owner that to the best of their knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED 0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

CONSTRUCTION MANAGER:

By: _____ Date: _____

ARCHITECT: *(NOTE: if multiple Contractor are responsible for performing portions of the Project, the Architect's Certification is not required.)*

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

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AIA® Document G703® – 1992

Continuation Sheet

AIA Document G702®, Application and Certification for Payment, or G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
Use Column I on Contracts where variable retainage for line items may apply.

Newburgh ECSD

APPLICATION NO:	001
APPLICATION DATE:	
PERIOD TO:	
ARCHITECT'S PROJECT NO:	108-2504

A	B	C	D	E	F	G		H	I
			WORK COMPLETED						
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D + E + F)	% (G÷C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
	GRAND TOTAL	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00%**	**0.00**	**0.00**

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AIA® Document G706® – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)* Newburgh Enlarged City School District - NFA North Auditorium Renovation SED #44-16-00-01-0-002-016	**ARCHITECT'S PROJECT NUMBER:** 108-2504 **CONTRACT FOR:** **CONTRACT DATED:**	OWNER:[ ] ARCHITECT:[ ] CONTRACTOR:[ ] SURETY:[ ] OTHER:[ ]

TO OWNER: *(Name and address)*
Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment [ ] Yes [ ] No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.

2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR: *(Name and address)*

CONTRACTOR'S Authorized Representative *(Signature)*

BY: TBD

(Printed name and title)

Date

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)* Newburgh Enlarged City School District - NFA North Auditorium Renovation SED #44-16-00-01-0-002-016	**ARCHITECT'S PROJECT NUMBER :** 108-2504 **CONTRACT FOR:**	OWNER: [ ] ARCHITECT: [ ] CONTRACTOR: [ ] SURETY: [ ]
TO OWNER: *(Name and address)* Newburgh Enlarged City School District 124 Grand Street Newburgh, NY 12550	**CONTRACT DATED:**	OTHER: [ ]

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

CONTRACTOR'S Authorized Representative *(Signature)*

BY: TBD

(Printed name and title)

Date

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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Consent of Surety to Final Payment

PROJECT: *(Name and address)*
Newburgh Enlarged City School District -
NFA North Auditorium Renovation
SED #44-16-00-01-0-002-016

ARCHITECT'S PROJECT NUMBER:
108-2504
CONTRACT FOR:

CONTRACT DATED:

OWNER: [ ]
ARCHITECT: [ ]
CONTRACTOR: [ ]
SURETY: [ ]
OTHER: [ ]

TO OWNER: *(Name and address)*
Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

SURETY *(Signature)*

BY: TBD

(Printed name and title)

Attest:
(Seal):

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AIA® Document A232® – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

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

Newburgh Enlarged City School District
NFA North Auditorium Renovation
SED #44-16-00-01-0-001-030
CSArch Project No. 108-2504

THE CONSTRUCTION MANAGER:
(Name, legal status, and address)

Schoolhouse Construction Services, LLC
5 Main Street, Suite 7
Delhi, NY 13753

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

Newburgh Enlarged City School District
124 Grand Street
Newburgh, NY 12550

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

Collins+Scoville Architecture | Engineering | Construction Management D.P.C dba CSArch
19 Front Street
Newburgh, NY 12550

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7 CHANGES IN THE WORK

8 TIME

9 PAYMENTS AND COMPLETION

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.

This document is intended to be used in conjunction with AIA Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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10 PROTECTION OF PERSONS AND PROPERTY

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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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their 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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 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.

§ 1.1.8 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.

§ 1.1.9 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.

§ 1.1.10 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.

§ 1.1.11 Project Labor Agreement. The "Project Labor Agreement" refers to a pre-hire collective bargaining agreement between a Contractor and a building and construction trade labor organization establishing the labor organization as the collective bargaining representative for all person who will perform work on a public works project, and which provides that only contractors and subcontractors who provide a signed Letter of Assent agreeing to be bound by the Project

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Labor Agreement.

§ 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. If, in the interpretation of the Contract Documents, conflicting requirements within the Drawings and Specifications occur, or if it appears that the Drawing and Specifications are not in agreement, the requirement to be followed shall be decided by the Architect. Addenda supersede the provisions they amended. 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 All dimensions shown on the Drawings are for bidding purposes only. It is the responsibility of the Contractor to verify all dimensions in the field to ensure proper and accurate fit of materials and items to be installed.

.2 The lists of equipment, tabulations of data and schedules appearing in the Specifications or Drawings are included for assistance and guidance in arriving at a more complete understanding of the intended installation. They are not intended, or to be construed, as relieving the responsibility of the Contractor or any of the Prime Contractors in making their own takeoffs.

.3 It is intended that all mechanical and electrical systems will be complete and in proper operation and that all construction components will be complete and in compliance with accepted construction practice upon completion of the Work. Even if items are missing from the Plans and/or Specifications, but are normally required for proper operation of mechanical and electrical systems, or to complete otherwise incomplete construction or to meet governing code requirements, they shall be included by the Contractor, unless he sought and received contradictory interpretation or clarification from the Architect in writing.

§ 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 Sections of the General Requirements, Division 01, govern the execution of all remaining Divisions of the Specifications.

.2 It shall be the Contractor's responsibility, when subcontracting any portion of the Work, to arrange or group items of work under particular trades to conform with prevailing customs of the trade, regardless o f the particular Divisions and Sections of the specifications in which the work is described.

§ 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.

§1.2.4 Within the Contract Documents for which each Prime Contractor is responsible, any Work included by reference i n any section to another Specification's Section shall be included as Work under the Contract, whether or not it is called for under the Section referred to. Failure to cross-reference such items shall not relieve the Contractor or any Prime Contractor from the obligations to provide such work.

§ 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.

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§ 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, except to the extent of the Owner's rights as set forth in the Owner-Architect Agreement, 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.

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

§ 1.7.2 Contractor's use of Instruments of Service in Electronic Form

§ 1.7.2.1 The Architect may, with the concurrence of the Owner and upon compensation by the Contractor to the Architect, furnish to the Contractor versions of Instruments of Service in digital form. The Instruments of Service executed or identified in accordance with Subparagraph 1.1.7 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic means.

§ 1.7.2.2 The Contractor shall not transfer or reuse Instruments of Service in electronic or machine-readable form without the prior written consent of the Architect.

§ 1.8 Building Information Models Use and Reliance

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

§ 1.9 Communication

§ 1.9.1 Construction Manager, Contractor and Architect shall meet periodically at mutually agreed upon intervals for the purpose of establishing procedures to facilitate cooperation, communication and timely responses among the participants. By participating in these meetings, the parties do not intend to create additional contractual obligations or modify the legal relationships which may already exist.

§ 1.10 Project Labor Agreement

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§ 1.10.1 THIS PROJECT IS SUBJECT TO A PROJECT LABOR AGREEMENT COVERING CONSTRUCTION OF CONSTRUCTION PROJECTS, NEWBURGH ENLARGED CITY SCHOOL DISTRICT EFFECTIVE FEBRUARY 1, 2021, BETWEEN NEWBURGH ENLARGED CITY SCHOOL DISTRICT, THE HUDSON VALLEY BUILDING AND CONSTRUCTION TRADES COUNCIL ON BEHALF OF ITSELF AND ITS AFFILIATED LOCAL UNIONS, AND SIGNATORY LOCAL UNIONS ON BEHALF OF THEMSELVES AND THEIR MEMBERS ("PLA"), WHICH IS ATTACHED TO THESE GENERAL CONDITIONS AS APPENDIX "A ", THE PROVISIONS OF WHICH MAY BE SPECIFICALLY INCLUDED HEREIN AS WELL AS INCORPORATED BY REFERENCE WITHIN THESE GENERAL CONDITIONS AS FULLY AS IF SET FORTH AT LENGTH HEREIN. TO THE EXTENT OF ANY CONFLICT BETWEEN THE GENERAL/SPECIAL CONDITIONS AND THE PLA, THE PROVISIONS IN THE PLA WILL CONTROL. NOTWITHSTANDING SPECIFIC REFERENCES TO CERTAIN PROVISIONS THE PLA IN THESE GENERAL CONDITIONS, THE CONTRACTORS AND SUBCONTRACTORS OF ALL TIERS MUST COMPLY WITH ALL PROVISIONS OF THE PLA.

ALL SUCCESSFUL BIDDERS AND THEIR SUBCONTRACTORS OF WHATEVER TIER MUST BECOME BOUND BY, AND SIGNATORIES TO, THE PLA BY SIGNING A LETTER OF ASSENT. THE LETTER OF ASSENT REQUIRED OF CONTRACTORS AND SUBCONTRACTORS IS SET FORTH AS SCHEDULE B TO THE PLA.

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 Construction Manager and the Architect do 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.

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 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. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.

§ 2.2.2 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.

§ 2.2.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.2.4 The Owner shall furnish, upon written request only and as necessary to complete this work, 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 reasonably rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

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

§ 2.2.6 The Contractor and/or Prime Contractors will be furnished, free of charge, two sets of the Contract Drawings and Project Manuals. Additional sets will be furnished at cost of reproduction and postage and handling when applicable. Subcontractors and other entities desiring copies of Drawings and Project Manuals shall obtain them via one of the Prime Contracts.

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§ 2.2.7 The Owner shall forward all communications to the Contractor through the Construction Manager. Other communication shall be made as set forth in Section 4.2.6.

§ 2.3 Owner's Right to Stop the Work

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

§ 2.4 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to review by the Construction Manager and prior approval of the Architect, and the Construction Manager or 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 Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure, and the Owner's expenses, including but not limited to its reasonable attorney's fees. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.5 Acceleration Clause

§ 2.5.1 The Owner reserves the right to accelerate the work of the Contract. In the event that the Owner directs acceleration, such directive will be only in written form. The Contractor shall keep cost and other project records related to the written acceleration directive separately from normal project costs and records and shall provide a written record of acceleration cost to the Owner on a daily basis.

§ 2.5.2 In order to recover additional costs due to a written acceleration directive, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

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 Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor. Staging and storage areas for materials shall be as agreed on between the Contractor and the Owner's Project Representative.

§ 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 carefully examined the Contract Documents and the site, and represents that the Contractor is thoroughly familiar with the nature and location of the Work, the site, the specific conditions under which the Work is to be performed, and all matters which may in

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any way affect the Work or its performance. The Contractor further represents that as a result of such examinations and investigations, the Contractor thoroughly understands the Contract Documents and their intent and purpose, and is familiar with all applicable codes, ordinances, laws, regulations, and rules as they apply to the Work, and that the Contractor will abide by the same. Claims for additional time or additional compensation as a result of the Contractor's failure to follow the foregoing procedure and to familiarize itself with all local conditions and the Contract Documents are waived and will not be permitted.

§ 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 2.2.3, 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 Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted in writing to the Construction Manager in such form as the Construction Manager and 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 which involves an error, inconsistency or omission in the Contract Documents without first providing notice to the Owner, Architect and Construction Manager of such condition and receiving authorization to proceed, the Contractor shall assume responsibility for such performance and shall bear an appropriate amount of 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 Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and 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 in writing as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

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

§ 3.2.5.1 Physical investigations and testing of existing conditions were not undertaken by the Architect, unless so indicated in the Contract Documents.

§ 3.2.5.2 The Contractor may submit written requests for information to the Architect to help facilitate the Contractor's performance of the contract. Prior to submitting each request for information, the Contractor shall first carefully study and compare the Contract Documents, field conditions, other Owner provided information, Contractor prepared Coordination Drawings, and prior Project correspondence and documentation to determine that the information to be requested is not reasonably obtainable from such sources.

§ 3.2.5.3 Each request for information shall be submitted to the Architect, in writing, with a copy to the Construction Manager. Each request for information shall identify the specific sources which were reviewed by the Contractor in an effort to determine the information requested, and a statement to the effect that the information being requested could not be determined from such sources.

§ 3.2.5.4 The Contractor shall submit each request for information sufficiently in advance of the date by which such

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information is requested in order to allow the Architect sufficient time, in the Architect's professional judgment, to permit adequate review and response and to permit Contractor compliance with the latest construction schedule.

§ 3.2.5.5 The Construction Manager shall maintain a log at the Project site that sequentially numbers and lists each request for information. This log shall contain the Drawings reference or Specification section to which the request pertains, the date of the request, to whom the request was made, by whom the request was made, the nature of the request, and the Architect's resolution thereof. This log shall be reviewed at each Project meeting and the status of the requests for information shall be made part of the minutes of such meetings.

§ 3.2.5.6 The Contractor shall reimburse the Owner amounts charged to the Owner by the Architect or Construction Manager for responding to Contractor requests for information where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner provided information, Contractor prepared Coordination Drawings, or prior Project correspondence or documentation.

§ 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, the Construction Manager, and the 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. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures. The Contractor shall be responsible for and coordinate any and all inspections required by any governmental body having jurisdiction over the project. Failure to obtain any permits, licenses or other approvals because of the failure of the Contractor to conform to this requirement shall not extend the Contract time, and the Contractor shall not be entitled to any increase in the contract sum therefor. In addition, any additional costs and/or expenses of any nature incurred by the Owner as a result of the Contractor's failure to conform to this requirement shall constitute a charge against the Contractor's contract. Each contractor shall be responsible for complying with union regulations existing under current labor agreements in performing construction work on the project.

§ 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 the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 During period of active Construction, the Contractor shall consult daily and cooperate with the Construction Manager. On a daily basis, the Contractor shall keep the Construction Manager and Architect notified of when Work will be starting, restarting, suspended and temporarily or permanently concluding.

§ 3.3.5 Within 15 days of the date of the Notice to Proceed, each Contractor shall submit to the Construction Manager and Architect a list of all Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities.

§ 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 After the Contract has been executed, the Architect in conjunction with the Construction Manager, will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 01 of the Specifications). Substitutions shall satisfy the following conditions:

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.1 The materials, products and equipment described in the Contract Documents establish the standard of required quality, function, dimension and appearance expected.

.2 Requests for substitutions must be submitted at the time that bids are received.

.3 Substitution requests will be considered only if standards are met or exceeded as described above and are subsequently approved in writing by the Architect and Owner.

.4 Each request shall include the name of the material, product, or equipment item for which substitution is requested and a complete description of the proposed substitute, including drawings, cuts, performance and test data and any other information necessary for a complete evaluation.

.5 Each request shall include a statement setting forth any changes in other materials, product or equipment o r other work that incorporation of the substitution would require.

.6 The burden of proof of the merit of the proposed substitution is upon the proposer.

.7 The Architect's decision of approval or disapproval of a proposed substitution shall be final and will be set forth in writing.

.8 Additional substitution requests, during construction, will be considered only if substitution is caused by s pecific material, product or equipment's subsequent removal from, or unavailability in the marketplace an d only at "no change" or "credit" to Contract amount.

.9 Contractor's Responsibilities: If any of the following conditions occur due to substitutions, the contractor making the substitution shall bear the cost of such conditions, including payment for services rendered by the Architect:

- .a Redesign required for any of the Work.
- .b Material or quantity changes for any of the Work.
- .c Delays in any of the Work.
- .d Requests for information generated due to substitutions.

§ 3.4.3 The Contractor, as indicated in the Instructions to Bidders, shall furnish in writing to the Owner through the Construction Manager a list showing the name of the manufacturer proposed to be used for equivalents of products identified in the Specifications, and where applicable, the name of the installing subcontractor. By identifying and submitting a proposed manufacturer and/or installer the Contractor warrants that products furnished and/or installed by them conform to such requirements of the Contract Documents The Construction Manager, in conjunction with the Architect will reply with reasonable promptness to the Contractor in writing stating whether or not the Owner, Construction Manager or Architect, after due investigation, have reasonable objection to any such proposed manufacturer or installer.

.1 If adequate data on a proposed equivalent manufacturer or installer is not available, the Architect may state that the action will be deferred until the Contractor provides additional data.

.2 Failure of the Owner, Construction Manager or Architect to object to a manufacturer or installer shall not constitute a waiver of the requirements of the Contract Documents

.3 Products furnished by the listed manufacturer or installed by the listed installer shall conform to such requirements of the Contract Documents.

§ 3.4.3.1 The Contractor shall insure that its Work continues uninterrupted pursuant to the Project schedule during the pendency of any labor dispute.

§ 3.4.4 The Contractor shall comply with the most current Contract Requirements and Prevailing Wage Rate Schedules as published by the Bureau of Public Works, State of New York, Department of Labor established for this Project.

§ 3.4.5 No materials or supplies for the Work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has full title to all materials and supplies used by him in the Work, or resold to the Owner, pursuant to this Contract Document, free from all liens, claims or encumbrances.

§ 3.4.6 All materials used permanently in the Work shall be new unless otherwise specified. The apparent silence of the Specifications as to any detail described concerning any Work to be done and materials to be furnished shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the first quality are to be used, and all interpretations of the Specifications shall be made on this basis. All material incorporated in the Project Work shall be clean and exhibit no appearance of aging, exposure to weather, prior use, handling or damage of any kind.

§ 3.4.7 Manufacturer's identifications shall be inconspicuous, but where nameplates contain information relative to

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characteristics or maintenance, they shall be clearly visible and located for easy access.

§ 3.4.8 Equipment intended for permanent installation shall not be operated for temporary purposes without the written permission of the Architect.

§ 3.4.9 Materials shall be delivered in manufacturer's original sealed containers, with complete identification of contents and manufacturer, and kept sealed in original containers until used. Labels shall not be removed until materials have been installed and inspected.

§ 3.4.10 Whenever the Contract Documents require delivery by the Contractor of any materials, equipment or other items, the term delivery shall be deemed to include unloading and storing with proper protection where directed.

§ 3.4.11 Materials shall be applied or installed under proper climactic conditions, not when they may be affected by temperature, moisture, humidity or dust.

§ 3.4.12 As defined by Federal and State Laws, no materials incorporated into the Project Work shall contain asbestos. Material shall be "asbestos-free" containing zero percent (0%) asbestos. The Architect reserves the right to request certification from the material manufacturer through the Contractor for certification that materials installed contact zero percent (0%) asbestos.

§ 3.4.13 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.

.1 A sufficient force of competent experienced workman, foreman and superintendents shall be employed at all times to permit the Work to be pursued with diligence until completion.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, 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 Construction Manager or 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

Exempt from Sales Tax: New York State Sales Tax is not applicable to any materials and supplies to be incorporated into Work under the terms of the Contract, the Owner being exempt therefrom. There is no exemption from the sales or use tax on charges to the Contractor or subcontractor for lease of tools, machinery, equipment or other property used in conjunction with the Project. The Contractors and subcontractors shall be solely responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property, and for materials not incorporated in the Project and the amount of such taxes, if any, shall be deemed included in executed Base Bid.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 The Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution of and completion of the contract, which are legally required.

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

§ 3.7.3 If the Contractor performs Work which it knows or should have known was contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate

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responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner, Construction Manager, and the Architect in writing before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect and Construction Manager will investigate such conditions with reasonable promptness and, if the Architect, in consultation with the Construction Manager, 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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either 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, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents.

.1 Contingency Allowances shall cover the direct cost to the Contractor for labor, materials and equipment, including delivery, unloading, storage, handling and installation. They do not include the Contractor's overhead and profit, including the costs of bonds, insurance, administration and supervision, which costs should be carried as part of the Contract Sum.

§ 3.8.2 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 full time during performance of the Work. The superintendent shall be the same individual throughout the duration of the project and 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, through the Construction Manager, of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor, stating whether the Owner, the Construction Manager, or the Architect (1) has reasonable objection to the proposed superintendent or (2) require additional time for review. Failure of the Construction Manager 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, Construction Manager, 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, and the Construction Manager's use in developing the Project schedule, 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

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limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 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 Construction Manager's and Architect's approval. The Architect and Construction Manager'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 Construction Manager and Architect reasonable time in their respective judgments 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 participate with other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved Project schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain, at the Project site for the Owner, two sets of record Drawings and one set of record Specifications, Addenda, Change Orders, Allowance Authorization, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples, and similar required submittals in good order and condition. Each Prime Contractor shall mark these documents on a weekly basis to record all approved changes, and to record the dimensional locations of his installed work if it deviates from that shown on the Contract or Shop Drawings. Particular attention shall be given to site utilities, the location of valves, HVAC equipment, all ductwork and major electrical conduit. These shall be in electronic form or paper copy, available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager 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 and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

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§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, 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 Work performed without approved shop drawings, product data, samples or similar submittals as required by the Specifications is subject to all comments and conditions of approval regardless of Work progress. Completed work must be in accordance with all comments and conditions of approval regardless of Work progress. Completed work must be in accordance with all comments on approved submittals. Any portion of the Work performed prior to review and approval by the Construction Manager and Architect of required Shop Drawings, Product Data, Samples, or other Submittals, is performed at Contractor's risk. No Contract adjustments will be made to correct or modify Work installed without prior written approval of the Construction Manager and Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect in writing 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 Construction Manager and 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, the Architect, and the Construction Manager 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. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 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 Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

§ 3.13.1 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.

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§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 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, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, 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, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor. Upon completion of the work, and prior to final inspection and acceptable of the same by the Owner, the Contractor shall thoroughly clean all Work, remedy any defects, and leave the Project in good condition.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, 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, Construction Manager, 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, Architect, or Construction Manager. 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 through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, Construction Manager, Architect, each of their consultant's, officers, board members, agents, and employees from and against any suits, claims, damages, losses, or expenses, including but not limited to attorneys' fees and litigation costs, arising out of or resulting from performance of the Work, provided that such suit, claim, damage, loss or expense is attributable to any bodily injury, sickness, disease, or death, or injury to or destruction of any tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by the act, omission, fault, breach of contract, breach of warranty or statutory violation of the Contractor, a subcontractor, or any person or entity directly or indirectly employed by them, or any person or entity for whose acts they may be liable or arises out of operation of law as a consequence of any act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of the above may be liable, regardless of whether any of them has been negligent. This provision shall not be construed to require the Contractor to indemnify the Owner, Construction Manager, or Architect for the negligence of the Owner, Construction Manager, or Architect to the extent such negligence, in whole or in part, proximately caused the damages resulting in the suit, claim, damage, loss or expense."

§ 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

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indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 The indemnification provisions contained in this §3.18 shall survive the completion or termination of the Contract.

§ 3.19 Daily Records Clause

§ 3.19.1 The Contract shall prepare and maintain Daily Inspection Records to document the progress of the Work on a daily basis. Such daily records shall include a detailed daily accounting of all labor and all equipment on the site for the Contractor and all subcontractors, at any tier. Such daily records will make a clear distinction between work being performed under Change Order, base scope work and/or disputed work.

§ 3.19.2 In the event that any labor or equipment is idled, solely as a result of Owner actions or inactions, the daily records shall record which laborers and equipment were idled and for how long. In the event that specific work activities were stopped, solely as a result of Owner actions or inactions, and labor and equipment was reassigned to perform work on other activities, the daily records will make a clear record of which activities were stopped and where labor and equipment was redirected to.

§ 3.19.3 Such daily records shall be copied and provided to the Owner at the end of every week.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 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 and Architect.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's Representative (1) during construction, (2) until 90 days after issuance of the State Education Department's Certificate of Substantial Completion or issuance of the Final Project Certificate for Payment, whichever is later, and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if, in its professional judgment, 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. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.2.1 The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent Project schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project schedule.

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§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications. The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager 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 Construction Manager 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 other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Owner, Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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

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responsibility of the Contractor as required by the Contract Documents. The Construction Manager and 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 Construction Manager and Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.13 The Construction Manager will prepare Change Orders and Construction Change Directives which shall not become effective until approved by the Owner in writing or the Owner's representative, when authorized by the Owner.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 The Owner shall notify the Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

§ 4.2.19 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. The Architect will not be liable for the results of any such interpretations or decisions rendered in good faith and in accordance with its professional judgment.

§ 4.2.20 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness but, in any event, allowing the Architect sufficient time in its professional judgment to properly review the request. 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 and/or supply materials for the Project. 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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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

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§ 5.2.1 As stated in the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall notify in writing for review by the Construction Manager 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 Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager 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, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager 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, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including but not limited to the responsibility for safety of the Subcontractor's Work and obligations to defend and indemnify, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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.

§ 5.3.1 Immediately upon execution, Contractors shall forward to the Construction Manager one (1) executed copy of each and every Subcontract with each Subcontractor. The duty to provide said documents shall continue throughout the time of the Contract with the Owner.

§ 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

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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 with Own Forces and to Award Other Contracts

§ 6.1.1 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 the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 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's own forces, Separate Contractors, Construction Manager and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect in writing and in detail of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and 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 or other Contractors' 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 Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, 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 delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces, Separate Contractors, or other Contractors.

§ 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, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors 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, other 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 Construction Manager, with notice to 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

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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, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager 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

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, 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 Construction Manager and signed by the Owner, Construction Manager 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 Construction Manager 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 Contract Documents, or if no such amount is set forth in the Contract Documents, 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 Construction Manager 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 directly related to the work, and other employee costs approved by the Construction Manager and 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 and equipment normally encumbered to perform the work, whether rented from the Contractor or others;
.4 Costs of premiums for all bonds and insurance, and permit fees directly related to the Work; and
.5 Costs of supervision by the Site Superintendent directly attributable to the change, if the change requires an extension of time beyond that time indicated in the Contract.

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

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Contract Time.

§ 7.3.6 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.

§ 7.3.7 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 Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit not to exceed ten (10%) percent shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.8 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 Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The 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.

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Construction Manager and 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 Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.5 Overhead and Profit

§ 7.5.1 The combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

§ 7.5.1.a The Contractor: For Work performed by the Contractor's own forces, markup shall not exceed a total of ten percent (10%), of the value of labor and materials (L+M).

.1 Example: Total Contractor Amount = (L+M) + 10% O&P

§ 7.5.1.b The Contractor's Subcontractor: For Work performed by the Subcontractor's own forces, markup shall not exceed a total of ten percent (10%), of the value of labor and material (L+M). For the Contractor, for work performed by that Contractor's Subcontractor, markup shall not exceed five percent (5%) for the value of the Subcontractor amount.

.1 Example: Total Subcontractor Amount = (L+M) + 10% O&P

.2 Example: Total Contractor Amount = Total Subcontractor Amount = 5% O&P

§ 7.5.1.c Sub-Subcontractor: For Work performed by the Subcontractor's own forces, markup shall not exceed a total of five percent (5%) of the value of labor and materials (L+M). For the Subcontractor, for work performed by the Subcontractor's Sub-subcontract, markup shall not exceed 5% of the Subcontractor Amount. For the Prime Contractor, for Work performed by the Subcontractor's Sub-subcontractor, markup shall not exceed 5% of the Subcontractor Amount.

.1 Example: Total Sub-subcontractor Amount = (L+M) + 5% O&P

.2 Example: Total Subcontractor Amount = Sub-subcontractor Amount + 5% O&P

.3 Example: Total Contractor Amount = Subcontractor Amount + 5% O&P

§ 7.5.2 Performance and Payment Bond Adjustments: Do not itemize increases for bond premiums for each individual Change Order per General Conditions of the Contract, Paragraph 11.4.

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. The

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Work of this Project shall be substantially complete on or before the dates indicated in Milestone Construction Schedule for those portions of the Work so stipulated. Actual damages may be assessed by the Owner if specified completion dates are not adhered to by the Contractor.

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

§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. If the Owner, through the Construction Manager, determines that the Contractor is not maintaining the pace of the Work in accordance with the Schedule or otherwise consistent with the Contract Time and such delays are not justified as set forth in § 8.3, then the Owner may require the Contractor to undertake a time recovery plan (including more personnel, overtime and/or double shifts) at the Contractor's sole expense, to reasonably assure completion of the Work within the Contract Time.

§ 8.3.3 The Owner shall not be liable to the Contractor and/or any subcontractor for claims or damages of any nature caused by or arising out of delays. 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. Except to the extent, if any, expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any claim for damages for delay, including, but not limited to, those resulting from increased labor or material 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 requests 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 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

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As indicated in the Contract Documents, the Contractor shall submit a schedule of values to the Construction Manager, before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1

The Contractor shall submit applications for payment in accordance with Specification Section "Payment Procedures."

§ 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 Construction Manager and Architect, but not yet included in Change Orders.

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

§ 9.3.1.3 Until Substantial Completion, the Owner shall pay ninety-five percent (95%) of the amount due to the Contractor on account of progress payments.

§ 9.3.1.4 When the work or major portions thereof as contemplated by the terms of the Contract are substantially complete, the Contractor shall submit to the Construction Manager and Architect a requisition for payment of the remaining amount of the Contract balance. Upon receipt of such requisition, the Owner shall approve and promptly pay the remaining amount of the Contract less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens or judgments against the Contractor, which have not been suitably discharged, as determined by the Architect in conjunction with the Construction Manager. Any claims, liens or 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.

§ 9.3.2 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. The Owner shall have the right, at any time on reasonable notice to inspect materials and equipment which have been stored off the site in accordance with this paragraph.

§ 9.3.2.1 Proof of insurance for items stored off site and copies of invoices are to be provided with Applications for Payment requesting payment for stored materials.

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

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, along with all Supporting Documents (as required by the Agreement and Owner) review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will

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either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager'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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's judgment, 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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 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 Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or

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a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or 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 or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the 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 or other Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.
.8 failure of Contractor to provide executed supplementary bid forms, performance and payment bonds or a current Certificate of Insurance.

§ 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 or Construction Manager withholds certification for payment under Section 9.5.1, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project 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 Construction Manager and 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 Construction Manager 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 Owner, Construction Manager and Architect 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, Construction Manager 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,

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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.

§ 9.7 Withholding Payment from Contractor

Notwithstanding anything to the contrary contained in the Contract Documents, if the Owner withholds any payment from the Contractor in good faith with reasonable cause and in accordance with any provision of this General Conditions, then the Contractor shall nevertheless continue to prosecute the Work expeditiously, provided that the Owner immediately notifies the Contractor that it intends to withhold such payment and states the reasons therefor, and the Owner affords the Contractor reasonable opportunity to remedy or cure the condition causing the Owner to withhold such payments.

§ 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 the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive written list of items to be completed or corrected prior to Architect's first (1st) inspection. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's punchlist, the Architect, assisted by the Construction Manager, 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 punchlist, 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, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.3.1 Except with the consent of the Owner, the Architect in conjunction with the Construction Manager will perform no more than three (3) inspections to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The three (3) inspections will include not only determining if the area is substantially complete, but will also include any follow-up inspection to confirm *all* open punchlist items have been completed for that specific item. The Owner may deduct from the Contract Sum amounts paid to the Architect for any additional inspections necessitated by the Contractor's misrepresentation of conditions.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, 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

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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 one-hundred percent (100%) of the Contract Sum, less two times the value of any remaining items to be completed and any amount necessary to satisfy claims, liens or judgments against the Contractor which have not been suitably discharged, as determined by the Architect assisted by the Construction Manager.

§ 9.8.6 In the event the Contractor does not achieve final completion within ninety (90) 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 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.

§ 9.9 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 and Construction Manager shall jointly 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 after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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 completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.1.1 Except with the consent of the Owner, the Architect in conjunction with the Construction Manager will perform no more than two (2) inspections to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner may deduct from the Contract Sum amounts paid to the Architect for any additional inspections necessitated by the Contractor's misrepresentation of final completion.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (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,

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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 and (7) all Project closeout documents per the General Conditions of the Contract. 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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 through the Construction Manager 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.

§ 9.10.3.1 Exception is made for the Contractor expressly retained for the removal of lead, asbestos or polychlorinated biphenyls (PCB) from the site. In this condition, all Contract Specifications and Drawings shall govern the handling of this material.

§ 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. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 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;
- **.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; and
- **.4** construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 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

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for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel and shall give the Owner reasonable notice.

§ 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, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4. 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, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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, Construction Manager and Architect.

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials

§ 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, Construction Manager 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, Construction Manager 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, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager 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.

§ 10.3.2.1 Exception is made for the Contractor expressly retained for the removal of lead, asbestos or polychlorinated (PCB) from the site. In this condition, all Contract Specifications and Drawings shall govern the handling of this material.

§ 10.3.3 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.

§ 10.3.4 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

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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.

§ 10.4 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, and their subcontractors, shall obtain, pay for and keep in full force and effect during the entire term of this Contract, and during the performance, final completion and acceptance of any Work, and after the term of this Contract (as may be specified herein) insurance, in a company or companies lawfully licensed and admitted to do business in the jurisdiction in which the Project is located, as designated by this Article 11 and any other insurance required by applicable law, regulations, or orders of state, municipality or other entity having jurisdiction over the Work or the Project. Contractor shall not take any action, or omit to take any action that would suspend or invalidate any of the required coverages during the time period such coverages are required to be in effect.

§ 11.1.1.1 Workers Compensation and NYS Disability Insurance and any other federal and/or state coverages as appropriate, including but not limited to: Occupational Disease Benefits, Voluntary Compensation, and Disability Benefits, for not less than the statutory requirements, and if applicable an "Other States Endorsement"; and Statutory Workers' Compensation (c-105.2 or U-26.3); and NYS Disability (DB120.1) Insurance for all employees. Proof of Coverage must be on the approved specific form, as required by the New York State Workers' Compensation Board. ACORD certificates are not acceptable. A Person seeking an exemption must file a CE-200 Form with the state. The form can be completed and submitted directly to the WC Board online.

§ 11.1.1.2 Commercial General Liability Insurance is to be provided under the Insurance Service Office's (ISO) most current form, on a project specific basis, with limits not less than the following required limits:

Each Occurrence:	$1,000,000
General Aggregate:	$2,000,000
Products and Completed Operations:	$2,000,000
Personal & Advertising Injury:	$1,000,000
Fire Damage:	$ 100,000
Medical Expense:	$ 10,000

The general aggregate shall apply on a per-project basis.

Such insurance shall include the following coverages:

.1 Claims for damages because of bodily injury, occupational sickness or disease, or death;
.2 Claims for damages insured by usual personal injury or liability coverage;
.3 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property including loss of use resulting therefrom;
.4 Premises operations;
.5 Product liability and completed operations, and the policy shall specifically include coverage for two (2) years of extended completed operations coverage, which will commence immediately following the expiration date of the Commercial General Liability policy;
.6 Contractual liability covering liabilities assumed under the Contract (including the tort liability of another assumed in a contract), and including coverage for claims arising out of construction or demolition operations when working within 50 feet of railroad track;
.7 Personal injury and advertising injury liability;
.8 Extended bodily injury coverage with respect to bodily injury resulting from the use of reasonable force to protect persons or property;
.9 Medical payments coverage;
.10 Broad form property damage liability coverage, including coverage for completed operations;
.11 Explosion, collapse, and underground property damage (XCU);
.12 Construction means and methods;
.13 Independent contractors;
.14 Owner and other's identified herein as additional insured to be specifically evidenced as additional insured via ISO Endorsements CG 2037 and GC2038;
.15 No coverage restrictions and/or exclusions involving NYS Labor Law Statutes or gravity related

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injuries;

.16 No policies containing escape clauses or exclusions contrary to the Owner's interests will be accepted;

.17 The certificate of insurance must describe the specific services provided by the Contractor (e.g. roofing, carpentry, plumbing) that are covered by the liability policies;

.18 At the District's request, the contractor shall provide a copy of the declaration page of the liability and umbrella policies with a list of endorsements and forms. If requested, the Contractor will provide a copy of the policy endorsements and forms.

§ 11.1.1.3 Owner's Contractors Protective (OCP) Insurance for projects less than or equal to $1,000,000 and/or on 1 story or 10 feet only; $1,000,000 per occurrence, $2,000,000 aggregate with the Owner as the name insured..

For Projects greater than $1,000,000 and/or work over 1 story or 10 feet; $2,000,000 per occurrence, $4,000,000 aggregate with the Owner as the named insured.

The OCP Policy must be with a NYS licensed and admitted carrier.

The Owner will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.

§ 11.1.1.4 Automobile Liability Insurance, including uninsured/underinsured and medical payment protection, and including all owned, non-owned and hired autos, with a limit of liability of not less than $1,000,000 each occurrence (combined single limit for personal injury, including bodily injury or death, and property damage).

§ 11.1.1.5 Umbrella/Excess Insurance providing excess coverage in excess of the limits for the insurance coverages required by Sections 11.1.1.1, 11.1.1.2, and 11.1.1.3 above, with such excess/umbrella coverage being at least as broad as each and every one of the underlying policies), with the provision that coverage shall extend for a period of at least two (2) years from the date of final completion and acceptance by Owner of all Work.

$5,000,000 each Occurrence and Aggregate for general construction and no work at elevation (1 story or 10 feet) and project values less than or equal to $1,000,000.

$10,000,000 each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) and project values greater than $1,000,000.

Umbrella/Excess coverage shall be on a follow-form basis or provide broader coverage over the General Liability and Auto Liability coverages.

§ 11.1.2 All insurance shall be written on an occurrence basis. Completed copies of the endorsements must be attached to the Certificate of Insurance to include the General Liability, Auto and Umbrella/Excess Coverages.

§ 11.1.3 Contractor's and subcontractors insurance requirements shall be provided by an insurance carrier licensed and admitted to do business in the State of New York and have an A.M. Best Rating of A(-)8 or better as determine in the most recent A.M. Best Publication.

§ 11.1.4 Insurance coverage to be provided by the Contractor shall state that the Contractor's coverage shall be "primary" and non-contributing to any insurances (or self-insurance), including any deductible, maintained by, or provided to Owner or the other Additional Insureds; and shall contain a Waiver of Subrogation in favor of Owner and the other Additional Insureds, so that in no event shall the insurance carriers have any right of recovery against Owner, the other Additional Insureds, or the agents or employees or either of them; and shall contain a separation of insured provision (severability of interest clause). If the Owner or another Additional Insured has other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis.

§ 11.1.5 In the event that any of the insurance coverage to be provided by the Contractor contains a deductible or self-insured retention, the Contractor shall indemnify and hold the Owner, and any Additional Insured harmless from the payment of such deductible, which deductible shall in all circumstances remain the sole obligation and expense of the Contractor.

§ 11.1.6 The Contractor shall require all Subcontractors to carry the same insurance coverage's and limits of liability as set forth herein and submit same to the Owner through the Construction Manager and obtain approval prior to start of any

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Work. This includes an OCP policy. To facilitate the review process, the Contractor shall submit the Subcontractors insurance a minimum of 4 weeks before they are scheduled to start work on site. In the event that the Contractor fails to obtain the required certificates of insurance from Subcontractor and provide them to Construction Manager and a claim is made or suffered, the Contractor shall, to the fullest extent permitted by law, indemnify, defend, and hold harmless the Owner and the Additional Insureds from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract Documents and shall survive the term or earlier termination of the Contract.

§ 11.1.7 Environmental Impairment Liability (Pollution Insurance) (EIL): All Contractors and Subcontractors involved with the removal and/or abatement of pollutants (including but not limited to asbestos abatement contractors, lead abatement contractors, roofing contractors, tank removal contractors) are required to maintain a minimum of $2,000,000 EIL coverage. Owner and all other parties required by this Contract to be Additional Insured and all others identified by Owner as such, shall be included as Additional Insured on any EIL policy on a primary and non-contributing basis.

§ 11.1.8 The Contractor assumes responsibility for all injury or destruction of the Contractor's and Subcontractors' materials, tools, machinery, equipment, appliances, shoring, scaffolding, and personal property of Contractor's and Subcontractors' employees from whatever cause arises. Any policy of insurance secured covering the Contractor's or Subcontractors' property leased or hired by them and any policy of insurance covering the Contractor or Subcontractors against physical loss or damage to such property shall include an endorsement waiving the right of subrogation against the Owner for any loss or damage to such property.

§ 11.1.9 Additional Insured/Certificate Holder. The Contractor shall cause the commercial liability and other coverage required by the Contract to include the following as Additional Insureds:

- **.i** Newburgh Enlarged City School District;
- **.ii** Members of the Board of the Newburgh Enlarged City School District;
- **.iii** Schoolhouse Construction Services;
- **.iv** Collins+Scoville Architecture | Engineering | Construction Management D.P.C. dba CSArch; and
- **.v** Any directors, partners, members, shareholders, officers, employees, successors, assigns, heirs, affiliates, agents and representatives of each and any of the foregoing.

All subcontractors shall have a contract with the Prime Contractor and will name the District as an Additional Insured on a primary, non-contributory basis and include a waiver of subrogation. Additional insured status shall be provided by standard or other endorsements that extend coverage to the District/BOCES for on-going operations (CG 20 38) and products and completed operations (CG 20 37). The decision to accept an endorsement rest solely with the District/BOCES. A completed copy of the endorsements must be attached to the Certificate of Insurance.

§ 11.1.10 Certificates of insurance acceptable to the Owner shall be provided to the Construction Manager and filed with the Owner prior to commencement of the Work. A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/15) must be included with the certificates of insurance. For any "yes" answers on items G through L on this form, additional details must be provided in writing – policy exclusions may not be accepted.

The certificates and the insurance policies shall contain a provision that coverages afforded under the policies will not be allowed to be materially changed or canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner via Certified/Registered Mail. If any of the foregoing insurance coverages are required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

§ 11.1.11 The Contractor acknowledges that its failure to obtain or keep current the required insurance coverage shall constitute a material breach of contract and subjects the Contractor to liability for damages the Owner (or others, including without limitation the other Additional Insured) sustains as a result of such breach. In addition, the Contractor shall be responsible to the fullest extent permitted by law for the indemnification to the Owner and all Additional Insured of any and all costs associated with such lapse in coverage, including but not limited to reasonable attorneys' fees (and this indemnification obligation shall survive the term or earlier termination of the Contract).

§ 11.1.12 The amount of insurance required by the Contract shall not be construed to be a limitation of the liability of on the part of the Contractor or any of its Subcontractors.

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§ 11.1.13 No act or omission of any insurance agent, broker, or insurance company representative shall relieve Contractor of any of its obligations under this Contract.

§ 11.1.14 Notwithstanding anything in Section 11.3 and its subsections to the contrary, the Contractor shall provide insurance coverage for portions of the Work stored off the site, in transit, and stored on the site but not incorporated into the Work on a full replacement cost basis. The Contractor is responsible for all deductible amounts.

§ 11.1.15 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.

§ 11.1.16 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.

§ 11.1.17 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 directly to the Owner, and separately to the Construction Manager, 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.

§ 11.2.1.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in the Contract Documents or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.2.1.2 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.

§ 11.2.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles, unless the underlying loss is caused in whole or in part by Contractor or any of its Subcontractors or anyone for whom either of them are responsible, then, the Contractor shall pay such costs of deductibles.

§ 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 both the Contractor and the Construction Manager, separately and 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

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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 directly to the Contractor, and separately to the Construction Manager, 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 Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their subcontractors, sub-subcontractors, agents, and employees; and (5) 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 Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, 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.

§ 11.3.1.1 Owner and Contractor intend that any policies provided in response to the insurance provisions shall protect all of the parties insured and provide primary coverage for losses and damages caused by perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment for loss or damage, the insurer will have no right of recovery against any of the parties named as insureds or additional insureds.

§ 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, Architect, and Construction Manager 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 Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

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§ 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 and Payment Bond

§ 11.6.1 The Owner shall have the right to 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.

§ 11.6.2 The Contractor shall furnish bonds covering faithful performance of the contract and payment of obligations arising thereunder. The value of each bond shall be for one-hundred percent (100%) of the Contract Sum and shall be adjusted during the Project construction period to reflect changes in the Contract Sum. Bonds shall be issued by a bonding company licensed in the State of New York, on AIA Document A312, Performance and Payment Bond.

§ 11.6.2.1 Contractor shall deliver bonds in conjunction with executed Agreement and they shall be dated the same date as Agreement.

§ 11.6.2.2 The attorney in fact who executes the required bonds on behalf of the surety, shall affix thereto a certified and current copy of the power of attorney.

§ 11.6.2.3 Status Reports issued by a Bonding Company shall be sent to and completed by the Owner and then returned to the Bonding Company by the Owner.

§ 11.6.2.4 Any additional cost for bonding premium shall not be itemized within individual Change Orders. Adjustments for Contractor's bonding cost shall be adjusted at the end of the Project based on approved executed changes in the Work and the Bonding Company's final adjusted premium at project closeout.

§ 11.6.2.5 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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or 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 Construction Manager or 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 Construction Manager's and Architect's services and expenses

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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 at its sole expense 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. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5 and the Contractor shall be obligated to reimburse the Owner all costs incurred in relation to such correction.

§ 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.

§ 12.2.3.1 Upon request by the Owner and prior to expiration of one year from the date of Substantial Completion, the Construction Manager and the Architect will conduct and the Contractor shall attend a meeting with the Owner to review the facility operations and performance.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner, Separate Contractors, or other 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. The parties expressly agree that any claim, dispute or other controversy of any nature arising out of the Contract or performance of the Work shall be commenced and maintained in the New York State Court located in Orange County.

§ 13.1.2 The Contractor shall at all times observe and comply with all Federal and State 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 defend, indemnify and save harmless the Owner, Construction Manager and Architect and all their officers, agents or servants against any claim or liability arising from, or based on, a violation of any such law, ordinances, regulation or order, whether by himself or by his employee or agents.

§ 13.1.3 The Contractor specifically agrees as required by Labor Law, sections 220 and 220-d, as amended that:

.1 No laborer, workman or mechanic in the employ of the Contractor, subcontractor or other person doing

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contracting 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 one calendar day or more than five days in one week, except in the emergencies set forth in the Labor Law

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

.3 The minimum hourly rate of wages to be paid shall not be less than that stated in the Specifications, and any re-determination 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 re-determination 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 of willfully paying less than:

.a the stipulated wage scale as provided in Labor Law, section 220, sub-division 3, as amended; or

.b the stipulated minimum hourly wage scale as provided in Labor Law, 220-d, as amended.

§ 13.1.4 The Contractor specifically agrees as required by the provisions of 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 or Subcontractor nor any person acting on behalf of such Contractor or Subcontractor, shall by reason of race, creed, color, disability, sex, or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates

.2 No Contractor, Subcontractor, not any person on his behalf shall, in any manner, discriminate against or intimidate any employee under this Contract on account of race, creed, color, disability, sex, or national origin.

.3 There may be deducted from the amount payable to the Contractor by the Owner under this Contract, a pe nalty of fifty dollars ($50) for each person for each calendar day during which such a person was discrimi nated against or intimidated in violation of the provisions of the Contract, and

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

§ 13.1.5 The Contractor shall comply with the sexual harassment provision of New York State Labor Law §201-g.

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

.1 The Contractor will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, sexual orientation, military status, sex, disability, predisposing genetic characteristics, marital status, or domestic violence victim status.

.2 If Directed to do so by the Owner or the State Commissioner of Human Rights, the Contractor will send t o each labor union or representative of workers which with 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 (1) through (6) (hereinafter called "non-discrimination clauses"). If the Contractor was directed to do so by the Owner as part of the bid or negation of this Contract, the Contractor shall request such labor union or representative to furnish a written statement that such a labor union representative will not discriminate because of age, race, creed, color, national origin, sexual orientation, military status, sex, disability, predisposing genetic characteristics, or marital status, and that such labor union or representative will cooperate, within the limits of its legal contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses and that it consents and agrees that the recruitment, employment and the terms and conditions of employment under this Contract shall be in accordance with the purposes and provision 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 If directed to do so by the Owner or the Commissioner of Human Rights, 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 provisions of clauses (1) and (2) and such provision of the State's law against discrimination as 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

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discrimination because of age, race, creed, color, national origin, sexual orientation, military status, sex, disability, predisposing genetic characteristics, marital status, or domestic violence victim 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 section 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 the non-discrimination clauses and such sections of the Executive Law 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 the non-discrimination clauses, and that the Contractor may be declared ineligible for future contracts made by or on 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 a program in conformity with the provisions of these non-discrimination clauses. Such findings may be made by the State Commissioner of the 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 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, and

.7 The Contractor will include the provisions of clauses .1 through .6 in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The Contractor will take 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 or is threatened with litigation with a subcontractor or vendor as a result of such directions 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, Construction Manager, 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 and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Construction Manager timely notice of when and where tests and inspections are to be made so that the Construction Manager 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.

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§ 13.4.2 If the Construction Manager, 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 Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and 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 Construction Manager's and 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 Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or 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
to the Contractor, including any interest, shall be consistent with this Agreement and in accordance with New York State General Municipal Law Section 106-b.

§ 13.6 Equal Opportunity

§ 13.6.1 The Contractor shall maintain policies of employment as follows:

.1 The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex and national origin. Such action shall include, but not limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection of training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination, and

.2 the Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

§ 13.7 Time Limits on Claims

The Owner and the Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement and within the time 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 the Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

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

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

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.3 Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and, after the Contractor has provided written notice of the lack of certification with a reasonable opportunity to cure, has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner, after the Contractor has provided written notice of the lack of payment with a reasonable opportunity to cure, has not made payment on a Certificate for Payment within the time stated in the Contract Documents.

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon thirty days' notice to the Owner with reasonable opportunity to cure, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work properly executed.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon thirty additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 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 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.

.5 breaches any warranty made by the Contractor under or pursuant to the Contract Documents

.6 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all of the requirements of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist 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. The costs of finishing the Work include, without limitations, all reasonable attorney's fees, additional Architect/Engineering and Construction Manager costs, insurance, additional interest because of any delay in completing the Work, and all other direct, indirect and consequential damages incurred by the Owner by reason of the termination of the Contractor's stated herein.

§ 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 Construction Manager's and 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.

§ 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

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whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and the Contract Time may be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. 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 this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 Notwithstanding any other provision to the contrary in this Agreement, the Owner reserves the right at any time and in its absolute discretion to terminate the services of the Contractor and/or the Work for the Owner's convenience and without cause by giving written notice to the Contractor. This termination for the convenience of the Owner provision allows and authorizes the Owner to terminate this Agreement at any time and for any reason whatsoever. This right may be exercised by the Owner in its complete discretion.

§ 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 Contractor shall be entitled to, and the Owner shall reimburse the Contractor for, an equitable portion of the Contractor's fee based on the portion of the Work properly completed before the effective date of termination. The Contractor's entitlement to payment for all such Work shall be predicated on its performance of such work in accordance with the Contract Documents as certified by the Architect and Construction Manager. The Contractor shall be entitled to no other payment and waives any claim for damages.

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. The Owner may refer a claim to the Construction Manager and or the Architect for their review and assistance; however, such is not required by this Agreement.

§ 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 and in strict compliance with Education Law §3813, 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 notice to the other party and to the Initial Decision Maker with a copy sent to the Construction Manager and 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.

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§ 15.1.3.3 Claims by the Contractor must be made by written notice in accordance with the following procedures.

.1 the Contractor may submit a claim concerning a matter properly noticed in accordance with the time requirements of this Contract set forth in paragraph 15.1.3 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 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's 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
  - **.i** index of issues (listed numerically);
  - **.ii** for each issue:
    - **(1)** background
    - **(2)** chronology
    - **(3)** Contractor's position (reason for Owner's potential liability)
    - **(4)** supporting documentation of merit or entitlement
    - **(5)** supporting documentation of damages
    - **(6)** begin each issue on a new page
- **.d** all critical path method schedules (as-planner, monthly updates, scheduled revisions and as-builts, along with computer disks of all schedules related to the claim;
- **.e** productivity exhibits (if appropriate); and
- **.f** summary of issues and damages.

.5 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.

.6 supporting documentation of damages for each issue shall be cited, photocopied or explained. Supporting documentation may include, but shall not be limited to, any or all documents related to the preparation and 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 or 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 material necessary to support the Contractor's claims.

.7 each copy of the claim documentation shall be certified by a responsible officer of the Contractor in accordance with the requirements of these Contract Documents.

§ 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 Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

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

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

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section

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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.

§ 15.1.6.3 Claims for increase in the Contract time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of Work, the date upon which each cause of delay ceased to affect the progress of the Work and the number of days increased in the Contract time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

§ 15.1.6.4 The Contractor shall not be entitled to a separate increase in the Contract time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

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

.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.

§ 15.1.8.1 Claims and Actions Thereon. No claim against the Owner for damages for breach of contract or compensation for extra work shall be made or asserted in any action or proceeding at law, or in equity, unless the Contractor shall have strictly complied with all the requirements relating to the giving of notice and of information with respect to such claims all as provided in this Agreement.

§ 15.1.8.2 No Estoppel. Neither the Owner nor any department officer, agent or employees thereof, shall be bound, precluded or estopped by any 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 termination, 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 over-payments made to him, or such damages as it may sustain by reason of his failure to perform each and every part of this Contract in strict accordance with its terms; or (3) both (1) and (2) hereto."

§ 15.2 Initial Decision

§ 15.2.1 Claims, by the Contractor, 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 by the Contractor against the Owner. 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.

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§ 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 Contractor or to furnish additional supporting data, the Contractor 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 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Architect, the Architect will render to the parties the Architect's written recommendation relative to the Claim, including any recommended change in the Contract Sum or Contract Time or both. If there is a surety and there appears to be a possibility of a Contractor's default, the Architect may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 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 of receipt thereof, then both parties waive their rights to mediate.

§ 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.

§ 15.2.9 Nothing contained in this Agreement is intended to alter or replace any provisions of the laws of the state of New York relating to claims made against the Owner or to relieve Contractor from any obligations thereunder.

§ 15.3 Mediation

§ 15.3.1 The parties expressly agree to delete the requirement that any and all controversies and claims arising out of the Contract be referred to mediation. By so agreeing, the parties express their mutual intent that there is no agreement to mediate such disputes, not withstanding the use and reference to mediation elsewhere in the Contract Document.

§ 15.4 Arbitration

§ 15.4.1 The parties expressly agree to **delete** the requirement that any and all controversies and claims arising out of the contract be referred to arbitration. By so agreeing, the parties express their mutual intent that there is **no agreement** to arbitrate such disputes, notwithstanding the use and reference to arbitration elsewhere in the contract documents.

§ 15.5 The parties expressly agree that any claim, dispute, or other controversy of any nature arising out of the contract or performance of the work shall be commenced and maintained in New York State Supreme Court located in Albany County.

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APPENDIX "A"

PROJECT LABOR AGREEMENT

COVERING CONSTRUCTION

OF

CAPITAL CONSTRUCTION PROJECTS

NEWBURGH ENLARGED CITY SCHOOL DISTRICT

FINAL

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(Pages to be verified prior to signatures)

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PREAMBLE

WHEREAS, Newburgh Enlarged City School District ("NECSD"), desires to provide for the cost efficient, safe, quality, and timely completion of certain construction work described herein relating to the Capital Construction Projects approved by the qualified voters of NECSD on May 21, 2019 ("The Project") in a manner designed to afford the lowest reasonable costs to the NECSD, and the public it represents, and the advancement of permissible statutory objectives;

WHEREAS, NECSD engaged Arace & Company ("Arace") to undertake a study of whether the use of a Project Labor Agreement will best serve the NECSD's interest in obtaining the best work at the lowest possible price, preventing favoritism, fraud and corruption, and other considerations such as the impact of delay, the possibility of cost saving advantages, and any local history of labor unrest; and

WHEREAS, "Arace" Due Diligence Assessment of the Impacts and Implementation of a Project Labor Agreement, (the "study") dated May 20, 2020 ("Report"), concluded that use of a Project Labor Agreement would provide the NECSD with measurable economic benefits and would promote the NECSD's interest in obtaining the best work at the lowest prices as well as preventing favoritism, fraud and corruption; and

WHEREAS, NECSD has carefully reviewed and considered "Arace" Report and determined, among other things, that NECSD's interest in obtaining the best work at the lowest possible price, preventing favoritism, fraud and corruption, preventing the impact of delay, avoiding labor unrest, and gaining measurable management flexibility and benefits are best met by requiring a Project Labor Agreement and, therefore, directs that a Project Labor Agreement be made part of the Project; and;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

(1) expediting the construction process and otherwise minimizing the disruption to the project;

(2) avoiding the costly delays of potential strikes, slowdowns, and walkouts arising from work disputes and promoting labor harmony and peace for the duration of the project;

(3) standardizing the terms and conditions governing the employment of labor on the project;

(4) permitting flexibility in work scheduling where necessary at affordable pay rates;

(5) permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;

(6) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;

(7) Promoting work opportunities for those within the district

(8) ensuring a reliable source of skilled and experienced labor;

WHEREAS, Newburgh Enlarged City School District, has, through independent investigation and analysis, determined the substantial cost savings to the Project shall result from the application of this Agreement; and

WHEREAS, the New York State Building and Construction Trades Council, the Hudson Valley Building & Construction Trades Council, and its affiliated Local Unions and their members, desire to provide for stability, security and work opportunities which are afforded by a Project Labor Agreement; and

WHEREAS, the Parties desire to maximize project safety conditions for both workers and others;

NOW, THEREFORE, the Parties enter into this Agreement:

ARTICLE 1 – PARTIES TO THE AGREEMENT

SECTION 1.1 PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") entered into for all construction as part of the Capital Construction Bond Project (as defined below) between (i) the Newburgh Enlarged City School District ("NECSD") (ii) the Hudson Valley Building and Construction Trades Council ("Council") on behalf of itself and its affiliated Local Unions ("Local Unions"); and (iii) the signatory Local Unions on behalf of themselves and their members.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 2.1 DEFINITIONS

Throughout this Agreement:

(A) "Union Parties" and "Unions" means the Hudson Valley Building & Construction Trades Council, AFL-CIO and the signatory Local Unions, individually and collectively;

(B) "Local Union(s)" means the Local Unions signatory to this Agreement, individually and collectively;

(C) "The Project" means the work to be performed in connection with construction of the Capital Construction Project as more fully set forth in Article 3, Section 3.1.

(D) "Project Work" means the work covered by this Agreement and fully defined

in Article 3, Section 3.1;

(E) "Contractor(s)" means any General Contractor, Prime Contractor, Construction Manager (or any Contractor who may serve as a successor in that role), and all other contractors and subcontractors of whatever tier engaged in Project Work within the scope of this Agreement as defined in Article 3;
(F) "Council" means the Hudson Valley Building & Construction Trades Council, AFL-CIO.
(G) "Owner" means Newburgh Enlarged City School District ("NECSD").
(H) "Owner's Representative" means any Construction Manager or other entity designated by the Owner to enter into this Agreement or otherwise act on its behalf.

SECTION 2.2 CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions are met: (1) the Agreement is signed by the Council and the Local Unions having jurisdiction over the Project Work; (2) the Agreement is approved by the NYS Building & Construction Trades Council (NYSBCTC); (3) the Agreement is approved by the Building & Construction Trades Department (BCTD); (4) the Agreement is authorized by the Owner and (5) the Agreement is signed by the Construction Manager (CM)

SECTION 2.3 ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all signatory Unions and their affiliates and all Contractors performing Project Work as defined in Article 3. The Contractors shall include in any subcontract that they let for performance during the term of this Agreement a requirement that their subcontractors, of whatever tier, become signatory and bound by this Agreement with respect to that subcontracted work performed within the scope of Article 3, and require that each subcontractor, of whatever tier, sign a letter of assent (Schedule B). This Agreement shall be administered by the Designee named by the Owner pursuant to Schedule C.

SECTION 2.4 SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto and referred to herein as "Schedule A" represents the complete understanding with respect to the Project and supersedes any national agreement, local agreement, or other collective bargaining agreement of any type which would otherwise apply to Project Work, in whole or in part, with the following exception: to the extent a Contractor is a signatory to the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, those agreements shall apply.

Notwithstanding this exception, Articles 7, 9, and 10 of this Agreement shall also apply. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. If this Agreement is silent on any matter addressed in the applicable Schedule A agreement, the Schedule A agreement shall govern. It is understood that by virtue of having become bound by this Project Labor Agreement, the Contractors will not be obligated to sign any other local, area, or national agreement.

SECTION 2.5 LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The Contractors, and Subcontractors shall not be liable for any violations of this Agreement by any other Contractor or Subcontractor; and the Council and Local Unions shall not be liable for any violations of this Agreement by any other Union. Notwithstanding the above, every signatory to the Agreement further acknowledges that it will be liable for its own breach, partial breach or otherwise, whether related or not to the breach of another signatory.

SECTION 2.6 THE BID SPECIFICATIONS

The Owner shall require in its bid specifications for all Project Work within the scope of Article 3 that all successful bidders and their Subcontractors of whatever tier become bound by, and signatory to, this Agreement. Every Contractor shall require its Subcontractors, of whatever tier, to execute the Letter of Assent in Schedule B and to become bound by this Agreement.

SECTION 2.7 AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

This Agreement shall be binding on all signatory Unions and their affiliates, and all Contractors, unions and/or non-unions performing Project Work. Unless expressly provided for in this Agreement, this Agreement shall not apply to the work of any Contractor which is performed at any location other than the site of Project Work.

ARTICLE 3 - SCOPE OF THE AGREEMENT

SECTION 3.1 PROJECT WORK

This Agreement shall only apply to Project Work as defined in this Article.

Subject to the exclusions in this Article, Project Work means solely that work performed in connection with construction of the Capital Construction Projects as approved by the Bond vote on May 21, 2019 and included in the contract documents bid on the Capital Construction Projects.

Specifically excluded from coverage under this Agreement is:

(a) all work relating to bids solicited and/or work awarded prior to the execution of this Agreement by the parties and/or approval of it by NECSD,

(b) maintenance and repair work performed in the normal course of NECSD's operations,

(c) any work to be completed by the NECSD or any of its term maintenance contractors and/or vendors,

(d) any computers, work shop equipment tied to computers CNC machines, 3d related equipment, robotic equipment, donated hospital or nursing equipment, printers, monitors, data switching equipment, wireless access points which shall be installed by others (except contractors would install any associated mounting hardware, brackets etc. and provide interconnecting cabling and conduit).

(e) pool construction bid prior to execution of this agreement.

SECTION 3.2 TIME LIMITATIONS

To be covered by this Agreement, Project Work must be awarded after the effective date of this Agreement.

This Agreement shall expire upon completion and acceptance by the Owner of any Project component. The Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the CM for explicit performance under the terms of this Agreement. This Agreement may be extended by written mutual agreement of the parties.

Due to the uncertainty of future funding, uncertainties related or due to the COVID 19 pandemic and the length of the project, the parties to this agreement agree to meet upon notice from NECSD or the construction manager for the purpose of amending the agreement.

SECTION 3.3 EXCLUDED EMPLOYEES

Notwithstanding the provisions of Section 3.1 of this Article, the following person/entities are not subject to the provisions of this Agreement even though performing work on or in connection with the Project:

a. Superintendents, supervisors (excluding general and forepersons specifically covered by a craft's Schedule A), engineers, inspectors and testers, quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards employed by Owner, technicians, non-manual employees, and all professional, engineering (except field surveyors), administrative and management persons;

b Employees of the Project Owner;

c. Employees and entities engaged in off-site manufacture, modifications, repairs, maintenance, or painting, handling or fabrication of project components, materials, equipment, or machinery or any deliveries including local deliveries of all major construction materials such as fill, ready mix, asphalt, concrete and other aggregates except when any of the above project work is covered under New York State Labor Law 220 (Prevailing Wage) it shall be covered under this Agreement.

d. Employees of the Construction Manager, except those performing manual, on- site construction labor who will be covered by this Agreement;

e. Employees engaged in on-site equipment warranty work;

f. Employees engaged in geophysical testing (whether land or water) other than boring for core samples;

g. Employees engaged in laboratory or specialty testing or inspections, unless ordinarily done by a member of a Trade Union;

h. Employees engaged in ancillary Project Work performed by third parties such as electric utilities, gas utilities, telephone companies, and railroads. Utility work provided by gas, electric, and cable companies, which is not performed by utility company employees, shall be subject to the terms of this Agreement.

Unless specifically excluded in this Agreement, all furniture, fixtures, and equipment that are fastened, mounted, or adhered to a surface by glue, screws, nails, mechanical fasteners, or by any other means shall be included as covered work under this Agreement. This shall include all unloading, loading, transporting to place of install, clean-up, uncrating, and unwrapping of protective coverings. The above items that are not fastened, mounted, or adhered to a surface shall be excluded from this Agreement. This shall not preclude the Owner from using respective unions to unload, carry, place, or clean-up of these items, unless such services are performed directly by the Owner or by a vendor working on State Contract which may not be party to this Agreement.

i. Employees and consultants engaged in security and control services manufacturing and installation if not included in or part of the Contractors contract, except for the installation of conduit-cable related to security and controls which shall be covered work under this agreement.

j. Employees and entities engaged in the removal of all on-site construction debris, waste materials or onsite soils or materials except when this work is covered under New York State Labor Law 220 (Prevailing Wage) it shall be covered under this Agreement.

k. Employees of contractors performing excluded work under Article 3.1d

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

SECTION 4.1 PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all craft employees who are performing Project Work within the scope of Article 3 of this Agreement.

SECTION 4.2 UNION REFERRAL

A. The Contractors agree to hire craft employees for Project Work covered by this Agreement through the job referral systems and hiring halls established in the Local Unions' area collective bargaining agreements (attached as Schedule A to this Agreement), where those referrals meet the qualifications set forth in items 1, 2, and 4 of subparagraph B. The Unions agree to provide such craft employees (including apprentices) to all Contractors on a non-discriminatory basis. Notwithstanding this, Contractors shall have sole right to determine the competency of all referrals; the number of employees required; and the selection of employees for layoff (subject to Article 5, Section 5.3). In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by a Contractor (Saturdays, Sundays and holidays excepted), a Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for Project Work within its jurisdiction from any source other than referral by the Union. The Local Unions will cooperate with Contractor requests for minority, women, or economically disadvantaged referrals to meet the goals of Article 4, Section 4.4. These workers may be delivered under a "Direct Entry" designation or by use of a Department of Labor waiver.

B. A Contractor may request by name, and the Local Union will honor, referral of persons who have applied to the Local Union for Project Work and who meet the following qualifications:

(1) possess any license required by New York State law for the Project Work to be performed;
(2) Have worked a total of at least 1000 hours in the construction craft during the

prior two years, and

(3) Were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.
(4) Have the ability to safely perform the basic functions of the applicable trade.
(5) Have not committed a felony or misdemeanor, or other violation that would render such person unfit to work on school district property.

C. Except as specifically addressed in (F) below, no more than twenty (20%) per centum of the employees covered by this Agreement, per Contractor by craft, shall be hired through the provisions of Paragraph B of this section (any fraction shall be rounded to the next highest whole number). Craft forepersons and/or general forepersons shall be included in these twenty (20%) percent. If requested by the appropriate Union, a Contractor utilizing this provision for by-name referrals shall furnish the Union with a written certification that the individuals requested for referral meet the requirements of (1) - (4) above.

D. The Local Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft workers to fulfill the manpower requirements of the Contractor. When a contractor of any tier is contracted to perform work on the project and such contractor is not signatory to a Schedule A agreement (not including signatory through this agreement) and the Union cannot provide ample labor to support the construction schedule or project. The contractor shall hire outside the union hiring halls and the contractor shall at their discretion replace the non-union or non-dispatched employee when notified by the union that labor has become available through the union. The contractor shall use other employees affiliated with the Council before hiring except, where specifically addressed in this agreement if those employees from the other unions have the required trade skills to perform the work. Those hired through this provision shall be laid off before those of an affiliated union.

E. Notwithstanding the foregoing, the NECSD shall have the sole discretion to request that a person be removed from working on this Project.

F. For work related to construction of the career tech education proprietary equipment as agreed upon by the parties, the contractor, installer or vendor shall hire one company or core employee through the special provisions and at the same time hire one employee hired through the respective union and after 2 employees no more than 33.3% of the employees covered by this Agreement, per Contractor by craft, shall be hired through the provisions of Paragraph B of this section (any fraction shall be rounded to the next highest whole number). Craft forepersons and/or general forepersons shall be included in this 33.3%. If requested by the appropriate Union, a Contractor utilizing this provision for by-name referrals shall furnish the Union with a written certification that individuals requested for referral meet the

requirement of (1) – (4) above.

SECTION 4.3 NON-DISCRIMINATION IN REFERRALS

The Local Unions represent that their hiring halls and referral systems shall be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies, or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4.4 WORKFORCE DIVERSITY UTILIZATION

The Unions recognize and acknowledge that workforce diversity of minorities and women are employment goals consistent with our values of fair play. The Local Unions agree and will strive to utilize their best efforts to provide qualified minority and female applicants.

SECTION 4.5 CROSS AND QUALIFIED REFERRALS

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions shall exert their utmost efforts to recruit sufficient numbers of skilled and qualified crafts employees to fulfill the requirements of the Contractor.

SECTION 4.6 UNION DUES

Nothing in this Agreement requires employees to join a union or pay dues or fees to a union as a condition of working on the covered project. This Agreement is not, however, intended to supersede independent requirements in applicable local union agreements as to contractors that are otherwise signatory to those agreements and as to employees of such employers performing covered work.

ARTICLE 5 – UNION REPRESENTATION

SECTION 5.1 LOCAL UNION REPRESENTATIVE

Each Local Union signatory to this Agreement shall be entitled to designate a representative and/or Business Manager who shall be afforded access to the Project site.

SECTION 5.2 STEWARDS

A. Each Local Union shall have the right to designate from among those referred to the Project a working journey person as a Steward or Lead Engineer and one alternate per shift, and shall notify the General Contractor of the identity of the designated Steward or Lead Engineer (and alternate) prior to the assumption of such duties. Stewards or Lead Engineer shall not exercise supervisory functions and shall receive the regular rate of pay for their craft classifications. There will be no non-working Stewards or Lead Engineer on the Project.

B. In addition to his/her work as an employee, the Steward or Lead Engineer shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor; such activities, however, are not to interfere with the Steward's work unless an emergency situation exists. Each Steward or Lead Engineer shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward or Lead Engineer in the proper performance of Union duties.

SECTION 5.3 LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a

Steward or Lead Engineer, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A, such provisions shall be recognized to the extent the Steward or Lead Engineer possesses the necessary qualifications to perform the work required. In any case in which a Steward or Lead Engineer is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

SECTION 5.4 UNION STANDARDS

The Council and its affiliates have a legitimate interest in preventing the undermining of the work opportunities and standards gained through collective bargaining and desire to preserve and protect work opportunities for its members.

NECSD, while recognizing this interest, must maintain its ability to utilize the services of off-site fabricators and those entities involved in deliveries of construction materials when not covered under New York State Labor Law 220.

While the scope of the Agreement is limited to construction as defined, Contractors should whenever economically feasible make reasonable efforts to use union signatory vendors, which includes, but not limited to, UA Yellow Label and SMW Blue Label products for off-site assemblies or fabrications and deliveries of construction materials. The Construction Manager agrees to support efforts to retain as much work as possible.

This article does not refer to construction material normally purchased pre-assembled or manufactures, it references work normally and historically done on-site or in local union fabrications shops.

If any dispute should arise with respect to this Article, the Trades agree to install any off-site assemblies or fabricated items regardless of the source. The parties shall endeavor to settle such dispute in the Labor Management forum or appropriate sub-committee before a grievance is filed under Article 9.

ARTICLE 6 – MANAGEMENT RIGHTS

SECTION 6.1 RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of work; the promulgation of reasonable Project work rules; and the requirement, timing

and number of employees to be utilized for overtime work. Nothing contained herein shall be construed so as to allow direction of an Employee to perform work outside the jurisdiction of that Employee's Labor Union affiliation, if any. No rules, customs, or practices which limit or restrict productivity or efficiency of the individual (as determined by the Contractor) and/or joint working efforts with other employees shall be permitted or observed.

SECTION 6.2 MATERIALS, METHODS & EQUIPMENT

There shall be no limitation or restriction upon the Owner's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre- finished, or pre-assembled materials, tools, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work pursuant to an applicable collective bargaining agreement; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-off or testing of specialized or unusual equipment or facilities as designated by the Contractor.

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

SECTION 7.1 NO STRIKES-NO LOCK OUT

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, demonstrations or other disruptive activity on Project Work site for any reason by any signatory to this Agreement. There shall be no union or concerted or employee activity which disrupts or interferes with the Project Work. Should any employee breach this provision, the Unions will use their best efforts to immediately end the breach and return all employees to work. There shall be no lockout by any signatory to this Agreement.

SECTION 7.2 DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 7.1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 working days.

SECTION 7.3 NOTIFICATION

If a Contractor contends that any Union has violated this Article, it shall notify the Council of such fact, with copies of the notification to the Local Union involved. The Council and Local Union shall instruct, order, and otherwise use their best efforts to cause

the employees to immediately cease and desist from any violation of this Article. The Council shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union and its members shall not be liable for any unauthorized acts of its members, the Council, or another Local Union.

SECTION 7.4 EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 7.1 of this Article or Section 8.3(D)(ii) of Article 8 may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. A party invoking this procedure shall notify J.J. Pierson, Neal M. Eiseman and Thomas Hines who shall alternate as Arbitrator under this expedited arbitration procedure. If the Arbitrator next on the list is not available to hear the matter within 24 hours of notice, the next
Arbitrator on the list shall be called. Copies of such notification will be simultaneously sent to all parties (the alleged violator, the Council, the Local Union, the Contractor, and the Owner).

B. The Arbitrator shall hold a hearing within 48 hours of receiving the notice invoking the procedure if it is contended that the violation still exists. The Arbitrator shall provide at least 24 hours' notice (excluding Sundays and holidays) to all parties as to time and place of the hearing.

C. All notices pursuant to this Article must be delivered to all parties (Local Union, Council, Contractor, alleged violator) and may be provided by telephone, telegraph, hand delivery, fax, email, or confirmed overnight delivery. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case and conduct their cross examination) unless otherwise agreed. A failure of any party to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. (i) Section 7.1 hearings:
The sole issue at the hearing shall be whether a violation of Section 7.1 occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease-and-Desist Award restraining such violation and serve copies on all parties. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any). The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

(ii) Section 8.3(D)(ii) hearings:
The sole issue at the hearing shall be whether a violation of Section 8.3(D)(ii) occurred. If a violation is found to have occurred, it shall be prima facie evidence of intentional mis-assignment, and the Arbitrator shall issue an immediate stop-work order with respect to the work involved and reassign the work as necessary. The Arbitrator is also authorized to (a) award damages or back pay in order to make the aggrieved trade whole, and (b) remove the offending contractor from the job in egregious situations.

E. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to all parties. In any court proceeding to obtain a temporary or preliminary order enforcing the Arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive their right to a hearing and agree that such proceeding may be commenced by order to show cause. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.

F. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

G. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 7.5 ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 7.1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 7.1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 – LABOR MANAGEMENT COMMITTEE

SECTION 8.1 SUBJECTS

The Project Labor Management Committee ("Committee") will meet on a regular basis to: 1) promote harmonious relations among the Contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interest; 4) discuss matters relating to staffing and scheduling with safety and productivity as considerations; and 5) review Affirmative Action and equal employment

opportunity matters pertaining to the Project, if any.

SECTION 8.2 COMPOSITION

The Committee shall be jointly chaired by a designee of the Owner and the Council. It may include representatives of the Local Unions and contractors involved in the issues being discussed. The Committee may conduct business through mutually agreed upon sub-committees.

SECTION 8.3 PRE-JOB CONFERENCE

(A) So that the start and continuation of work may progress without interruption, the Committee shall require each Contractor and Subcontractor of whatever tier to conduct a pre-job conference with the Council prior to commencing work. The Construction Manager and General Contractor shall be advised in advance of such conferences and may participate if they wish.

(B) The purpose of the pre-job conference shall be for the parties to gain an understanding of each Contractor's proposed work assignments, the standard work day and work week, the number of employees to be employed, the method of referral, the applicable wage rates and fringe benefit contributions and any other matters in accordance with this Agreement.

(C) Proposed Trade Assignments. In conjunction with the pre-job conference, each Contractor shall fill out the attached Schedule D – Proposed Trade Assignments identifying all subcontractors and indicating what trades will be used to perform the Project work. This form shall be submitted to the Council at least fourteen (14) days in advance of the commencement of work. If any Local Union(s) objects to or disagrees with the Proposed Trade Assignment of either the Contractor or subcontractor, the Local Union will state its objection and there shall be a good faith discussion among the Contractor or subcontractor and the objecting Local Union and other affected Unions to resolve the matter. If no resolution is reached, any involved Local Union may submit their position in writing, together with support documentation, within seven (7) calendar days to the Contractor or subcontractor with a copy to all affected Local Unions. The Contractor or subcontractor will review all submitted supporting documentation regarding the Proposed Trade Assignments and will submit to the General Contractor, the Council, and all affected Local Unions a "Final Trade Assignment" letter within fourteen (14) days calendar days of the pre-job meeting at which the Proposed Trade Assignments were made.

(D) Disputes and Violations.

(1) Unresolved disputes concerning trade assignments shall be handled in accordance with Section 10.1, 10.2, and 10.3 of Article 10 in accordance with the National Plan established by the Building and Construction Trades Department, provided however, that disputes concerning intra-trade assignments (assignments between trades within the same International Union) will be determined by the applicable International Union.

(2) Failure to conduct a pre-job conference, failure to include all required parties in a pre-job conference, or failure to adhere to agreed-upon Schedule D trade assignments is a violation of this Agreement and prima facie evidence of intentional mis-assignment. Alleged violations of this provision shall be considered a lock-out and subject to the expedited arbitration procedures of Article 7, Section 7.4.

(3) All remaining unresolved issues shall be subject to the provisions of Article 9.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 9.1 CLOSE COOPERATION

The Contractors, Unions, and employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of Project Work and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

SECTION 9.2 PROCEDURE

Any question, dispute or claim arising during the term of this Agreement involving the interpretation or application of this Agreement (other than jurisdictional disputes and alleged violations Section 7.1, and Section 8.3(D)(i) or (ii), shall be considered a grievance and shall be resolved pursuant to the following procedure.

Step 1:

(a). When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall give notice of the claimed violation to the Local Union representative or job steward, who shall notify the work site representative of the involved Contractor and the

General Contractor. To be timely, such notice must be given within 7 calendar days after the act, occurrence or event giving rise to the grievance. The Local Union representative or the job steward shall meet with the work site representative of the involved Contractor and the General Contractor and endeavor to adjust the matter within 7 calendar days after timely notice has been given. The representative of the involved Contractor shall keep the minutes of the meeting and shall respond to the Union representative in writing, with copy to the General Contractor, within twenty-four (24) hours after the conclusion of the meeting. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Labor-Management Committee as creating a precedent with respect to Project Work.

(b) Should any signatory to this Agreement have a dispute [excepting jurisdictional disputes and alleged violations of Section 7.1 or Section 8.3(D)(i) or (ii) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute may be reduced to writing and the grieving party may proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

Upon timely receiving a written grievance, the involved Contractor shall notify and schedule a meeting with the Business Manager of the involved Local Union, the Council, and the General Contractor, and their respective representatives, for the purpose of arriving at a satisfactory settlement. Such meeting shall be held within 7 calendar days of the involved Contractor's receipt of the written grievance. Meeting minutes shall be kept by the Contractor with copies to the parties within twenty-four (24) hours.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants, including the General Contractor) along with copies of the minutes from Step 1 and Step 2, to (J.J. Pierson, Neal M. Eiseman and Thomas Hines) who shall act, alternately, as the Arbitrator under this procedure. The

Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union, and employees, and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.

(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the General Contractor, the involved Contractor, and the involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 10.1 ASSIGNMENT

The assignment of work shall be solely the responsibility of the Contractor performing the work involved, subject to the pre-job conference and the procedures set forth in Section 8.3(C), and such work assignments shall be in accordance with the National Plan for the Settlement of Jurisdictional Disputes in the Construction Industry ("National Plan") or any successor Plan approved by the Building & Construction Trades Department, AFL-CIO.

SECTION 10.2 PROCEDURE FOR SETTLEMENT OF JURISDICTIONAL DISPUTES

All jurisdictional disputes involving Project Work shall be settled according to the National Plan, provided however, that disputes concerning intra-trade assignments (assignments between trades within the same International Union) will be determined by the applicable International Union.

SECTION 10.3 NO DISRUPTIONS

There will be no strikes, work stoppages, or slowdowns, arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 10.4 AWARD

Any jurisdictional award pursuant to this Article shall be final and binding on the

disputing Unions and the involved Contractor on this Project only, and may be enforced in

any court of competent jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement.

SECTION 10.5 LIMITATIONS

. Awards made under this Article shall determine only to whom the disputed work belongs. The deciding person or group hereunder shall have no authority to (a) assign work to a double crew, that is, to more employees than the minimum required by the Contractor to perform the work involved; (b) assign the work to employees who are not qualified to perform the work involved; or (c) assign work being performed by non-union employees to union employees. This provision does not prohibit the establishment, with the agreement of the involved Contractor, of composite crews where more than one (1) employee is needed for the job.

ARTICLE 11 - WAGES AND BENEFITS

SECTION 11.1 CLASSIFICATION AND HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the wage rates applicable for those classifications as required by the Schedule A applicable to the work. The term "straight time" in this Agreement shall mean the hourly wage rate applicable for those classifications as required by the applicable New York State Labor Law Section 220 ("Section 220") prevailing wage determination.

SECTION 11.2 EMPLOYEE BENEFITS

A. Unless expressly provided differently in this Agreement, Contractors agree to pay employee benefits/supplements on behalf of all of their employees covered by this Agreement in the amounts required by the applicable Section 220 schedule in effect. Except as provided herein, the Contractors agree that such payments shall be made to those established jointly trusteed employee benefit funds designated in Schedule A, and in the amounts so designated, to the extent such payments are required by and satisfy the Section 220 obligation. Bona fide jointly trusteed fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if they similarly fall within Section 220. Contractors not otherwise contractually bound to do so shall not be required to contribute to non-Section 220 benefits, trusts or plans; however, this provision does not relieve Contractors signatory to local collective bargaining agreements with any Local Union from complying with the benefit requirements for all funds contained in those collective bargaining agreements.

B. Notwithstanding Section 11.2(A):

(1) Contractors who designate employees pursuant to Article 4, Section 4.2(B), may satisfy the above benefits obligation with respect to those employees by: (1) providing those employees with coverage under their private benefit plans for health, welfare, pension, annuity and 401(k); or (2) paying the full amount of such benefit to the employee in employees' wages. The total benefit payments to be made on behalf of each such employee must equal the total Section 220 benefit/supplement amount. If the Contractor's contribution into the private benefit plan for the above funds is less than the amount required by Section 220, the difference must be paid to the employee in cash. Payments of other benefits covered under Section 220 shall be paid to the respective Unions on behalf of employee

(2) This same option shall apply with respect to any other employee who is referred to the Contractor through the hiring hall process provided such employee was previously employed by the Contractor and was a participant in a bona fide private benefit plan maintained by the Contractor which satisfies the requirements of Section 220.

(3) The option for a private plan equivalent supplement shall not apply to contributions into Joint Apprentice Training Committee (JATC) or similar apprentice funds designated in Schedule A if the Contractor does not have an apprentice training program approved by the Department of Labor. Upon request by the Council, any contractor providing coverage under this provision will provide the Council with documentation of benefit payments made to individual employees during the term of their employment on the Project.

(4) Contractors who exercise the option under Section 11.2(B) of this Article to pay into their own private benefit plans rather than the applicable jointly trusteed funds designated in Schedule A shall be responsible for and guarantee employee benefit/supplement payments and shall indemnify and hold harmless the jointly trusteed funds designated in Schedule A against any and all benefit/supplement claims by its employees.

C. Contractors who contribute to jointly trusteed funds under this Section agree to be bound by the written terms of the legally-established jointly trusteed Trust agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such trust funds but only with regard to work done on this Project and only for those employees for whom this Agreement requires such benefit Payments. Notwithstanding the foregoing, a Contractor's liability shall be at all times limited to the amount of contributions required to be made to the Trust Funds.

D. Each Contractor shall be responsible for and guarantee the payment of all required fringe benefits on the Project. The Local Unions and/or the Council shall notify the General Contractor and the Construction Manager within 120 hours excluding weekends whenever a Contractor or Subcontractor, including the General Contractor, fails to make a required benefit payment and such delinquency remains outstanding after 30 days. Notification must be in writing and may be by email. If written notice of such a delinquency is received by the General Contractor within that 48-hour period, the General Contractor shall notify the Construction Manager immediately, but in any case, within 24 hours. If the Construction Manager receives notice of a delinquency by the General Contractor, it shall withhold from any funds due to the delinquent Contractor the amount of that delinquency, up to the total amount due, until any dispute regarding the delinquency has been resolved. The General Contractor shall have no other obligation with respect to contributions owed by any Contractor (or its Subcontractor); but the General Contractor shall continue to be obligated with respect to contributions based on work done by the General Contractor. If notice of a delinquency is not received by the Construction Manager within the required time periods, Owner shall have no basis upon which to withhold, with respect to that delinquency, any part of a payment which is otherwise due. Construction Manager shall require contractors to submit proof of benefit payment with pay request.

ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 12.1 WORK WEEK AND WORK DAY

A. Unless otherwise provided for in this Agreement, the standard work week shall be five days, Monday through Friday, eight hours per day plus ½ hour unpaid lunch period each day. The starting time for the standard work week shall start at either 6:00 a.m., 6:30 a.m., 7:00 a.m., 7:30 a.m. or 8:00 a.m. Multiple starting times shall be allowed.

B. Four-tens: notwithstanding any other provision of the Agreement, when working a four-day work week, the work shall consist of 4 days, Monday through Thursday, ten hours per day plus ½ hour unpaid lunch period at the straight time rate. The starting time for four-tens shall be 6:00 a.m. 6:30 a.m. 7:00 a.m. A three-day minimal notice shall be required for four-tens to the respective involved unions.

C. On a 5-day work week, Saturday may be used as a make-up day at straight time to fulfill the 40-hour work week due to inclement weather. On a 4-day work week, Friday maybe used as a make-up day at straight time to fulfill the 40-hour work week. Make-up days shall be scheduled for a minimum of 8 hours, except in the case of inclement weather in which Section 12.5 shall apply. Make-up days shall not be mandatory and no discipline shall be taken against employees electing not to work the make-up day. This shall also apply when more than one shift or multiple shifts are worked.

D. The changing of the regular starting time, except in the case of overtime and the switch from a 5- day and 4-day work weeks shall be a 4-week minimum.

SECTION 12.2 OVERTIME

Overtime pay for hours outside of the standard work week and work day, defined in Section 12.1, and all work on Saturdays shall be paid at time and one half the hourly rate and benefits will be paid on straight time. All work on Sundays shall be paid at two times the hourly rate and benefits will be paid at straight time.

SECTION 12.3 SHIFTS

A. Flexible Schedules - Scheduling of shift work, including Saturday and Sunday work, shall be within the discretion of the Contractor in order to meet Project Work schedules and existing Project Work conditions. Shifts must have prior approval of the General Contractor and/or Owner and must be scheduled with not less than three work days' notice to the Local Union.

B. Second and/or Third Shifts -- Saturday and/or Sunday Work.
The second shift shall start between 3 p.m. and 6 p.m. and the third shift shall start between 11 p.m. and 2 a.m. Shift differentials shall be straight time plus fifty percent (50%) of the Schedule A shift differential. No other premium or payments for such work shall be required unless such work is in excess of 40 hours during the week. There shall be no reduction in hours worked on a second and/or third shift, except that when 3 shifts are working together, the length of one or more shifts can be reduced to accommodate a 24-hour day and only actual hours worked will be paid. Work performed on Saturdays or Sundays shall be paid as provided in the applicable Schedule A.

C. To clarify above: "Schedule A Shift Differential designated percentage rates vary according to each trade's prevailing Collective Bargaining Agreement. Shift work as part of this Project Labor Agreement is 50% of the designated percentage of the shift percentages of each trades, for example if a trades shift differential is 15% it would be 7.5%."

SECTION 12.4 HOLIDAYS

A. Schedule - There shall be seven (7) recognized holidays:

New Year's Day
President's Day
Memorial Day
Fourth of July
Labor Day
Thanksgiving Day
Christmas Day

All said holidays shall be observed on the dates designated by New York State Law. In the absence of such designation, they shall be observed on the calendar date, except that holidays which occur on Sunday shall be observed on the following Monday.

B. Payment - Regular holiday pay, if any, for work performed on a recognized holiday shall be in accordance with the applicable Schedule A. There will be no benefits paid on holidays unless worked.

C. Exclusivity - No holidays other than those listed in Section 12.4 shall be recognized or observed.

SECTION 12.5 REPORTING PAY

A. Employees who report to the work location pursuant to a regular schedule and who are not provided with work or whose work is terminated early by a Contractor, for whatever reason, shall receive two (2) hours reporting pay and actual hours worked thereafter

B. When an employee who has completed his or her scheduled shift and has left the Project site is "called out" to perform special work of a casual, incidental, or irregular nature, the employee shall receive pay for actual hours worked at applicable straight time or overtime rates in accordance with this Agreement, but no less than a minimum guarantee of one (1) hour at the employee's straight time rate.

C. When an employee leaves the job or work location of their own volition, is discharged for cause, or is not working as a result of the Contractor's invocation of Section 12.8 below, he or she shall be paid only for the actual time worked.

D. There shall be no pay for time not actually worked except as specifically set forth in this Article 12 and where an applicable Schedule A applies to Forepersons, Stewards and Lead Engineer in reference to pay.

SECTION 12.6 PAYMENT OF WAGES

A. Payday: Payment shall be made by check, drawn on a New York bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 3:00 p.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than one week's wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

B. Termination: Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of layoff or discharge.

SECTION 12.7 INJURY/DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than eight (8) hours wages for that day. Further, the employee shall be rehired at such time as the employee is able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

SECTION 12.8 EMERGENCY WORK SUSPENSION

A Contractor may, if considered necessary for the protection of life, property, and/or safety of employees or others, suspend all or a portion of Project Work. In such instances, employees shall be paid for actual time worked; provided however, that when a Contractor requests that employees remain at the job site available for work, employees shall be paid for "stand-by" time at their hourly rate of pay.

ARTICLE 13 - APPRENTICESHIP & HELMETS TO HARDHATS

SECTION 13.1 APPRENTICE RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and that is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications as are contained in the applicable Schedule A in a ratio of not less than twenty-five percent (25%) of the work force by craft (without regard to whether a lesser ratio is set forth in Schedule A), unless the applicable Schedule A provides for a higher percentage. The first person assigned to the job shall be a Journeyman. The second person assigned may be an apprentice. Subsequent assignments shall be Journeymen until the applicable ratio is achieved. This assignment shall be repeated until staffing needs are satisfied. Apprentices and such other classifications as are appropriate will be employed in a manner consistent with the provisions of the applicable Schedule A.

SECTION 13.2 NYS DEPARTMENT OF LABOR- APPRENTICESHIP

To assist the Contractors in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New York State Department of Labor to ensure that minorities and women are afforded every opportunity to participate in apprenticeship programs that result in the placement of apprentices on this Project. In addition, up to fifty percent (50%) of the apprentices placed on this Project may be first year, minority, women or economically disadvantaged apprentices. The Local Unions will cooperate with Contractor requests for minority, women, or economically disadvantaged referrals to meet this Contractor effort. These workers may be delivered under a "Direct Entry" designation or by use of a Department of Labor Waiver.

SECTION 13.3 HELMETS TO HARDHATS

The Contractors and the Unions desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and the Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (the "Center") and the Center's "Helmets to Hardhats" program as a resource for preliminary orientation and assessment of construction aptitude; referral to apprenticeship programs or hiring halls; counseling and mentoring; and support networks, employment opportunities, and other needs as identified by the parties.

The Unions and the Contractors agree to work with the Center to create and maintain an integrated database of veterans interested in working on the Project as well as information about apprenticeship and employment opportunities related to this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

SECTION 13.4 PARTICIPATION GOALS (MBE, WBE, SVDOB)

The Newburgh School District, contractors, the Hudson Valley Building and Construction Trades Council and its affiliated unions are committed to meeting the NYS Participation Goals and shall be in alignment with the current goal or standards set for by New York State for Minority Business Enterprises (MBE), Woman Owned Business Enterprise (WBE) and Service-Disabled Veteran Owned Business (SVDOB) to ensure participation on the project by MBE, WBE and SVDOB firms while maintaining fiscal responsibility.

Outreach by the construction managers, contractors, Hudson Valley Building and Construction Trades and affiliated unions and contractor associations to ensure participation goals of MBE, WBE and SVDOB firms are met will be required through the project.

ARTICLE 14 – NO DISCRIMINATION

SECTION 14.1 COOPERATIVE EFFORTS

The Contractors and Unions agree that they shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, marital status, age, union or non-union status, real or perceived sexual orientation or any other status protected by law, in any manner prohibited by law or regulation. It is recognized that special procedures may be established by Contractors and Local Unions and the New York State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The parties to this Agreement shall assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project. Nothing in this section shall be grieveable.

SECTION 14.2 LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 15– GENERAL TERMS

SECTION 15.1 PROJECT RULES

The Construction Manager, General Contractor and/or other Contractors may establish from time to time such reasonable Project rules as are necessary for the good order of the Project. These rules shall be outlined at the pre-job conference, detailed in the contract documents, posted at the Project site, and may be amended thereafter as necessary.

Security Protocols – The Construction Manager and/or NECSD, in their sole discretion, will determine security protocols for the entire Project Site. Strict compliance by all employees with security procedures, protocols, and directives issued by these entities or its delegated, is required by all employees at all times.

SECTION 15.2 TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 15.3 SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 15.4 FULL WORKDAY

Employees shall be at their work area at the starting time established by the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 15.5 CAREER AND TECHNICAL EDUCATION ("CTE")

With the exception of work already excluded under this Agreement, the parties to this Agreement agree to meet for the purpose of determining which proprietary equipment in the Career and Technical Education ("CTE") Building will be included or excluded under the Project Labor Agreement. This equipment includes, but is not limited to, the equipment in the café, culinary room, auto, makers spaces, photo/art, nursing and EMS, cosmetology/barbershop, architecture/engineering and carpentry/machinery rooms. The parties shall meet upon finalization of plans & specifications for the "CTE" Building and in advance of advertisement of bids related to the "CTE" Building.

ARTICLE 16 - SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 16.1 SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and New York State mandated safety requirements are at all times maintained on the Project and the employees and Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and NECSD from injury or harm. Failure to do so may be grounds for discipline, including discharge. Prevention of accidents at the site is the responsibility of the Contractors, its employees, subcontractors and suppliers, persons, and entities at the site. The Contractors shall establish their own safety programs implementing safety measures, policies, and standards conforming to those required or recommended by governmental and quasi-governmental authorities having jurisdiction. The Construction Manager is not responsible for identifying unsafe practices,
nor for failure to stop the Contractors' unsafe practices; and, the Construction Manger's failure to stop the Contractors' unsafe practices shall not relieve the Contractors of the responsibility therefore.

SECTION 16.2 CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Owner. Such rules will be published in the contract documents and may be posted in conspicuous places throughout the Project.

SECTION 16.3 INSPECTIONS

The Contractors and NECSD's Architect and Construction Manager retain the right

to inspect incoming shipments of equipment, apparatus, machinery, and construction materials of every kind.

ARTICLE 17 – TEMPORARY SERVICES

Temporary light, power, cooling, ventilation and other services shall only be required on the specific request of the Contractor and when requested shall be assigned to the appropriate trade with jurisdiction. Temporary coverage may be provided by the Contractor's employees already working under this Agreement during regular work hours. The Contractor will determine the need for temporary coverage requirements during non-work hours. For safety reasons, temporary light and power panels will only be accessed by employees of the electrical contractor responsible for supplying the temporary light and power panels. This shall not require a standby employee who is not performing Project Work. There shall be no stacking of trades on temporary services. In the event temporary services are claimed by multiple trades, the matter shall be resolved pursuant to Article 10.

ARTICLE 18 - SAVINGS AND SEPARABILITY

SECTION 18.1 THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, the provision involved (and/or its application to a particular part of the Project, as necessary) shall be rendered, temporarily or permanently, null and void, but the remainder of the Agreement shall remain in full force and effect to the extent allowed by law. In the event a court of competent jurisdiction finds any portion of the Agreement to be invalid, the parties will immediately enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the court determination and the intent of the parties hereto for contracts to be let in the future.

SECTION 18.2 NON-WAIVER

Nothing in this Agreement is intended to be or shall be construed as a waiver by any Union(s) of any prevailing wage determination or schedule that is applicable to their trade for any public work that has been or may be performed in the future on any work outside the scope of this Agreement. Nothing contained in this Agreement is intended to be or shall be construed as a waiver by any Union(s) of any more favorable term or condition of employment that may be contained in any collective bargaining agreement applicable to work outside the scope of this Agreement.

ARTICLE 19 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS

SECTION 19.1 CHANGES TO AREA CONTRACTS

Each Schedule A attached to this Agreement shall continue in full force and effect until the Contractor and/or Union parties to the area collective bargaining agreements which are the basis for the Schedule A notify the Owner and General Contractor in writing of the agreed upon changes in those agreements which are applicable to the Project, and their effective dates. Such changes shall only be effective to the extent consistent with this Agreement. Any disagreement between signatories to this Agreement over the incorporation into Schedule A of provisions agreed upon in the renegotiation of area collective bargaining agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 19.2 LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there shall be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project by any Local Union involved in the renegotiation of area local collective bargaining agreements, nor shall there be any lock-out on this Project affecting a Local Union during the course of such renegotiations.

ARTICLE 20 - WORKERS' COMPENSATION ADR

At the written option of the Contractor and with the written approval of the Hudson Valley Building Trades Council, all Local Unions, Contractors and sub-contractors working on this Project agree to be bound by the Collectively Bargained Workers Compensation Alternative Dispute Resolution Agreement (ADR Agreement) and to the ADR program set forth therein, by and between the Construction Industry Council of Westchester and the Hudson Valley, Inc., and the Building and Construction Trades Council of Westchester and Putnam County, New York, entered into on January 26, 2007, as amended

ARTICLE 21-HUDSON VALLEY BUILDING AND CONSTRUCTION TRADES LABOR MANAGEMENT ALLIANCE

If not prohibited by law and there are no direct or additional costs to the Owner or Contractors, parties to this Agreement agree to participate in the Hudson Valley Building and Construction Trades Labor Management Alliance.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the 1st day of February 2021.

FOR THE HUDSON VALLEY BUILDING AND CONSTRUCTION TRADES COUNCIL:

By: _____
L. Todd Diorio, President

FOR THE PALOMBO GROUP
BY: _____
(Name/Title) Luis H. Rodriguez, President

FOR NEWBURGH ENLARGED CITY SCHOOL DISTRICT:

BY: _____
(Name/Title) ROGER RAMOS / BOE APPOINTED OWNERS REPRESENTATIVE

FOR THE LOCAL UNIONS:

INTERNATIONAL BROTHERHOOD OF BOILERMAKERS, IRON SHIP BUILDERS, BLACKSMITHS, FORGERS & HELPERS, DISTRICT NO. 5

BY: _____
(Name/Title)

_____ _____
E-mail Office No. or Cell

THE INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTWORKERS LOCAL 1 BY: David D. Williams
(Name/Title)

DWilliams@BACINY.com 845.565.8544
E-mail Office No. or Cell

NORTH ATLANTIC STATES REGIONAL COUNCIL OF CARPENTERS LU# 279

BY: Martin J. Ross
(Name/Title)

mross@nasrcc.org 845-763-2456
E-mail Office No. or Cell

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL NO.363 BY: Sam Fuller BY HGR.
(Name/Title)

SFULLER@IBEW363.ORG 845-216-7023
E-mail Office No. or Cell

INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ALLIED WORKERS LOCAL #91

BY: T. J. Lee Business Manager
(Name/Title)

awl91@insulators.org (914) 788-0500
E-mail Office No. or Cell

FOR THE LOCAL UNIONS:

INTERNATIONAL BROTHERHOOD OF BOILERMAKERS, IRON SHIP BUILDERS, BLACKSMITHS, FORGERS & HELPERS, DISTRICT NO. 5

BY: _____ BM/ST
(Name/Title)

boilermakers1000/5@verizon.net — 516-326-2500
E-mail — Office No. or Cell

THE INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTWORKERS LOCAL 1 BY: _____
(Name/Title)

DWILLIAMS@BACINY.com — 845-565-8344
E-mail — Office No. or Cell

NORTH ATLANTIC STATES REGIONAL COUNCIL OF CARPENTERS LU# 279

BY: _____
(Name/Title)

mross@nasrcc.org — 845-763-2456
E-mail — Office No. or Cell

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL NO.363 BY: _____ BUS MGR.
(Name/Title)

SPRATTO@IBEWLU363.ORG — 845-216-7023
E-mail — Office No. or Cell

INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ALLIED WORKERS LOCAL #91

BY: _____
(Name/Title)

_____ — _____
E-mail — Office No. or Cell

INTERNATIONAL ASSOCIATION OF BRIDGE, STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS LOCAL NO. 417

BY: Michael P. Snyder
(Name/Title)

gator417@verizon.net
E-mail

914-443-4991
Office No. or Cell

LABORERS' INTERNATIONAL UNION OF N.A. LOCAL 17

BY: R. Tedesco Bu

(Name/Title)

Tdiorio555@AOL.com
E-mail

914 474 6222
Office No. or Cell

INTERNATIONAL UNION OF OPERATING ENGINEERS, LOCAL 825

BY: C Wood

(Name/Title)
CWood@iuoe825.org
E-mail

908-347-0502
Office No. or Cell

DISTRICT COUNCIL NO. 9, INTERNATIONAL UNION OF PAINTERS AND ALLIED TRADES,
A.F.L. - C.I.O

BY: Business Rep
(Name/Title)
Skzdc9@Aol.com
E-mail

914-260-1807
Office No. or Cell

PLUMBERS, STEAMFITTERS AND SERVICE TECHNICIANS LOCAL UNION 373

BY: Robert Ambrosetti
(Name/Title)

RA373@AOL.com
E-mail

845-656-8091
Office No. or Cell

INTERNATIONAL ASSOCIATION OF SHEET METAL, AIR, RAIL AND TRANSPORTATION WORKERS (SMART) LOCAL 38

BY: _____
(Name/Title)

unionofficesmart38.org _____ 845-278-6868
E-mail Office No. or Cell

ROAD SPRINKLER FITTERS LOCAL UNION 669

BY: _____
(Name/Title)

_____ _____
E-mail Office No. or Cell

TEAMSTERS UNION LOCAL 445

BY: _____ John Clineman
(Name/Title)

jclineman@Teamsters union 445 org _____ 845-857-4353
E-mail Office No. or Cell

INTERNATIONAL UNION OF ELEVATOR CONSTRUCTORS

BY: _____ B.R. IUEC 17
(Name/Title)

IUEC138@aol.com _____ 845-332-5380
E-mail Office No. or Cell

NEW YORK CITY DISTRICT COUNCIL OF CARPENTERS LOCAL 740 Millwright 2257 Floorcovers

BY: _____ Vice President
(Name/Title)

MCAUANAUGH@NYCDISTRICTCOUNCIL.org _____ 212-366-7438
E-mail Office No. or Cell

INTERNATIONAL ASSOCIATION OF SHEET METAL, AIR, RAIL AND TRANSPORTATION WORKERS (SMART) LOCAL 38

BY:_____
(Name/Title)

E-mail

Office No. or Cell

ROAD SPRINKLER FITTERS LOCAL UNION 669

BY: Kenneth Kelly Business Agent
(Name/Title)

Klilley669@gmail.com
E-mail

914-475-9158
Office No. or Cell

TEAMSTERS UNION LOCAL 445

BY:_____
(Name/Title)

E-mail

Office No. or Cell

INTERNATIONAL UNION OF ELEVATOR CONSTRUCTORS

BY:_____
(Name/Title)

E-mail

Office No. or Cell

NEW YORK CITY DISTRICT COUNCIL OF CARPENTERS LOCAL 740

BY:_____
(Name/Title)

E-mail

Office No. or Cell

BRICKLAYERS AND ALLIED CRAFTS, TILE, MARBLE & TERAZZO UNION OF NEW YORK AND NEW JERSEY, LOCAL NO. 7

BY: Robert Virga BA.
(Name/Title)

SVIRGA@BACLOCAL7.COM
E-mail

917-734-7429
Office No. or Cell

UNITED UNION OF ROOFERS, WATERPROOFERS AND ALLIED WORKERS LOCAL NO. 8

BY: Bill Wilmer B.A.
(Name/Title)

WWILMER@ROOFERS8.ORG
E-mail

646 294 1510
Office No. or Cell

SCHEDULE A – LOCAL COLLECTIVE BARGAINING AGREEMENTS

ARTICLES OF AGREEMENT between the INTERNATIONAL BROTHERHOOD OF BOILERMAKERS, IRON SHIP BUILDERS, BLACKSMITHS, FORGERS & HELPERS, AFL-CIO and THE FIRMS WHOSE SIGNATURES ARE AFFIXED HERETO January 1, 2018 -December 31,2020

AGREEMENT by and between THE CONSTRUCTION CONTRACTORS ASSOCIATION OF THE HUDSON VALLEY, BUILDING CONTRACTORS ASSOCIATION, AND THE MASON AND CONCRETE CONTRACTORS ASSOCIATION OF THE HUDSON VALLEY and THE INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTWORKERS LOCAL 1 NEW YORK June 1, 2017 - May 31,2020

AGREEMENT between THE ASSOCIATIONS and the NORTH ATLANTIC STATE REGIONAL CONCIL OF CARPENTERS LOCAL UNION 279 May 1, 2019 -April 30, 2022

AGREEMENT by and between the HUDSON VALLEY CHAPTER, NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION and LOCAL UNION 363, INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS April 1, 2018 - March 31, 2022

AGREEMENT by and between the NATIONAL ELEVATOR BARGAINING ASSOCIATION and the INTERNATIONAL UNION OF ELEVATOR CONSTRUCTORS July 9, 2017 -July 8, 2022

MEMORANDUM OF AGREEMENT by and between the WINDOW AND PLATE GLASS DEALERS ASSOCIATION and DISTRICT COUNCIL NO. 9 GLAXIERS LOCAL UNION #1087 May 1, 2017-April 30, 2023

AGREEMENT OF WORKING CONDITIONS between INDUSTRIAL INSULATION CONTRACTORS OF SOUTHERN NEW YORK and THE INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ALLIED WORKERS LOCAL #91 May 30, 2016 - May 26, 2019

AGREEMENT between FABRICATORS, ERECTORS AND REINFORCING CONTRACTORS ASSOCIATION OF THE HUDSON VALLEY, INC. and LOCAL UNION NO. 417 OF THE INTERNATIONAL ASSOCIATION OF BRIDGE, STRUCTURAL, ORNAMENTAL AND REINFORCING IRON WORKERS July 1, 2018-June 30, 2021

INDEPENDENT MILLWRIGHT AGREEMENT between NEW YORK CITY MILLWRIGHT CONTRACTORS ASSOCIATION and THE DISTRICT COUNCIL OF NEW YORK CITY AND VICINITY OF THE UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA and MILLWRIGHT LOCAL 740 July 1, 2011 -June 30, 2017

AGREEMENT between MASTER PAINTERS and DISTRICT COUNCIL NO. 9 May 1, 2014 -April 30,2020

RESILIENT FLOOR COVERERS AGREEMENT between THE GREATER NEW YORK FLOOR COVERERS ASSOCIATION, INC. and THE DISTRICT COUNCIL OF NEW YORK AND VICINITY OF THE UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA September 16, 2016 - June 30, 2024

AGREEMENT between UNITED UNION OF ROOFERS, WATERPROOFERS AND ALLIED WORKERS, LOCAL UNION NO. 8 and ROOFING & WATERPROOFING CONTRACTORS ASSOCIATION OF NEW YORK AND VICINITY July 1, 2019 -April 30, 2022

COMMERCIAL AGREEMENT between LOCAL UNION NO. 38 OF THE INTERNATIONAL ASSOCIATION OF SHEET METAL, AIR, RAIL AND TRANSPORTATION WORKERS (SMART) and SHEET METAL AND ROOFING CONTRACTORS' ASSOCIATION OF SOUTHEASTERN NEW YORK May 1, 2019-April 30, 2024

AGREEMENT between NATIONAL FIRE SPRINKLER ASSOCIATION, INC. and ROAD SPRINKLER FITTERS LOCAL UNION NO. 669 April 1, 2016-March 31, 2021

AGREEMENT HEAVY & HIGHWAY between TEAMSTERS UNION LOCAL 445, IBT, AFL-CIO and INDIVIDUAL EMPLOYERS May 1, 2017 -April 30, 2020

LOCAL UNION NO. 7 TILE, MARBLE, AND TERRAZZO, AFL-CIO OF NEW YORK AND NEW JERSEY AGREEMENT between the MARBLE INDUSTRY OF NEW YORK, INC. and THE MARBLE POLISHERS AND MAINTENANCE FINISHERS, LOCAL NO. 7 of the INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTSMEN July 1, 2018-June 30, 2022

AGREEMENT HEAVY & HIGHWAY between TEAMSTERS UNION LOCAL 445, IBT, AFL-CIO and INDIVIDUAL EMPLOYERS May 1, 2017 -April 30, 2020

AGREEMENT between THE GREATER NEW YORK AND NEW JERSEY TILE CONTRACTORS ASSOCIATION, INC. and THE TILE SETTERS AND TILE FINISHERS UNION OF NEW YORK AND NEW JERSEY, LOCAL UNION NO. 7 OF THE INTERNATIONAL UNIO OF BRICKLAYERS AND ALLIED CRAFTWORKERS June 2, 2017 -June 2, 2021

AGREEMENT between the MOSAIC, TERRAZZO AND CHEMICAL PRODUCT DECORATIVE FINISHER MASONS WORKERS ASSOCIATION LOCAL NO. 7 OF NEW YORK NEW JERSEY & VICINITY INTERNATIONAL UNION OF BRICKLAYERS AND ALLIED CRAFTWORKERS and MARBLE TERRAZZO AND SPECIALTY CONTRACTORS ASSOCIATION, INC. July 1, 2017-June 30,2022

BUILDING AGREEMENT between LABORERS' LOCAL UNION NO. 17 and CONSTRUCTION CONTRACTORS ASSOCIATION of the HUDSON VALLEY, INC. June 1, 2017 - May 31, 2020

HEAVY, HIGHWAY & SITE AGREEMENT between LABORERS' LOCAL UNION NO. 17, AGC OF AMERICA and CONSTRUCTION INDUSTRY COUNCIL May 1, 2017 – April 30, 2020

MECHANICAL CONTRACTORS ASSOCIATION OF ROCKLAND, ORANGE, SULLIVAN COUNTIES and PLUMBERS & STEAMFITTERS LOCAL NO. 373 May 2019 – April 2021

AGREEMENT between INTERNATIONAL UNION OF NORTH AMERICA OPERATING ENGINEERS LOCAL UNION NO. 825 INDEPENDENT AGREEMENT July 1, 2019

SCHEDULE A COLLECTIVE BARGAINING AGREEMENT can be viewed by visiting the Hudson Valley Building and Construction Trades Council website: builditunion.org
Username: hudsonvalley
Password: buildingtrades

IT SHALL BE THE REPSONSIBILITY OF THE CONTRACTOR TO VERIFY SCHEDULE A AGREEMENTS WITH THE RESPECTIVE UNIONS SIGNATORY TO THIS PROJECT LABOR AGREEMENT.

For questions about this Agreement or Schedule A contact:

Todd Diorio (845) 565-2737 or email tdiorio555@aol.com
President, HVBCTC

SCHEDULE B - LETTER OF ASSENT

The undersigned party confirms that it agrees to be a party to and be bound to the _____ Project Labor Agreement (hereinafter "Agreement" or "PLA") entered into between "COUNCIL" and "NECSD", understands that such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the Agreement and its Schedules are hereby incorporated by reference herein.

The undersigned, as a Contractor or Subcontractor (hereinafter "Contractor") on the Project known as the Capital Construction Bond Projects and located within the "NECSD" (hereinafter "Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the PLA, a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the Project Labor Agreement, together with any and all schedules, amendments, and supplements now existing or which are later made thereto;

(2) Agrees to be bound by, and incorporates and adopts the legally established collective bargaining agreements (Schedule "A") and local trust agreements as referenced in the Project Labor Agreement and this letter of Assent for this Project;

(3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor;

(4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of said Project Labor Agreement. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it engages to work on the Project. Labor harmony disputes/issues shall be subject to the Labor Management Committee's Pre-Job conference provisions;

(5) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor (of any tier) on the Project, a duly executed Agreement to be bound in from identical to this document;

(6) Agrees that it will not invoke the Most Favored Nations Clause that may be contained in any of its Collective Bargaining Agreements with affiliated unions as a result of the application of this Project Labor Agreement to this Project.

Dated: _____ _____

Name of CM, Contractor

By: Authorized Officer & Title _____ Date:_____

Address

Phone

e-mail

Employer EIN_____Employer NYS IU_____WC#_____

Sworn to before me this
_____ day of_____, 20____

Notary Public

SCHEDULE C – ADMINISTRATION OF AGREEMENT; DESIGNEE

Name of Project: _____

The Owner shall name a Designee to administer this Agreement. The Designee shall be notified in the event any jurisdictional issue, grievance, or other matter concerning this PLA arises, and such Designee shall actively take part in the resolution of the issue. Any signatory Union may request the Designee's assistance in rectifying an issue.

The Designee's contact information is as follows:

_____ (Office Phone)

_____ (Cell Phone)

_____ (Email)

_____ (Signature)

_____ (Print)

Owner

SCHEDULE D – NATIONAL PLAN

A copy of National Plan for the Settlement of Jurisdictional Disputes can be viewed by visiting the Hudson Valley Building and Construction Trades website: builditunion.org

Username: hudsonvalley Password: buildingtrades

SECTION 007343 - PREVAILING RATE OF WAGES

PART 1 – GENERAL

A. The labor on this contract shall be performed in all respects in full accordance with the Labor Law of the State of New York. In accordance with Section 220, Subdivision 3, and Section 220-D, of the Labor Law, the Industrial Commissioner has designated as the minimum hourly wages to be paid to employees on the work the rates shown on the attached schedules which shall be posted in a prominent and convenient place for the inspection of the Contractor's employees. Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, provides, among other things, that it shall be the duty of the fiscal officer to make a determination of the schedule of wages and supplementals to be paid to all laborers, workmen and mechanics employed on public works projects. The amount of supplementals listed on the enclosed schedule does not necessarily include all types of prevailing supplements.

B. The Contractor shall make provision for disability benefits, workman's compensation, unemployment insurance and social security, as required by law.

C. Per the New York State Education Department's directive via the Office of Facilities Planning, the Contractor is responsible for obtaining copies of the prevailing wage schedule and all updates thereto, as well as the list of employers ineligible to bid on or be awarded public work contracts, directly from the Department of Labor's Bureau of Public Work's web site:
    1. http://www.labor.ny.gov/workerprotection/publicwork/PWContents.shtm
        a. Scroll down to Prevailing Wage Schedule.
        b. Select the third link, "View of Previously Requested Prevailing Wage Schedule using PRC#
        c. Enter the PRC number: 2025010886
        d. Select Submit.
        e. Select the first link "Wage Schedule" at the top right.

D. In the event that the Contractor does not have internet access or is unable to access the Department's website, please fax a written request for a printed copy of the schedule to the Central Office of the Bureau of Public Works at (518) 485-1870.

END OF SECTION 007343

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SECTION 008300 - PROJECT FORMS

PART 1 – GENERAL

1.1 SUMMARY

A. This Section lists the project forms to be used for administration and coordination of the project.

B. Forms are intended for use throughout construction and will be issued for electronic use upon award of Contract(s).
   1. RELATED DOCUMENTS

C. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Sections, apply to this Section.
   1. FORMS

D. The following forms will be provided for electronic use, upon award of Contract(s):
   1. 008310 – Submittal Cover Sheet
   2. 008320 – Request for Information
   3. 008325 – Change in Condition
   4. 008330 – Request for Shutdown
   5. 008340 – Daily Report Cover
   6. 008350 – Labor Rate Sheet
   7. 008370 – Two Week Look Ahead Schedule
   8. 008380 – Bi-Weekly Material Equipment Status Report
   9. 008420 – Room Check
   10. 008440 – Substantial Completion Request for Inspection
   11. 008450 – Test Report Inspection Log

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 Review forms listed and submit appropriate form(s) to the Architect and/or Owners Representative as required. Forms shall be used for documentation, and coordination purposes. It is the responsibility of each Prime Contractor to coordinate their installations with other Prime Contracts; respective Forms listed above shall be used to document coordination.

END OF DOCUMENT 008300

END OF SECTION 008300

CSARCH
an Aeterna Group™ Company

Submittal Cover

Submittal No.

PROJECT: NECSD NFA North Auditorium Renovation

CSARCH PROJECT No. 108-2504

CONTRACT No.

CONTRACT FOR:

CONTRACTOR:

SUBCONTRACTOR:

SUBMITTAL INFORMATION

1ST Submission ☐ Date: 1st Re-Submittal ☐ Date: 2nd Re-Submittal ☐ Date:

Description:

Shop Drawing Title:

Shop Drawing No.

Contents: ☐ Product Data ☐ Samples ☐ Tests ☐ Schedules

Manufacturer:

SPEC SECTION: Paragraph(s): Drawing Number:

CONTRACTOR'S APPROVAL

Date: By:

☐ Submitted product has been reviewed for release to Architect/Engineer

☐ Submitted product is as specified

☐ Submitted product is equal to specific product

Upon Approval, delivery lead time

CSARCH REMARKS

ARCHITECT/ENGINEER'S ACTION:

Date: By:

☐ No Exception Taken ☐ Approved As Noted

☐ Rejected ☐ Revise & Resubmit

Reviewing is only for conformance with the Project's design concept and compliance with the information in the Contract Documents. The Contractor is responsible for quantities and dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication processes or to the mean, methods, techniques, sequences & procedures of construction; and for coordination of the Work of all trades. Any corrections on the submittal shall not be deemed an order for extra work.

CSARCH
an Aeterna Group™ Company

Request for Information

CSArch RFI No.

PROJECT NECSD NFA North Auditorium Renovation	**DATE:**
	CONTRACT No.
CSARCH PROJECT No. 108-2504	**CONTRACT FOR:**
REVIEWED BY (Prior to presenting this RFI to the Project Architect)	
☐ **Contractor:**	☐ **CSArch Construction Site Coordinator:**
Date:	**Date:**
Contractor RFI No.	

REQUEST		
Subject/Title:		
Date Response Needed:		
Attachment:	Diagram No.	
Reference Drawing No.	Spec No.	Detail(s)/Paragraph(s):
Question:		
By:	Date:	

RESPONSE	
Reference Attached	Sketch No.
Response:	
By:	Date:

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. This Section includes a summary of each Prime Contract, including responsibilities for coordination and temporary facilities and controls.

B. One set of Construction Documents is issued covering the Work of multiple Prime Contracts. Each Contractor is responsible for reviewing all Drawings and Specifications for every contract to gain a complete understanding and knowledge of the entire Project, and to determine how the Work of each contract is to interface with every other contract.

C. All Prime Contracts are responsible for all Work of their Contract no matter what drawing on which the Work appears.

D. Related Requirements:
   1. Section 01 31 00 “Project Management and Coordination" for general coordination requirements.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Architect and Construction Manager, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and includes but is not limited to the following:
   1. NFA North Campus – Volume 1
      1) Abatement of Hazardous Materials
      2) Auditorium – Main Level and Balcony
         a) Wall, Ceiling and Floor Finish Replacement, Replacement of Fixed Seating and renovations associated with ADA Seating provisions, Door and Hardware replacement

b) HVAC and associated controls replacement and upgrades
c) Theatrical Rigging, Lighting and Stage curtain replacement and upgrades
d) Audio/Visual System replacement and upgrades

B. Type of Contract:
1. Project will be constructed under coordinated, generally concurrent multiple contracts. Contracts for this Project include the following:
a. Contract No. 01 GC – General Construction Work
b. Contract No. 02 MC – Mechanical Construction Work
c. Contract No. 03 EC – Electrical Construction Work
d. Contract No. 04 TCC – Temperature Controls Work
e. Contract No. 05 FSC – Fixed Audience Seating Work

C. 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.

1.5 CONSTRUCTION SCHEDULE

A. Refer to Section "031113 Project Milestone Schedule", in conjunction with the project Phasing and Logistics Drawings provided in the Contract Documents. The Project Base Scope of Work shall be conducted in accordance with the following schedule:

1. Submittals: Provide all submittals within 45 days after award of contract unless noted otherwise.

2. Final completion date: 30 days after Substantial Completion.

1.6 REQUIREMENTS FOR EACH CONTRACT

A. In addition to assignments noted by Section "015000 Temporary Facilities and Controls" and "Assignment of Temporary Work."

B. Each Contractor will be required to adhere to the Site Safety Plan Requirements included in Section "013150 Safety and Health". This includes the requirements for signing in at project sites in accordance with the Owner's security procedures.

C. Included in Each Contract:
1. In addition to specific responsibilities indicated in this Section, each contract is responsible for providing the following for its own work:
a. Construction layout.
1) Sleeves.
2) Anchor bolts.

3) Hangers and supports for piping, equipment, and systems.
4) Equipment pads.
5) Cutting and patching.
6) Through-penetration firestopping.
7) Joint Sealants
8) Coordination of each respective contracts work with the work of all other contracts.
9) Cleaning of their own work and work areas.

2. Provide materials and comply with installation requirements specified in Sections other than Contractor's own designated Specification Sections for above-listed items, as applicable.

D. Substitutions: Per Division 01 Sections, including "016000 Product Substitution Requirements", each Prime Contractor shall cooperate with the other Prime Contractors involved, to coordinate approved substitutions with remainder of the Work.

E. All references to Contractor, Prime Contractor, or Prime in this and other specification sections shall mean to reference each of the appropriate Prime Contractors listed below and any/all their workers and the tiers of contractors, suppliers, vendors, etc. providing labor, materials, and/or equipment under/for the Prime Contract.

F. This Section includes a summary of Work required of each Prime Contract, including responsibilities for coordination and temporary facilities and controls. One set of Construction Documents is issued covering the Work of multiple Prime Contracts. Each Prime Contract is responsible for reviewing all drawings and specifications for specific requirements indicated, and for a general understanding and knowledge of the Work of other Prime Contractors.

1. This Work of this Project is by a Multiple Prime Contracts defined as follows:
   a. Contract No. 01 GC – General Construction Work
   b. Contract No. 02 MC – Mechanical Construction Work
   c. Contract No. 03 EC – Electrical Construction Work
   d. Contract No. 04 TCC – Temperature Controls Work
   e. Contract No. 05 FSC – Fixed Audience Seating Work

2. Each and/or all Prime Contractors are responsible for all Work of their Contract no matter what drawing or specification section on/in which the Work appears
   a. GC – Refer to all drawings for openings required by duct penetrations shown. GC shall provide all openings 10" or greater in diameter, or cutting openings of 100 square inches or greater in all walls, floors and roofs.

3. Other Prime Contracts may be awarded to provide work not included in this Prime Contract Scope of Work or Summary of Work.

4. Other Prime Contractors for other Phases of the District Capital Work or other Contractors for general District work may be working in the District facilities at the same time as the work of this Prime Contract is executed. This Prime Contractor must coordinate the execution of this work with the work of other Contractors and other Prime Contractors.

G. GENERAL REQUIREMENTS OF PRIME CONTRACTS

1. Prime Contracts: The context used in this Section are separate Prime Contracts that represent significant elements of work that are to be performed concurrently and in close coordination with the work of other Prime Contracts for the benefits of the Owner. Each Prime Contract is recognized to be a major part of the Work.

2. Prime Contractor's Project Site Superintendent: Each Prime Contractor shall provide a minimum of one full-time Project Site Superintendent on-site while any work related to this Contract is being performed. Prime Contractor's Superintendent shall be responsible for the daily activities of the Prime's Contract and shall work closely with the Construction Manager and the other Prime Contract Superintendents/Forepersons, in a manner that best promotes the objectives of the Project. This individual shall be responsible for enforcing safe work practices, ensuring quality control, daily clean-up, and is responsible for locking and securing all doors, windows, etc. at the end of each work shift.

   a. Each Prime's Superintendent shall be on-site while Contractor's own forces and/or subcontractors and/or sub-subcontractors are performing work on the Project Site, also while other Prime Contractors are installing work or require the coordination of work related to the Prime Contract, and/or as requested by the Construction Manager.

   b. The General Contractor's designated field superintendent shall not be a working technician that is tasked with performing field installations but rather shall remain focused on coordination and planning of construction activities, oversight of operations, and other supervisory tasks.

   c. Superintendent shall be the same individual throughout the duration of the Project.

   d. Prime Contractor's Site Superintendent shall be an individual with a minimum of five (5) years of experience in this field of work.

   e. Refer to other Division 00 and 01 sections for further requirements.

   f. Schedule of Prime Contractors Superintendent:
      1) GC – one Full-Time Non-Working Superintendent

2) MC – one Full-Time, Working Superintendent
3) EC – one Full-Time, Working Superintendent
4) TLRC – one Full-Time, Working Superintendent
5) TCC – one Full-Time, Working Superintendent
6) FSC – one Full-Time, Working Superintendent

3. Assignment of Work: Should a conflict be indicated, Specification Section "011200 Multiple Contract Summary" shall take precedence over all scopes of work assignments that may be indicated elsewhere within the Contract Documents.

4. Site Communications: Each Prime Contractor shall provide each Prime Superintendent and Project Foreperson with a cellular phone and computer; all costs and service charges shall be paid for by Prime Contractor; provide Construction Manager with all contact number(s).

5. Work of the Prime Contracts includes, but is not limited to, the following:

   a. All work delineated and all ancillary work necessary for complete systems and assemblies within and on buildings, additions, and on the sites outside of the face of building, unless noted or assigned otherwise, including all labor, material, supervision, equipment, scaffolding, layout, engineering, deliveries, trucking, hoisting, rigging, shop drawings, submittals, enclosures, negative air, proper disposal, and all other items related and required to complete all construction and disposal work in accordance with the Contract Documents and all applicable codes having jurisdiction for the work.

   b. Prime Contractors shall exercise good judgment and perform all work according to related industry standards.

   c. The Owner is exempt from payment of Federal, State, and local taxes, including sales and compensating use taxes on all materials and supplies incorporated in completing the Work; these taxes are not to be included in the Bid. This exemption does not apply to tools, machinery, equipment, or other property leased by, or to, the Contractor or sub-contractor, or to supplies and materials, which even though consumed are not incorporated into the completed work. Prime Contractors, and their sub-contractors, shall be responsible for paying all applicable taxes on said tools, machinery, equipment, or property, and upon all said unincorporated supplies and materials, whether purchased or leased.

   d. Prime Contractors shall understand that time is of the essence and will adequately staff the Project by employing the appropriate trade's people to perform the Work in accordance with the requirements of the current update of the Master Project Construction Schedule; these workers shall be

experienced in their respective trades. A shortage of labor in the industry shall not be accepted as an excuse for not properly staffing the Project; all efforts shall be made to meet or exceed the schedule, including additional staff and/or labor hours necessary. All costs associated with this item shall be included within the Bid.

1) Prime Contractors are also required to fully staff the work of this Project as required. Each Prime Contractor shall apply and obtain all necessary permissions from the NYS Department of Labor and other governing bodies to work at minimum the eight or more hours per day for number of days required, or as directed by the Construction Manager and/or the Owner, in order to maintain the Project Milestone Schedule each week during the designated work period.

e. Local custom and trade union jurisdictional settlements will not control the scope of the Work of each Prime Contract.
   1) When a potential jurisdictional dispute or similar interruption of Work is first identified or threatened, the affected Prime Contractor shall promptly negotiate a reasonable settlement to avoid or minimize the pending interruption and delays.

   2) Contractor's trade-related issues shall not be grounds for modification or extension of scheduled completion date(s).

f. The Work of all Prime Contracts requires close coordination with other Prime Contractors and construction personnel. Maintain flexibility and cooperation through the Project. "Out of Sequence" and "Delay" claims will only be considered when all requirements of Division 00 and 01 have been adhered to. Delay claims must be in writing and forwarded to the Architect via the Construction Manager per the requirements of the General Conditions and Supplementary General Conditions of the Contract. Claims not submitted per these requirements will be rejected and/or denied.

g. The intention of the Work is to follow a logical sequence. However, a Prime Contractor may be required by the Architect and/or Construction Manager to temporarily install, omit or leave out a section(s) of Work out of sequence. All such out of sequence work, and come back time, at these areas shall be performed at no additional cost to the Owner.

h. Each Prime Contractor shall review and understand all the drawings and specifications as they apply to each of the Primes and how that in turn affects the requirements and coordination that must be included in each Prime

Contract, whether stated or implied, to provide a complete installation. If there is ambiguity between two or more Prime Contracts as to who is responsible for a portion of the work and a Request for Information has not been submitted and/or response published, each affected Prime Contract is to carry that work in their Scope.

1) Each Prime Contractor shall review and understand this specification section in its entirety and provide all work required of them, including the work assigned in the "Summary" section above which lists required work that may not be specifically shown on the drawings.

i. The Prime Contractor shall understand that renovation work may require work to proceed while existing systems are required to be maintained; all costs associated with this sequence shall be incorporated into the Bid.
   1) Environmental Protection: Provide protection and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
   2) Restrict the use of noisemaking tools and equipment to hours that will minimize complaints from people or firms on or near the Project site.

j. Provide dust control within delineated building site while the work of this Contract is being performed. Limit situations that may create dust contamination while Work of this Contract is idle.

k. Provide all Control Lines and Elevations as required. The Prime Contractor shall transfer lines and elevations to other locations as necessary for coordination with other prime contracts.

l. Provide all demolition as indicated in the Construction Documents, or required for Work of this Prime Contract:

   1) Coordinate all demolition with Hazardous Materials documents.

   2) Coordinate with all other Prime Contractors regarding removals required for the Project.

   3) Demolition of a system shall mean all components removed in their entirety, to the point of origin, source, or substrate.

m. Cutting and Patching:
   1) Floors at Grade: The GC shall provide all floor cutting, patching, excavating and reinforcement required for installation of all trades

work. The GC shall saw cut, remove, excavate down to rough grade for each respective prime to install their work. It shall be the responsibility of each prime to level/ true all excavations needed to complete the installation of their work. Backfilling shall be done by the GC with each prime in attendance to assure that backfilling was completed without damaging their work. All trades will coordinate as needed to be present for the backfill. The trade requiring the excavation shall coordinate the size, location and provide the layout for the GC and CM as needed prior to the work being completed.

2) Floors above grade or elevated floor including open areas in crawl spaces or pipe trenches: The GC shall provide all floor cutting, patching, and reinforcement required for installation of all trades work with the exception of conduits and any piping smaller than 6" o.d.. Piping of those sizes shall be installed by their respective prime contractors. The GC shall saw cut, core drill, remove floor construction as needed for each respective prime to install their work. Patching of the opening shall be done by the GC with each prime in attendance to assure that work was completed without damaging their work. All trades will coordinate as needed to be present for the patching. The trade requiring the opening shall coordinate the size, location and provide the layout for the GC and CM as needed prior to the work being completed. Upon the completion of the work the trade requiring the work shall provide the necessary fire sealing/ safing as required and the GC shall patch the remainder of the opening/ finish the opening as needed. The sequence may dictate that patching and finishing is to be completed prior to fire safing. Either process is acceptable provided they are coordinated with each prime and the CM prior to work being completed.

3) Walls: The GC shall provide all wall cutting and patching where structural support is required and/or as required for the installation of all trades work with the exception of conduits and any piping smaller than 6" o.d.. Piping of those sizes shall be installed by their respective prime contractors. The GC shall cut, frame, reinforce, provide shoring, lintels, etc as required for installation to be completed in a safe and continuous manner. It shall be the responsibility of the Prime Contractor requiring the opening to coordinate the size, location and provide the layout for the GC and CM as needed prior to the work being completed. Upon the completion of the work the trade requiring the opening shall provide the necessary fire sealing/ safing as required and the GC shall patch the remainder of the opening/ finish the opening as needed. The sequence may dictate that patching and finishing is to be completed prior to fire safing. Either process is acceptable provided they are coordinated with each prime and the CM prior to work being completed.

4) Ceilings:
   a) Suspended/ Lay-in Ceiling Tiles, decorative ceilings: Each contractor is responsible for the removal and reinstallation of ceiling tiles/ grid as needed to complete their work, u.n.o for the GC to remove ceilings as part of larger renovations or other requirements as indicated in the project documents.
   b) Gypsum Ceilings: The GC shall remove existing gypsum ceilings as needed for the installation of work for the MEP trades. It shall be the responsibility of the prime requiring the opening to coordinate the size, location and provide the layout for the GC and CM as needed prior to the work being completed. Upon the completion of the work the trade requiring the removals shall provide the necessary fire sealing/ safing as required and the GC shall patch the remainder of the area as needed. The sequence may dictate that patching and finishing is to be completed prior to fire safing. Either process is acceptable provided they are coordinated with each prime and the CM prior to work being completed.
5) Roofs: The GC shall provide all roof cutting and patching as required for the installation of all trades work with the exception of conduits and any piping smaller than 6" o.d.. Piping of those sizes shall be installed by their respective prime contractors through the roof, the GC shall install all roofing materials, roof insulation and blocking required for the openings. The installing contractor shall install the piping through the roof and provide a temporary waterproof sealant, as needed prior to the roof flashings being completed. The GC shall cut, frame, reinforce, provide shoring, lintels, etc as required for installation to be completed in a safe and continuous manner. It shall be the responsibility of the prime requiring the opening to coordinate the size, location and provide the layout for the GC and CM as needed prior to the work being completed. Upon the completion of the work the GC shall patch the remainder of the roof and make the area weather/ water tight. The GC shall perform all the roof flashings.
6) Work indicated above shall be completed by tradesmen qualified in performing the type of work required for patching and shall conform to the specification sections required for extension/ continuation of warranties. Credentials shall be provided for any work required to be completed by a licensed or trained manufacturer's installer and shall be provided prior to any work being completed.

6. Seismic Requirements: Prime Contractors are to be aware that the building(s) is located within the Seismic Zone indicated in the documents and shall provide installations in compliance with all related code requirements.

7. Layout and Installation: Each Prime Contractor shall schedule, layout and install their Work in such manner as not to delay or interfere with, but to compliment the execution of the work of other Prime Contracts, utility companies and Owner's operations.

8. Substitutions: Per Division 01 Sections, including "016000 Product Substitution Requirements", each Prime Contractor shall cooperate with the other Prime Contractors involved, to coordinate approved substitutions with remainder of the Work.

9. Construction Schedules: Refer to Division 01 Sections, including "013200 Construction Progress Documentation", "013100 Project Management and Coordination", and Subsections herein, for requirements related to meetings and schedules.

10. Construction Sequencing and Phasing: Prime Contractor shall understand that Sequencing and/or Phasing are contingent upon the work areas being complete/occupied, prior to the next area of Work beginning. Should an area of construction not be complete per the Project Milestone Schedule or that the actual interim construction progress is such that the organized completion of the area per the Project Milestone Schedule or current Master Construction Project Schedule is in jeopardy, the responsible Prime Contractor shall generate a recovery schedule and when accepted the Master Project Construction Schedule/Sequencing Plans will be adjusted accordingly. The Owner will not be responsible for delay claims due to adjustments being no fault of their own.

    a. Prime Contracts may be required to re-sequence the phasing of the project as a result of changes to the schedule; complying with the latest Updated Master Project Construction Schedule; and shall provide these adjustments at no additional cost to the Owner.

    b. If the Contractor does not achieve Substantial Completion according to the Milestone Schedule, the Contractor shall be responsible for the cost of reimbursement of the Owner for payments made to the Architect and Construction Manager for services rendered by either of them from the end of the Contract Time established in the Notice to Proceed until Substantial Completion is achieved.

11. Testing and Inspections by Owner: The Owner shall employ an independent qualified testing and inspection agency for asbestos and lead abatement monitoring and Special Inspections indicated in the Construction Documents (refer to Division 00 and 01 "Quality Requirements" and/or Statement of Special Inspections" for additional specific information). Prime Contractors are responsible for all testing not specifically assigned to the Owner.

a. Prime Contractors shall give one weeks' notice as to commencement for these requirements. Once underway, Prime Contractors shall coordinate with the Construction Manager and give 48 hours' notice as to test(s) required by Owner's Agency and by Construction Manager observation and further verify the need 24 hours in advance. Full cooperation and coordination are expected of all Contractors and their personnel with the Owner's Testing Agency to fulfill test requirements; provide all data and materials requested for required reports.

b. Other than regarding compliance with state and federal laws, the testing agency holds no execution authority other than to provide test results.

c. Testing and Inspection Agent, whether the Owner's or the Prime Contractor's, shall promptly notify the Construction Manager of test and/or inspection results. Should testing indicate a discrepancy or non-compliance during execution of the Work, the Testing and Inspection Agent shall promptly notify the Construction Manager of such; however, the Prime Contractor shall bear full responsibility for making any decision regarding proceeding with, or stopping, the Work.

d. This assignment of Testing and Inspection responsibilities shall take precedence over any respective responsibilities that are indicated otherwise in the Construction Documents.

12. Testing by Others: All testing requirements not listed in preceding "Testing & Inspections by Owner" or otherwise identified in Division 01 Sections, including "014000 Quality Requirements" and/or "014533 Code-Required Special Inspections and Procedures", shall be the responsibility of the Prime Contractor providing the respective Work as indicated in the Construction Documents.

a. The respective Prime Contractor shall have performed testing requirements indicated in individual Specification Sections which may inadvertently indicate "Owner to provide," which are not identified in preceding subsection "011200.H.11 Testing & Inspections by Owner".

b. Prime Contractor shall submit their Testing Agency qualifications to the Construction Manager and Architect for approval prior to any test being performed. The Construction Manager shall be given 48 hours' notice of any test/inspections to be performed by Prime Contractor's Testing Agency. 48-hour notification shall be given to the Construction Manager for test/inspections requiring his/her presence; 72-hour notification shall be given to the Architect for test/inspections requiring his/her presence.

c. Testing and Inspection Agent shall promptly notify the Construction Manager of test and/or inspection results before leaving the site. Testing results shall be provided electronically to the Construction Manager, Architect, and Owner directly from Prime Contractor's Testing Agency as soon as testing results are available

d. Determination required by the Architect shall be anticipated by the Prime Contractor to allow ample time for inspection, investigation, and reporting.

13. Dewatering: Each Prime Contractor is responsible for their own dewatering as it pertains to their Work, and subsequently any SWPPP requirements that may apply as related to such activities. Should another Prime Contractor be responsible for water entering another Prime Contractor's construction area, affected Prime Contractor shall notify the Construction Manager, in writing, so the issue can be immediately addressed.
    a. Exceptions to this condition shall include but not be limited to: below grade excavation by the GC for other trades. At locations where the GC provides excavations for other Prime Contractors, dewatering of those excavations shall be by the contractor requiring the excavation. If multiple prime contractors require the excavation, then the responsibility shall be provided by the installing contractor.

14. Excavations:
    a. The GC shall secure a UDig NY/811 underground utilities locator clearance prior to the start of any excavation and/or underground installation work; coordinate with and advise Construction Manager.

    b. Excavation locating shall not be limited to UDig NY/811 and shall be the responsibility of each Prime Contractor to ensure all underground utilities have been located.

    c. The GC shall provide below grade investigations by 3rd party company as indicated in Division 02 specifications.

15. Existing Conditions: Each Prime Contract shall verify existing conditions in the field and immediately report conditions to the Architect via the Construction Manager that are not represented correctly by the Construction Documents.

    a. Each Prime Contractor is responsible for familiarizing himself with the Phasing and Logistics plan provided as an attachment to this specification.

    b. Each Prime Contractor has been given an ample opportunity to review Existing Conditions related to the Project. Existing Conditions not noted in

the Construction Documents that could be easily recognized during pre-bid review that interfere with the respective Prime Contract's work, shall be the responsibility of the respective Prime Contractor. This includes all costs associated with removal, patching, relocation, or re-fabrication of installations.

16. Hazardous Materials: All Hazardous Material Removal Work shall be performed by the GC utilizing a firm and employees licensed for the specific Hazardous Material Removal Work. Each Prime Contractor shall familiarize themselves with the Hazardous Materials Sections/Drawings of the Contract Documents and follow DOL/OSHA/EPA/SED regulations while performing their respective Work in these areas. Discovery of non-identified or concealed hazardous materials shall be reported to the Construction Manager immediately and followed up with written documentation of the event.

17. Protection of Installations: Each Prime Contractor is responsible for always protecting their installations, and to not damaging adjacent items and/or the work or items of others. All new flooring shall be protected by Ram Board, or equal product, with all seams being taped with specified products. All costs incurred to repair, replace or clean insufficiently protected materials/installations shall be the responsibility of installing Prime Contractor.

    a. Architect via Construction Manager shall be notified, in writing, immediately upon material/installation being damaged; notification shall indicate responsible party.

    b. Owner or other Prime Contractor(s) will not be liable for damaged materials and/or installations by "others", when "others" cannot be identified

    c. Repair damaged work, clean exposed surfaces, or replace construction installations that cannot be repaired.

    d. Each Prime Contractor shall be responsible for removing all labels and adhesives not required to remain from their installations, and for properly protecting all labels that are required to remain. It will be the responsibility of the installing contractor to repair any areas where labels and adhesives were not removed, or protected prior to finishing, and the installing contractor bare all cost associated with the repair.

    e. Each Prime Contractor shall be responsible for cleaning and proper protection of all their respective installations when installed. Installations that are required to be finished by the GC following installation shall be cleaned by the installation contractor and then prepared as referenced in the required finishing specification by the GC.

18. Protection of Owner Property: Each Prime Contractor is responsible for the protection of Owner property impacted by their contract work or necessary access to their work areas including, but not limited to, parking lots, roadways, and trees/shrubbery

19. Daily Cleaning, Materials and Equipment Storage and Handling: All Prime Contractors are responsible for any and all dust and/or debris caused by their Work, including the Work of their subcontractors at any tier, to keep all work operations safety maintained and clean, daily dust and debris removal from building and/or general site, and disposal by each Prime Contractor for the periods which that Prime Contractor, or its subcontractors at any tier, are performing Work on site.

    a. Materials and Equipment Storage and Handling: All Prime Contractors are responsible for maintaining their items in a safe and orderly manner, and clean work environment at all times. Materials and equipment stored anywhere, including those allowed to be outside the fenced multi-Prime Contractor storage area of each building site's where and if shown on the Phasing and Logistics Plan, or if directed by the Construction Manager and/or Owner, shall be neatly and safely stacked, and efficiently organized. Only the materials immediately needed shall be removed from the neat stacks for use. All cut-off or other waste/debris of materials being manipulated shall be immediately placed in trash containers so that there are no resulting potential tripping/safety hazards on the floors, walls, or ceilings.
    b. Each Prime Contractor shall allot sufficient manpower and time to support clean-up to be completed by the end of each shift. Submit the name of this person(s) to Construction Manager.

        1) The Construction Manager shall have the authority to give directions to person(s) on the Project Site identified by the Prime Contractor as designated for clean-up tasks.

    c. Prime Contractor responsible for daily cleaning will be charged for labor provided by the Owner/others to complete this task.

    d. Contractors working solely in an area shall be responsible for cleaning/sweep of that area.

    e. Daily cleaning will not mean any one Prime Contractor is responsible for assisting another Prime Contractor with removing major quantities of debris created by another Prime Contractor's Work.

f. Daily cleaning shall include the removal from the building of any dust and/or debris created by day-to-day activities. Each Prime Contractor shall assist in sweeping shared work areas and shared corridors while working on site. Each Prime Contractor shall assist in mopping shared corridors while working on site or as required by the Owner.

g. Each Prime Contractor shall provide sweeping compounds for daily cleaning. Each Prime Contractor shall provide enough brooms or other necessary tools, for use by their personnel to adequately fulfill their obligations.

h. Each Prime Contractor shall provide and maintain garbage cans/refuse containers with liners for each construction area as required by the work and as directed by the Construction Manager and shall be responsible for disposing of these materials to a dumpster.

i. Cleaning shall be deemed a Safety & Health issue, with Prime Contractors being held accountable for fulfilling their contractual obligations. Coordination/sharing of cleaning, containers, dumpsters, etc. amongst Prime Contractors is encouraged but shall not be an acceptable excuse for failure to properly satisfy the requirements of each Prime Contract on a daily basis.

j. Prime Contractor Final Cleaning: At Substantial Completion of each area of construction, each Prime Contractor shall wipe/vacuum clean all their respective installations and all adjacent and/or affected surfaces. Prime Contractors should mop clean all finish flooring and remove all marks/blemishes to the finish. Each area of construction shall be wiped clean of all construction dust and debris by Prime Contractors.

k. 3rd Party Final Cleaning: Following Prime Contractor Final Cleaning, the GC shall provide a professional cleaning company to clean all work areas to be turned over to the school whether complete or not prior to the Labor Day holiday. The cleaning company shall provide the necessary manpower, number of crews, or be multiple independent companies in order to staff all work areas to mop floors, clean dust and debris from walls and exposed cleanings, clean windows and window tracks to the satisfaction of the school and the CM. This shall include second shift, weekend and holiday rates.

l. The GC shall provide all dumpsters for all work areas for use by all trades.

20. Coordination: Each Prime Contract shall be responsible to coordinate all their activities with other Prime Contractors, Owner, Architect, Construction Manager, etc…

a. Each Prime Contractor shall provide a coordinated construction “look-ahead” schedule of all their work items, lead times, etc. at Contractor Progress

Meetings for work tasked over the following 4-6 week periods and further out for long-lead items.

b. Each Prime Contractor shall provide a coordinated construction schedule of all their work items, lead times, including number of workers for each task, sub-contractor activities and number of workers for sub-contractor activities, etc. in work task periods of no greater than 5 workdays that comply with the requirements of the schedule in Division 01 Sections. The General Contractor (GC) shall integrate draft schedules from the other Prime Contractors into a single master schedule [MS Project] that is reviewed and finalized with Construction Manager, Architect, and Owner. The final master schedule shall be accepted by the Project Team and followed in the performance of construction activities. The (GC) shall provide modifications to the Master Schedule as work progresses on a monthly basis. Additionally, contractors will provide schedule updates on a weekly basis, including three-week look-ahead schedules at Project Coordination Meetings.

c. In this process, individual items and/or tasks from a Prime Contractor's schedule may be adjusted to accommodate the activities of other Prime Contractors. All Prime Contractors are required to comply with the requirements of the resulting Master Project Construction Schedule.

d. The Master Project Construction Schedule will be periodically updated by the General Contractor (GC) with activity progress update information provided by the Prime Contractors to reflect the current Project conditions. The updates will include adjustments to scheduled task start and completion dates as necessary to maintain the construction schedule and the Prime Contractors are required to comply with the requirements of the most current updated Master Project Construction Schedule.

e. Each Prime Contractor shall provide other Prime Contractors with final approved copies of approved shop drawings and other submittals as necessary for the timely coordination of all Work. This can be done via email including the CM. Each Prime Contractor is responsible for all costs associated with printing any approved shop drawings or submittals they require a hard copy of.

f. All systems should be installed to allow access for maintenance and service of that system and all other systems. Work installed that does not or will not allow for proper access to any system will be rerouted at offending Prime Contractor's expense without regard to the sequence of installation. Each Contractor to provide removal and replacement of ceiling components required by, and if required out of sequence to, the scheduled phasing. Any damage to the ceiling or adjacent components will be replaced by that Prime Contractor.

g. All Prime Contractors are required to coordinate their related scope of work with any respective State Contract Vendor separately contracted by the Owner.

21. Provide all miscellaneous wood blocking, shimming and support for items or equipment installed under this Prime Contract, metal strapping, work on roof deck for curbs, equipment, etc.

22. Provide through-penetration fire stop systems in concrete and unit masonry assemblies, in drywall and other separation assemblies, and at all structural member and non-structural assembly penetrations in fire-rated assemblies. Provide through-penetration smoke stop systems in concrete and unit masonry assemblies, in drywall and other separation assemblies, and at all structural member and non-structural assembly penetrations in non-fire-rated assemblies.

    a. Provide appropriate smoke or fire-resistive joint systems at all wall terminations at floor and roof decks, and abutment of partitions with walls or deck, or of different construction types of this Prime Contract.

23. Temporary Interior Barricades: The GC will provide, maintain, and eventually remove all temporary barricades per OSHA Regulations, Industry Standards, or as indicated in the Contract Documents. These include, but are not limited to, the following areas:

    a. Roof openings/penetrations.
    b. To isolate Abatement areas.
    c. To isolate new construction areas.
    d. To isolate renovation areas.
    e. Floor openings/penetrations, including stairwells.

        1) Horizontal Openings: Close openings in floors, roof decks, and horizontal surfaces with load bearing, wood and/or steel framed construction per applicable regulations.

24. Temporary Doors, Frames & Wall Assemblies: The GC will provide, maintain, and eventually remove all temporary installations per OSHA Regulations, Industry Standards, or as indicated in the Contract Documents.

    a. Provide fire rated assemblies as and/or where required.
    b. Provide exit (panic bar/crash bar) devices at locations of egress.
    c. Coordinate locations with Construction Exiting Plan, Sequencing and/or Phasing Plans, and the Construction Manager.
    d. Temporary doors shall be constructed using ½" plywood and 2x construction framing material, equipped with hasps, locks, handle and latch mechanism, and spring or counterweight installed to allow to close after opening.

e. Permanent doors will not be used in temporary conditions.

25. Temporary Window Openings: The GC will provide window openings which shall be enclosed using 2x construction framing material, ½" plywood, and reinforced polyethylene. Where window openings start at or near the floor, plywood shall be installed from finish floor to minimum of 42" above finish floor with reinforced polyethylene installed from this point up. Should Contractor choose to install plywood across the entire opening, sufficient area will be installed with reinforced polyethylene to allow emergency escape as a rescue window, if required, and to allow natural light into the work area.

    a. Installation shall be insulated if temporary heat or cooling is being employed or if construction exposes Owner's utilities to heat or cooling losses.

26. Temporary Exterior Wall Enclosure: The GC will provide and maintain temporary enclosures for weather protection and security of the construction in progress up until completion of permanent installation is specified. Enclosures shall protect the building from exposure, foul weather, other construction operations, unauthorized access, and similar activities. Provide temporary weather tight enclosure for building exterior.

    a. Where heating and cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with venting and material drying or curing requirements to avoid dangerous conditions and effects
    b. Install tarpaulins securely; install fire retardant materials only.
    c. Where temporary wood enclosures exceed 100 sq. ft. in area, use fire retardant treated materials for framing and sheathing.
    d. All costs incurred to repair and/or replace materials damaged, due to the failure of Prime Contractor to provide and maintain weather tight enclosure shall be borne by this Prime Contract. This includes any contamination of materials that may lead to the introduction of mold and mildew.
    e. Immediately notify the Construction Manager, in writing, as to damage to temporary enclosures by "others"; identify responsible party in the submission. The Owner shall not be liable for damages caused by "others" if Prime Contractor cannot reliably identify responsible party.

27. Temporary Sanitary Facilities: The nature of this work requires the General Contractor (GC) to provide temporary self-contained toilets and hand washing/sanitizing units at each project location for use by all Prime Contractors and their subcontractors for the duration of the project, and until one month following Substantial Completion of all Prime Contracts or sooner if so, directed by the Construction Manager.

a. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
b. Provide separate facilities (minimum of one ea.) for male and female personnel in proportion required by OSHA.
c. Shield toilets to ensure privacy.
d. Coordinate mobilization and demobilization of units with the Construction Manager.
e. All toilets should be cleaned at least once per week, with additional facilities or cleanings provided if requested by the Construction Manager.
f. Provide and maintain an adequate supply of toilet tissue and hand sanitizer for each facility.
g. Project locations are as follows:

1) Newburgh Free Academy (NFA) – North Campus by GC

28. Site and Site Storage Enclosure Fences: Immediately before construction operations begin, the GC shall provide temporary chain link fence panels on stanchions with lockable entrance gate(s) for their work. Temporary Orange Fencing will not be allowed.

1) Install in a manner that will prevent vehicles, people, dogs, etc. from entering the site except by entrance gates.

2) Provide gate openings to accommodate vehicle delivery traffic or as noted. Install gateposts in sizes required for support of gates. Do not allow gates to interfere with driveway traffic.

3) Install construction safety signage on fence.

4) The GC shall be responsible for ensuring that their project work areas, are fully secured and locked-up at the end of each working shift. Upon completing these checks and confirming that the respective work areas and buildings are secured, the GC shall notify Construction Manager in-writing via email or text messaging.

5) The GC shall provide locks with chains necessary to secure each gate opening at respective sites

6) Maintain security by limiting the number of keys and restricting distribution to authorized personnel. Maintain a list of persons with key access. Provide key to Owner and Construction Manager.

29. Existing Stair Usage: Use of Owner's existing stairs in unoccupied areas will be permitted, provided that daily and at Substantial Completion, stairs are restored to conditions existing before initial use.

a. Provide photo documentation of existing stair conditions prior to use by all Prime Contractors. Document during use and at completion of the Phase or Project to document all damage to the Owner's property.

b. The General Contractor (GC) shall provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If, despite such protection, stairs or adjacent areas become damaged, restore damaged areas so no evidence remains of correction work.

30. The GC shall provide all the shoring required for work of this Prime Contract, including but not limited to:

a. Cutting or altering existing construction.

b. Provide protection of all new and existing surfaces during work. Do not stand, walk, or work off any unprotected finished surface above the floor.

31. Traffic Controls: The GC shall provide flagman while any operations of this Prime Contract interfere with traffic flow on driveways and/or adjacent roadways.

a. Maintain on a constant basis all Owner roads and driveways and all public streets and roads. Clear and clean off all debris, dirt, dust, etc. that might be carried off the work sites by personnel, vehicles, wind, rain, etc.

b. Any street, roadway, and/or parking lot closures must be coordinated with the Schoolhouse's on-site representative and shall be scheduled around other project activities and municipal requirements.

c. Provide and maintain all site signage as requested by the owner. Example; Gate A-B, Hard hat area, No Smoking, Construction personnel only, Exit signs, Project information sign, etc.

H. WORK SEQUENCE

1. Work is to be performed as indicated on the Project Milestone Construction Schedule; second shift and weekend Work will be a requirement while School is in session. Normal "second shift" work hours of unoccupied area will be 4:00pm to 11:30pm. Coordinate first shift and weekend work requirements in/at school buildings, or at other locations as required, with the Construction Manager. Work will need to be performed in both occupied and unoccupied spaces. Each Prime Contractor will be working second shift while the building is occupied and shall be responsible for meeting all requirements to allow normal functionality of that space the next day. All other work in occupied spaces shall be scheduled for off-hours, vacations, and weekends. Weekend, holiday and/or overtime work shall be

performed as indicated in the Construction Documents and coordinated with the Construction Manager 48 hours in advance of commencement. First shift work hours will be available during schools breaks and summertime work periods. Normal "first shift" work hours of unoccupied areas will be 7:00am to 3:30pm.

a. Multiple Crews: Each Prime Contractor shall provide multiple crews, supervision, cranes, scaffold, and other means necessary to perform the Work, and maintain the Master Project Construction Schedule. Manpower and crew size shall be provided with durations or work in each area.

b. Interruption of any utility and/or power must be coordinated with the Owner via the Construction Manager. Shutdowns must occur during off hours and non-occupied times only and must be approved in writing. This will include all holidays as required to meet the project schedule and each respective contractor shall anticipate these costs in their bid.

c. All overtime, holiday and/or weekend work that is necessary to meet the Master Project Construction Schedule and requirements and/or to work around the Owner's operations shall be incorporated in the respective Prime Contractor's bid. The owner reserves the right to seek reimbursement for overtime and/or weekend work not provided by Prime Contractor(s) per the Construction Documents.

d. Should a Contractor's progress fall behind as to schedule, Prime Contractor shall employ additional second shift workforce as permitted and/or overtime and/or weekend workforce until situation is rectified to the satisfaction of the Architect and Construction Manager, at no additional cost to the Owner.

e. Should a Prime Contractor feel another Prime Contractor is delaying them sufficient time to complete their installations per the schedule, the Architect and Construction Manager shall be notified in writing immediately of the observance of the situation; refer to Conditions of the Contract for protocol. A Prime Contractor creating such a delay that causes a burden upon another Prime Contractor to maintain the schedule shall bear all costs incurred by the delayed Prime Contractor to maintain the schedule.

f. The Architect and Construction Manager, prior to the start of work, shall approve all additional overtime work. The Architect and Construction Manager shall not be overburdened as to overtime cost to monitor the work due to no cause of his or their own. Owner will compensate the Architect and Construction Manager for all additional cost related to this issue; the Owner reserves the right to back charge the responsible Prime Contractor for these costs if incurred.

g. All Asbestos and/or Lead Remediation / Abatement shall take place on second shift during the Owner's scheduled unoccupied periods as approved by the Owner and their Environmental Monitoring consultant. During periods of approved first shift work, these activities may occur in accordance with the provisions set forth in this specification section.

2. The Work shall be conducted to provide the least possible interference to the activities of the Owner's personnel and academic calendar and scheduled building use.

a. All Prime Contractors and their subcontractors shall limit excessive noise, dust, lighting, etc. during second and/or third shift operations so as not to create a disturbance to neighboring properties.

b. All Prime Contractors shall comply with the requirements of "Part 155" SED regulations concerning noise, dust/odor migration, separation of construction workers from students, etc. at all schools and sites where students and young people are using the buildings, including during the summer.

c. No work shall occur at any schools used for testing during Regents Exam days, generally conducted on testing period days during January, June, and August.

d. No work shall occur on the dates listed below due to school activities:

e. See Division 01 Sections, including Specification Section "01 32 00 Construction Progress Documentation" and herein, for additional work requirements. For example, mandatory six-day workweeks, work sequencing and time hour restrictions, etc.

f. These requirements always apply at all locations and when people are occupying the buildings during the summer. See Division 01 Sections, including Specification Section "01 32 00 Construction Progress Documentation" and herein, for additional information on the current planned use of each building during the summer and traditional school year.

g. Deliveries should not occur when school buses are delivering children to or picking children up from building use activities, sports, events, etc., including during the summer months for summer school and other building uses.

3. Construction access to the site shall be limited to personnel, equipment, and deliveries by suppliers relative to the Work of Prime Contractors and their subcontractors. Prime Contractors shall keep the Construction Manager advised of persons accessing the site and shall seek assistance with coordinating parking and storage facility locations for all Prime Contractors.

    a. When a Prime Contractor engages in overtime, or weekend work, respective Prime Contractor shall notify Construction Manager of such and be responsible for securing building doors/windows, temporary enclosures, and the Project Site at the end of that work shift.

1.7 CONTRACT No. 01 – GENERAL CONTRACT (GC) REQUIREMENTS

A. Unless noted otherwise – Each Prime Contractor is responsible for ALL Drawings in the set – Scope is Defined by Specification sections as noted below.

B. Unless noted otherwise, the General Contract (GC) includes, but is not limited to, the Work covered by the following Specifications:

1. Division 00 (Procurement and Contracting Requirements) - All Specification sections.

2. Division 01 (General Requirements) - All Specification sections.

3. Division 02 (Existing Conditions) - All Specification sections.

4. Division 03 (Concrete) - All Specification sections.

5. Division 04 (Masonry) - All Specifications sections.

6. Division 05 (Metals) - All Specification sections.

7. Division 06 (Wood, Plastics, and Composites) – All Specifications sections.

8. Division 07 (Thermal and Moisture Protection) – All Specification sections.

9. Division 08 (Openings) - All Specification sections.

10. Division 09 (Finishes) - All Specification sections.

11. Division 11 (Equipment) - All Specification sections.

12. Division 12 (Furnishings) – All Specification sections.

13. Division 14 (Conveying Equipment) - All Specification sections.

14. Divisions 23 (Heating, Ventilating, and Air Conditioning) - as required by the work of this Contract.

15. Division 25 (Integrated Automation) – as required by the work of this Contract.

16. Division 26 (Electrical) - as required by the work of this Contract.

17. Division 27 (Communications) – Specification sections as may be required by the work of this Contract.

18. Division 28 (Electronic Safety and Security) - Specification sections as may be required by the work of this Contract.

C. Temporary facilities and controls in the General Contract (GC) refer to Section 015000 (and applicable attachments).

1. GC to restore of Owner's existing facilities used as temporary facilities.

2. Provide dust protection as directed by the Owner and temporary site/security fencing with mesh for the period of the contract. Install temp walls just prior to the start of new GC work in that area or as directed by the Owner.

3. Provide wash out area for construction vehicles designated by the Owner.

4. Provide snow removal for contractors staging and work areas as required to complete the work.

D. The Scope of Work related to the General Contract (GC) includes, but is not limited to, the following:

1. The GC shall provide all hazardous material removal at all Owner’s buildings.

2. The General Construction Work Contract shall perform all necessary cutting, trenching, excavation, backfilling, compaction, and new concrete infills at exterior and interior of the existing building and field required poured in place concrete for all other primes. Coordinate Architectural drawings with M, and E drawings for existing slab openings for other Prime Contractors and performed under this contract.

3. The GC Shall provide OSHA compliant staging for accessing the entire ceiling area for their work and scope being performed by other contractors. Staging shall be installed to provide a safe work area that spans the entire ceiling area and does

not require multiple set-ups/ GC shall include two additional months of scaffolding set-up to accommodate any needs for staging for extended periods of time.

4. The GC shall remove all finishes noted on plans including but not limited to flooring, ceilings, and misc. items attached to existing walls to be removed. Review patch to match conditions. Patch openings from removed mechanical equipment, piping and electrical work.

5. The GC shall remove and dispose of miscellaneous equipment including all existing wall mounted specialty items and/or equipment not shown if impacting work to be demolished. Coordinate shutdown (of utilities) with the Owner and trades associated with the area of demolition. See demolition plans for additional notes

6. The GC shall provide all work associated with the removal and replacement of exterior parapet wall and cornice.

7. The GC shall provide all interior finishes including but not limited to: Paint, tile, ceilings, woodwork, acoustical sound panels, Flooring, Terrazzo, carpeting, wall coverings, and coatings.

8. The GC shall provide all doors, frames, and hardware.

9. The GC shall provide all necessary roofing installations. The GC shall coordinate with the District's existing roof vendor and maintain all existing warranties.

10. The GC shall provide all openings in accordance with parameters defined in 011200.H.5.m for installation of MEP including providing all reinforcing and modifications of those openings.

11. The GC shall provide all structural steel framing, steel dunnage, exterior and interior wall construction as indicated on the construction documents.

12. GC to provide installation, maintenance, and removal of concrete washout stations as required. Coordinate location on site with the CM.

13. GC to provide floor protection for duration of the project and shall coordinate extent of protection required by other trades.

14. Provide temporary access and continuous exits in and out of all construction areas.

15. Provide dust protection. Including but not limited to adjacent louvers and air intakes within forty feet of the exterior work area. Include protection of fire alarm head, smoke detectors, duct detectors, etc.

16. Provide safe and adequate storage for items to be salvaged and reinstalled as indicated on the drawings.

17. Removal and disposal of any existing curbing, stairs, bituminous paving, and walks as shown or described on the contract drawings.

18. Include equipment pads for all trades as needed.

19. All concrete slabs on grade outside doors by this contract.

20. The General Contractor (GC) shall include the complete roofing scope under this contract. This encompasses all associated accessories, including downspouts, crickets, and provisions for MEP-related openings. The GC is also responsible for patching the existing roof deck and parapets, setting MEP curbs, and fully integrating them into the roofing system.

21. GC to include all winter concrete and masonry measures and expenses in this contract.

22. The General Contractor (GC) shall be responsible for patching and restoring all affected finishes—including but not limited to floors, walls, louvers, and similar surfaces—at locations impacted by work performed under this contract by other prime contractors.

23. General Construction Contractor shall obtain and pay for any permits, inspections, or certifications from governing authorities having jurisdiction over the work to be performed, or over the finished product to be installed by this Contractor. Project Building Permit is by others. Include in this contract hydrant use permits if necessary.

24. Provide all roofing work, including roof blocking and plywood, as required for the complete roofing system, including but not limited to:
    a. Temporary and final roofing, including weather-tight protection, shall be provided by the General Construction Contractor.
    b. Provide miscellaneous insulation and brick infill at voids resulting from demolition.
    c. Provide roof penetrations and blocking for mechanical equipment curbs furnished by MC. MC to coordinate with General Construction Contractor.
    d. Temporary and final roofing, weather-tight protection for roof shall be by the General Construction Contractor.

e. Patching at all removed existing walls. Including paint and finishes. Misc. insulation and brick infill at voids by General Contractor. Patching at all removed existing exterior walls. Patch to match brick.

25. Provide (unless noted otherwise):
    a. Provide all interior and exterior equipment pads and housekeeping pads required for all Prime Contracts.
        1) Coordinate with all trades to confirm pad sizes, locations, and installation sequencing.

26. Include in base bid the furnishing and installation of the following access doors, in addition to those shown on drawings or required for access above ceilings and behind walls:
    1) (4) 18″ x 18″ fire-rated access doors for gypsum wallboard construction.
    2) (4) 8″ x 8″ non-rated, primed steel, trimless access doors for gypsum wallboard construction.

27. Salvage and reinstall existing ceiling tile where indicated on drawings. Replace any ceiling tile that is damaged during construction, regardless of cause, at the General Construction Contractor's expense. All replacement tile shall match existing in size, type, and finish.

28. All ceiling access doors are installed by the General Contractor.

29. All concrete, rebar and forms are provided and installed by the general contractor as shown on the contract drawings.

30. GC contractor to include all topsoil and seeding at areas disturbed by construction activities.

31. GC contractor to include all paving/curbs/sidewalks and associated work.

32. GC contractor to include all landscaping/plantings/trees as shown on the contract drawings.

33. This trade is to maintain a clean, dust and debris free roadway outside of the site perimeters.

34. GC contractor to include demolition and replacement of all sidewalks as shown on the drawings.

35. Areas modified for construction/staging to be placed back to its natural state once construction is complete.

36. The GC shall be responsible for patching and restoring all affected finishes—including but not limited to floors, walls, louvers, and similar surfaces—at locations impacted by work performed under this contract and by other prime contractors.

37. Provide safety rails associated with steel dunnage as depicted on the drawings.

38. The GC shall be responsible for the furnishing, installation, and final coordination of all theatrical rigging and stage curtain systems included in this Contract, including but not limited to battens, pipes, arbors, counterweights, head and loft blocks, lock rails, motorized hoists, track systems, curtains, borders, legs, cycloramas, and all supporting steel, hardware, and attachments. Prior to substantial completion, the General Contractor shall verify that the placement, alignment, and operation of all rigging and curtain systems are fully coordinated and function in concert with the theatrical lighting and audio/visual systems furnished under the Electrical Contract

39. GC shall include provisions for trash removal for FSC provided materials within their project cost.

1.8 CONTRACT No. 02 – MECHANICAL CONTRACT (MC) REQUIREMENTS

A. Unless noted otherwise – Each Prime Contractor is responsible for ALL Drawings in the set – Scope is Defined by Specification sections as noted below.

B. Unless noted otherwise, the Mechanical Contract (MC) includes, but is not limited to, the Work covered by the following Specifications:

1. Division 00 (Procurement and Contracting Requirements) - All Specification sections.

2. Division 01 (General Requirements) - All Specification sections.

3. Division 02 (Existing Conditions) – as required by the work of this Contract.

4. Division 05 (Metals) – as required by the work of this Contract.

5. Division 06 (Wood, Plastics, and Composites) - Specification sections as required by the work of this Contract for in wall supports and blocking.

6. Division 07 (Thermal and Moisture Protection) - as required by the work of this Contract to seal and firestop HVAC related work:

7. Divisions 23 (Heating, Ventilating, and Air Conditioning) - All Specification sections

8. Division 25 (Integrated Automation) – Specification sections as required by the work of this Contract.

9. Division 26 (Electrical) - Specification sections as required by the work of this contract.

10. Division 27 (Communications) – Specification sections as may be required by the work of this Contract.

11. Division 28 (Electronic Safety and Security) - Specification sections as may be required by the work of this Contract.

C. Temporary facilities and controls in the Mechanical Contract (MC) refer to Section 01 50 00 (and applicable attachments).
1. Provide all final cleaning as it pertains to this scope of work and at the time of each phase of completion.

2. This contractor will be responsible for receiving and storing mechanical units until the time of installation. Storage sources will be the responsibility of this contractor.

D. The Scope of Work related to the Mechanical Contract (MC) includes, but is not limited to, the following:

a. Restoration of Owner's existing facilities used as temporary facilities.

b. Provide demolition of all HVAC and Plumbing equipment and piping as shown and as required at the existing building. Salvage equipment for reinstallation as indicated on the drawings if applicable.

c. All cutting and patching required for the scope of work under this contract—including but not limited to layout, sleeves, coring, debris removal, saw cuts in existing slabs and walls, drywall, plaster, grouting, painting, and ceiling removal/replacement—shall be performed by this trade contractor, provided no structural support is needed and/or it meets the criteria stated prior in this specification.

d. The MC shall provide installation of HVAC equipment, piping, and ductwork along with all construction operations traditionally recognized as part of heating, ventilating, and cooling work. This includes all work shown on mechanical drawings, as well as applicable information on architectural and electrical drawings, unless specifically noted otherwise.

e. The MC shall coordinate openings as required for their work to be performed by other Prime Contractor in accordance with parameters defined in 011200.H.5.m. Any opening outside of those parameters required by the Work of this contract shall be the responsibility of the MC to provide, including any cutting, patching, and finishing.

f. If the MC finds an existing opening in the building and elects to utilize it as a new pathway they will be required to fire-safe or infill the remainder of the opening around their work at no additional cost to the owner.

g. The MC shall provide blocking at all locations where required for work of their contract.

h. The MC shall provide drains required for cooling coil drain pans as detailed on the Mechanical Drawings.

i. The MC will coordinate with the commissioning agent for installations of their contract.

j. The MC will coordinate with TCC regarding integration of TCC installed control devices.

k. This Contractor is responsible for retrieval of RTU-A-324 and its associated coil from District property located at 20 Chestnut Street, Newburgh, NY 12550, once installation of the replacement unit is scheduled to commence. This Contractor is responsible for all rigging and permitting required to transport the unit from 20 Chestnut Street, Newburgh, NY 12550 to the project site.

l. Mechanical Unit RTU-A-324 shall be furnished by Daikin and installed by this Contractor (MC). Full coordination between Daikin and the MC is required to ensure proper placement, rigging, and installation. All loading, unloading, and handling of equipment on-site, and at property where the unit is stored, is the responsibility of the MC. All other mechanical equipment (materials, labor, etc.) is by the MC.

m. All temporary heating needs for areas of work or ancillary areas requiring heat due to progression of work within primary construction areas shall be provided by the MC.

1.9 CONTRACT No. 03 - ELECTRICAL CONTRACT (EC) REQUIREMENTS

A. Unless noted otherwise – Each Prime Contractor is responsible for ALL Drawings in the set – Scope is Defined by Specification sections as noted below.

B. Unless noted otherwise, the Electrical Contract (EC) includes, but is not limited to, the following:

1. Division 00 (Procurement and Contracting Requirements) - All Specification sections.

2. Division 01 (General Requirements) - All Specification sections.

3. Division 02 (Existing Conditions) – as required by the work of this Contract.

4. Division 03 (Concrete) - as required by the work of this Contract.

5. Division 06 (Wood, Plastics, and Composites) - Specification sections as required by the work of this Contract for in wall supports and blocking.

6. Division 07 (Thermal and Moisture Protection) - as required by the work of this Contract to seal and firestop Electrical related work.

7. Division 08 (Openings) - Specification sections as required by the work of this Contract:

8. Division 11 (Equipment) – as required by the work of this Contract:

9. Divisions 23 (Heating, Ventilating, and Air Conditioning) - as required by the work of this Contract:

   a. 230513 – Common Motor Requirements for HVAC Equipment, Power for equipment as required.

   b. 230519 – Meters and Gauges for HVAC Piping, Power for equipment as required.

   c. 233423 – HVAC Power Ventilators, Power for equipment as required.

   d. 237416.11 – Packaged, Rooftop Air-Conditioning Units, Power for equipment as required.

10. Division 26 (Electrical) – All Specification sections.

11. Division 27 (Communications) – All Specification Sections

12. Division 28 (Electronic Safety and Security) – All Specification Sections

C. Temporary facilities and controls in the Electrical Contract (EC) refer to Section 01 50 00 (and applicable attachments).

1. Restoration of Owner's existing facilities used as temporary facilities

2. Provide temporary lighting and power as required by OSHA at staging/yard/work areas,etc…

3. Provide temp and permanent power outlets, panels and connections for other trades tools and equipment. No limit to how many temp services or voltage.

4. Provide Generator for use to power the building while power is shut down. Include fuel and manpower to operate the generator.

D. The Scope of Work related to the Electrical Contract (EC) includes, but is not limited to, the following:

1. All Electrical installations indicated at all project sites provided in the construction documents.

2. If the EC finds an existing opening in the building and elects to utilize it as a new pathway they will be required to fire-safe or infill the remainder of the opening around their work at no additional cost to the owner.

3. The EC shall coordinate openings as required for their work to be performed by other Prime Contractor in accordance with parameters defined in 011200.H.5.m. Any opening outside of those parameters required by the Work of this contract shall be the responsibility of the EC to provide, including any cutting, patching, and finishing.

4. The EC shall provide all work related to removal, modification and installation of the Fire Alarm System.

5. The EC shall provide blocking at all locations where required for work of their contract.

6. The EC shall provide all necessary conduits, power and control wiring for Theatrical Lighting Devices and provide installation of all devices.

7. The EC shall be responsible for the furnishing, installation, and final coordination of all audio/visual devices and systems included in this Contract, including but not limited to speakers, amplifiers, mixing and processing equipment, microphones, projectors, screens, displays, control processors, touch panels, and all associated cabling, connectors, and rack equipment. Prior to substantial completion, the EC shall verify that the placement, mounting, alignment, and operation of all A/V devices are fully coordinated and function in concert with the theatrical lighting system, building lighting controls, network infrastructure, and any related systems furnished and installed by other Contracts.

8. The EC shall be responsible for the final coordination of all theatrical lighting devices furnished installed under this Contract, including but not limited to fixtures, dimming and relay equipment, control consoles, data distribution, and associated wiring devices. Prior to substantial completion, the Electrical Contractor shall verify that the placement, mounting, alignment, and operation of all theatrical lighting devices are fully coordinated and function in concert with interconnected systems, including but not limited to audio/visual systems, theatrical rigging and battens, building lighting controls, and network infrastructure and any related systems furnished and installed by other Contracts.

9. The EC shall provide all necessary conduits and power to fixed audience seating scheduled to provide aisle lighting.

10. Provide ALL power wiring to ALL HVAC equipment. (Install motor controllers/disconnects supplied by MC) including temp heat units.

11. Provide all interior and exterior lighting including lighting control.

12. Provide all fire alarms, networking systems, WAP and camera wiring.

13. Provide public address systems, including full installation and training.

14. Provide support framing for Electrical equipment and conduits.

15. Provide firestopping and sealing of all electrical penetrations.

16. Provide a video of owner training and repeat if necessary.

17. All underground electrical utility work is the responsibility of this contractor.

18. This trade is responsible for all communications and coordination with utility companies.

19. Relocate existing exterior wall mounted devices from existing exterior walls that interfere with new work.

20. When existing electrical service must be shut down to perform the work of this Contract, the EC shall provide temporary power to maintain continuity of service to affected areas. The EC shall notify the Construction Manager in writing at least 48 hours in advance of any shutdown, stating the areas and systems affected and the anticipated start time and duration. All temporary power measures shall be in place and operational before the shutdown begins.

1.10 CONTRACT No. 04 - TEMPERATURE CONTROLS CONTRACT (TCC) REQUIREMENTS (State Contract/Cooperative Purchase)

A. Unless noted otherwise – Each Prime Contractor is responsible for ALL Drawings in the set – Scope is Defined by Specification sections as noted below.

B. This contract is intended to be part of a NYS Contract or Cooperative Purchase Agreement and will be provided directly by the owner. This contract will adhere to the general conditions of this work and be required to coordinate work with all other contractors.

C. Unless noted otherwise, the Temperature Controls Contract (TCC) includes, but is not limited to, the following:

1. Division 00 (Procurement and Contracting Requirements) - All Specification sections.

2. Division 01 (General Requirements) - All Specification sections.

3. Division 02 (Existing Conditions) – as required by the work of this Contract.

4. Division 06 (Wood, Plastics, and Composites) - Specification sections as required by the work of this Contract for in wall supports and blocking.

5. Division 07 (Thermal and Moisture Protection) - as required by the work of this Contract to seal and firestop Temperature Control related work:
   a. 078400 – Firestopping
   b. 079200 – Joint Sealants

6. Divisions 23 (Heating, Ventilating, and Air Conditioning): as required for controls related work of this division.

7. Division 25 (Integrated Automation): as required for controls related work of this division

8. Division 26 (Electrical) as required for control related for by this contract.

9. Division 28 (Electronic Safety and Security) as required for control related for by this contract.

D. The Scope of Work related to the Temperature Control Contract (TCC) includes, but is not limited to, the following:
   1. Temperature Controls

a. Installation of all Temperature Control Related items at all locations indicated on the construction documents. Including temporary Construction areas.

2. Provide all final cleaning as it pertains to this scope of work and at the time of each phase of completion.

3. The TCC shall remove and install all temperature controls including but not limited to Control Wiring, Space Temperature Sensors, Sensors, Panels, Controllers, Line Voltage Thermostats/Wiring for HVAC equipment depicted within the Construction Documents

4. If the TCC finds an existing opening in the building and elects to utilize it as a new pathway they will be required to fire-safe or infill the remainder of the opening around their work at no additional cost to the owner.

1.11 CONTRACT No. 05 – FIXED AUDIENCE SEATING (FSC) REQUIREMENTS (State Contract/Cooperative Purchase)

A. Unless noted otherwise – Each Prime Contractor is responsible for ALL Drawings in the set – Scope is Defined by Specification sections as noted below.

B. This contract is intended to be part of a NYS Contract or Cooperative Purchase Agreement and will be provided directly by the owner. This contract will adhere to the general conditions of this work and be required to coordinate work with all other contractors.

C. Unless noted otherwise, the Fixed Audience Seating Contract (FSC) includes, but is not limited to, the following:

1. Division 00 (Procurement and Contracting Requirements) - All Specification sections.

2. Division 01 (General Requirements) - All Specification sections.

3. Division 02 (Existing Conditions) – as required by the work of this Contract.

4. Division 03 (Concrete) - as required by the work of this Contract

5. Division 06 (Wood, Plastics, and Composites) - Specification sections as required by the work of this Contract for supports and blocking.

6. Division 07 (Thermal and Moisture Protection) - as required by the work of this Contract.

7. Division 26 (Electrical) as required for control related for by this contract.

8. Division 28 (Electronic Safety and Security) as required for control related for by this contract.

D. The Scope of Work related to the Fixed Audience Seating Contract (FSC) includes, but is not limited to, the following:
   1. Installation of all Fixed Audience Seating as depicted within the construction documents.

   2. Anchors for seating must be a length to adequately penetrate the structural slab and not just topping slab, to adequately fasten seating. Field pull test shall be performed on anchors to confirm that fasteners are adequate.

   3. Provide all final cleaning as it pertains to this scope of work and at the time of each phase of completion.

   4. Coordination with EC for aisle lighting connections as required.

1.12 OWNER-FURNISHED PRODUCTS

A. Owner will furnish products as/if indicated. If indicated, the work for the Prime Contractor as identified includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products.

B. Owner-furnished items:
   1. Fixed Audience Seating – Main Auditorium and Balcony.
   2. HVAC Equipment – Rooftop Unit – RTU-A-324
   3. Building Temperature Controls

1.13 ACCESS TO SITE

A. General: Contractors shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

   1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.

b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.14 COORDINATION WITH OCCUPANTS

A. Owner Occupancy: Owner will occupy site and existing adjacent buildings during entire construction period with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits and exit pathways at all times unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the Construction Manager and approval of authorities having jurisdiction.

2. Maintain in operation all life safety provisions and devices (including, but not limited to, fire alarms, fire extinguishers, smoke detectors, heat sensors, emergency and exit lighting, defibrillators, and similar items).

3. Notify the Construction Manager not less than 72 hours in advance of activities that will affect Owner's operations.

B. Coordination with School Schedule:

1. Normal School Year: Owner intends to maintain a full educational program during the normal school year throughout duration of Project and will make full use of the adjacent building and site, unless noted otherwise.

a. School and special activities may be conducted on site outside regular school hours, including holidays and weekends.

b. Construction Delivery times may sometimes be restricted to avoid interference in the construction activity with the district’s bus traffic.

c. Owner's personnel will perform normal custodian and maintenance services for the building areas and systems not involved in construction activities, unless noted otherwise.

2. Summer:

a. Owner may host summer school programs at their respective buildings or at the site during either the 2025or 2026 summer periods.

b. Owner will staff buildings at all campuses, at a minimum, with administrative, custodial and maintenance personnel during summer period.

C. Identification: The Contractor shall require its personnel and those of its subcontractors, sub-subcontractors, and suppliers to wear yellow safety vests or high visibility shirts, and visible photo-identification badges acceptable to the Owner, always for identification and security purposes.

1.15 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: All work will be conducted on second shift between the hours of 4:00 p.m. to 11:30 p.m., Monday through Friday, except as otherwise indicated or approved by the Construction Manager. Prime Contractors will be working Second Shift while class is in session. Movement of materials is not permitted adjacent to Owner-occupied buildings during normal business working hours unless prior approval from the Construction Manager has been granted.

1. Other Weekday Hours: On a case-by-case basis and during school break(s) as indicated on Milestone Schedule, scheduled a minimum of 48 hours in advance with the Construction Manager.

2. Weekend Hours: On a case-by-case basis, scheduled a minimum of 48 hours in advance with the Construction Manager.

3. Hours for Noisy Activity (in excess of 60 dB): 4:00 p.m. to 11:30 p.m.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Construction Manager not less than 10 working days in advance of proposed utility interruptions.

2. Obtain Construction Manager's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise, vibration, odors, or other disruption to Owner occupancy.

1. Notify Construction Manager not less than 72 hours in advance of proposed disruptive operations.

2. Obtain Construction Manager's written permission before proceeding with disruptive operations.

E. Indoor Air Quality (IAQ): Protect indoor air quality, including control of emissions and moisture control during construction. Develop a construction IAQ management plan to be followed.

1. Control of Emissions: Provide measures and conduct operations to:

a. Protect HVAC systems.

b. Protect against emissions from such sources as environmental tobacco smoke, combustion contaminants, biological contaminants, volatile organic compounds (VOCs), formaldehyde, soil gases, pesticides, particles, and fibers.

c. Provide low- and zero-VOC materials.

d. Protect against dust infiltration, especially during dust-producing activities.

e. Isolate work areas to prevent contamination of clean or occupied spaces.

f. Continuously maintain and regularly inspect areas and IAQ measures to prevent contamination of building areas.

g. Provide adequate ventilation, including, but not limited to:

1) Minimum 48-hour pre-ventilation of packaged dry products which have odors or VOC emissions, prior to installation. Condition products without containers and packaging to maximize off gassing of VOCs.

2) Adequate ventilation during and after installation of interior wet products and interior final finishes.

3) Appropriate air filtration, including filter replacement.

h. Schedule construction operations involving wet products prior to packaged dry products to the greatest extent possible.

i. Vacuum carpeted and soft surfaces with a high-efficiency particulate arrestor (HEPA) vacuum.

j. Flush out building for a minimum of 72 hours, or longer if required to dissipate emissions, prior to occupancy.

2. Moisture Control: Provide measures and conduct operations to:

a. Provide proper housekeeping to keep materials dry.

b. Inspect areas and materials for dampness and mold growth.

c. Schedule construction operations so that absorptive materials are protected and weather-proof building as quickly as possible.

d. Test for moisture content, moisture penetration and microbial growth to maintain within permissible limits.

F. Comply with requirements in Division 01 Section "Governmental Safety Requirements".

1.16 OCCUPANCY REQUIREMENTS

A. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied.

1. The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a Certificate of Occupancy.

B. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.

C. On the issuance date of Certificate of Substantial Completion, Owner will assume responsibility for insurance, maintenance, and custodial service for occupied portions of building.

1.17 USE OF PREMISES

A. Site and Field Work: Limit use of premises to work in areas indicated. Confine operations to areas within Contract Limits indicated. Do not disturb portions of site beyond areas in which the Work is indicated. No signs or advertising are allowed except as approved by Architect and / or Construction Manager or as required by laws, regulations or the Prime Contractor's protection as persons and property.

1. Limits: Prime Contractors shall comply with Owner occupancy and phasing requirements.

a. Prime Contractors shall limit operations, including storage of materials and prefabrication to areas within the Contract Limit Lines unless otherwise

permitted by the Architect and/or Construction Manager at the Owner's option.

1) All construction materials shall be stored in a safe, dry, and secure manner.

b. Prime Contractors shall limit use of the premises for Work and for storage to allow for:

1) Owner occupancy.

2) Work by other Prime Contractors.

2. Lock automotive-type vehicles such as passenger cars and trucks and other types of mechanized and motorized construction equipment when parked and unattended, to prevent unauthorized use. Do not leave such vehicles unattended, with engine running or ignition key in place. Keys of locked vehicles shall not be stored or hidden on respective vehicles.

B. Existing Buildings: Maintain existing buildings in a weathertight condition throughout the construction period. Repair damage caused by construction operations. Protect buildings and occupants during construction period.

1. Keep all areas free from accumulation of waste material, rubbish, or construction debris on a daily basis.

2. Prime Contractors shall provide temporary closures at all openings in the outside walls to maintain weather protection and security as directed by Architect and/or Construction Manager.

3. Open fires are not permitted.

4. Prime Contractors shall be responsible for control of chemical fumes, gases, and other contaminates 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.

5. Prime Contractors shall be responsible for ensuring 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.

6. Construction and maintenance operations should not produce noise that is 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.

C. Prime Contractors shall coordinate the use of premises with the Owner via the Construction Manager and shall move any stored products under Prime Contractor's control, including excavated material, which interferes with operations of the Owner or separate Contractors, at no expense to Owner.

1. Owner Construction: The Owner may have other Contractors/Prime Contractors engaged in other work for the District during part or all the construction period of this Project. Cooperate with Owner and the Owner's Contractors during construction operations to avoid interferences, conflicts and/or disruptions of Owner's usage and safety/exiting, and/or other Owner construction personnel and execution.

D. Prime Contractors shall assume full responsibility for the protection and safekeeping of products under Contract, stored on the site and shall cooperate with the Owner to ensure security for the Owner's property.

1. Fencing with lockable gates shall surround construction supplies or debris of construction activities.

a. Gates shall always be locked unless a Worker is in attendance to prevent unauthorized entry.

E. Lockout Tagout Policy: Each Prime Contractor shall follow their policy in addition to requirements of regulating authorities. Prime Contractors shall not circumvent or complicate the Lockout Tagout Policy.

1. At progress meetings, each Prime Contractor shall indicate extent of their Work with Owner's representative for the period up to the next progress meeting.

a. Each Prime Contractor shall identify all valves, disconnect devices or other devices requiring manipulation or turn off/on to the District's Director of Buildings and Grounds.

b. District's maintenance personnel will manipulate devices per Director's directive only.

c. District's maintenance personnel may use Lockout Tagout procedure on all valves, disconnect devices and other devices.

d. Devices not coordinated during progress meetings shall be coordinated through Architect and/or Construction Manager. Provide 48-hour notice of required action.

F. Protection of Equipment Material: Each Prime Contractor shall assume full and complete responsibility for protection and safekeeping of products and equipment stored and installed at Project Site.

G. Each Prime Contractor shall obtain and pay for the use of additional storage or work areas needed for operations.

1.18 AREA AVAILABLE FOR USE

A. Prime Contractors shall confine operations to those portions of the Owners property, and to the rights-of-way or easements, temporary or permanent, acquired or designated for the work of the Contract as shown on the Drawings and/or on sketches at the end of this section. Private property adjacent to the Site shall not be entered upon or used by the Prime Contractors for any purpose without the written consent of the Owner. A copy of such consent shall be filed with the Construction Manager.

B. Separation of Construction Areas from Occupied Space: Construction areas which are under the control of a Contractor and therefore not occupied by Owner 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 vapor, fine dust, or air infiltration barrier, and shall not be solely used to separate occupied spaces from construction areas.

1. Do not use corridors, stairs or elevators being occupied by Owner.

2. Use enclosed chutes to remove large amounts of debris.

3. Do not move debris though occupied spaces of the building.

C. Clean all occupied parts of the building at the close of each workday. Maintain required health, safety, and educational capabilities always during construction operations in cooperation with the Owner's requirements.

D. Separation of Construction Areas from Unoccupied Building Spaces, Site, Neighboring Properties: Procedures like those required for preventing dust and debris from entering occupied parts of the building shall also be followed to control and prevent dust and debris from entering unoccupied parts of the building, non-work areas of the site, and neighboring properties.

1.19 TRAVEL NOT OBSTRUCTED

A. Each Prime Contractor shall not needlessly hinder or inconvenience travel in any public or private way, nor wholly obstruct a traveled way, and shall provide plain, appropriately worded signs, adequate barricades and lighting announcing such obstruction at the

nearest cross streets and/or path, and at each end of the obstructed portion, directing foot and vehicle traffic to and along an approved detour.

1.20 PHASING

A. Prime Contractor shall assume full responsibility for Project Phasing requirements. Coordinate with Architect and Construction Manager the following:

1. Deliveries.

2. Testing and inspection agency requirements.

3. Building and Site system shutdowns.

B. Notify Architect and Construction Manager of Construction Schedule modifications in writing at each progress meeting.

1.21 IDENTIFICATION BADGES

A. General: All construction personnel shall always wear identification badges when on a District site. Securely attach badge to outer clothing for easy recognition of worker name, photo, company, and proof of OSHA 10-Hour Certification.

B. Each Prime Contractor shall supply its employees and other retained construction personnel, an identification badge. Include company name, Owner's name and photo, and provide a number on each badge.

1. Prime Contractors shall maintain a listing of the badge numbers and the associated employee's name to which the corresponding badge number is assigned.

C. Submit a copy of the list to the Owner, Architect, and Construction Manager and resubmit each time a new employee begins working on the site. Provide copies of each workers' OSHA 10 Hour Certification to Construction Manager electrically.

1.22 SMOKING POLICY

A. Use of tobacco and/or vaping products at any/all Work sites, job office, parking lots, along the road right-of-way adjacent to the site, and other portions of Owner's property is prohibited by law. Use of tobacco and/or vaping products may result in uncontested removal of that worker from Owner's property and termination of employment on this project.

B. This policy shall apply to all individuals entering a Work site or Owner's property including, but not limited to, part-time personnel, consultants, and employees of other companies or Prime Contractor's employees, sub-consultants, installers, delivery personnel, etc., working on Project site.

1.23 STATE EDUCATION DEPARTMENT REQUIREMENTS:

A. All work within the existing buildings, at new construction, or on the building sites, shall comply with requirements of the State Education Department for environmental control and the Uniform Safety Standards for School Construction and Maintenance Projects as described in Division 01 Section "NYSED 155.5 Regulations".

B. These requirements apply even during the summer where there are students and young people occupying the buildings for summer school, childcare, etc.

1.24 SHIFT REQUIREMENTS:

A. Construction operations within the existing buildings, at new construction, or on the building sites, shall be performed with a fully staffed workforce five days each week for a minimum of eight hours each workday during the summer, weekend work, and some non-standard shift periods as needed to stay on schedule and/or per the request of the Construction Manager. Prime Contracts shall provide additional work hours as necessary to complete the work requirements if required to meet the schedule.

1. Building use hours/days by The Owner (or specific groups coordinated with the Owner - and staff during the summer. Second Shift work will be a requirement while building(s) are being occupied and while class is in session.

2. Prime Contractors will work second shifts while school is in session, as determined by the Construction Manager, Architect, and Owner.

3. Prime Contractors requirement to obtain NYS DOL, etc. permissions to provide additional work hours.

4. First shift workdays will be available upon request during school break(s), weekends and during the summertime. All First Shift requests must be scheduled a minimum of 48 hours in advance with the Construction Manager.

B. Cost of overtime and shiftwork to meet the schedule shall be included in the base bid and shall not be subject to change order, as determined by the Construction Manager and/or the Architect and Owner.

C. Any construction operations on school premises, which extend beyond the date of Substantial Completion, shall be conducted by the respective Contractors when school is not in session and at the convenience of the District. Any and all extraordinary expenses incurred by any Contractor, including Architect's and/or Construction Manager's additional oversight, for such delayed work shall be at the respective Contractor's expense and shall not be considered additional expense to the Contract.

1.25 DISTRICT REQUIREMENTS:

A. The Contractor shall be responsible for adhering to the following rules. The Owner reserves the right to request that any employee not following these requirements will result in immediate, uncontested, expulsion from the site:

1. Smoking, drinking of alcoholic beverages, and/or the use of drugs is not permitted anywhere on school property or the road right-of-way in front of the buildings.

2. Firearms and/or weapons of any kind are not permitted anywhere on school property or the road right-of-way in front of the buildings.

3. The Contractor will define a break area for employees and will require employees to remain within the defined area during any work breaks. No food will be allowed in work areas.

4. No lewd conduct will be allowed at any time. No profanity will be allowed at any time. No radios will be permitted in the building at any time.

5. All workers must remain clothed, and all workers must wear appropriate shirts, pants, and shoes at all times. All workers shall wear all appropriate personnel protective items during work activities. All clothing shall comply with OSHA requirements.

6. All personnel must wear an I.D. work badge at all times on a site stating name, employer, contract, and project.

7. Contractor employees shall park only in areas designated by the Owner for Contractor use.

8. Any visitors to the construction site must first check-in at the Construction Managers Field Office. Only visitors with direct business relating to the construction of the building project will be permitted access to the project site.

9. Any Contractor personnel that must work within the buildings, at any time, must first sign-in with the Construction Manager or at the building's maintenance or main office, as determined by the Owner, and sign out when leaving the building. This is to provide the Owner with a record they can check daily for their purposes, such as knowing everyone is out of the building before the alarms are set on the building, etc.

10. Prime contractors are to comply with all local, regional, state, and federal regulations as it pertains to COVID–19. This includes, but is not limited to compliance with guidelines and protocol established by the CDC, WHO, NYSED, State and County Departments of Health, etc. Furthermore, all prime contractors must follow local requirements that are implemented by the District to ensure that safe and healthy environments are maintained within the School's buildings. Prime

contractors shall also have a COVID-19 policy within their project specific Safety Program.

1.26 ADDITIONAL GENERAL REQUIREMENTS

A. Prime contractors shall supply all labor, materials, tools, equipment, supervision, layout, and coordination with other prime trade contractors, the Construction Manager, the Architect, as necessary; in order to complete all of their work as required and detailed in the drawings, specifications, addenda, and all other contract documents.

B. Prime contractors shall provide their own OSHA compliant access to their work through use of staging, scaffolding, personnel lifts, temporary scaffolding, shoring, supports, guys, braces, falsework, cranes and the like to complete the work.

C. Correct any, or all, quality control issues or concerns, which are not deemed acceptable to the Construction Manager, the Architect, and Owner, or are not deemed as a high-quality finished product.

D. Verify that air and surface temperature, moisture, and humidity conditions are suitable for installation of this work, per the requirements of the specifications and product manufacturers. If the conditions prohibit installation, notify the Construction Manager's on-site representative. Documentation of conditions shall be noted within this contractor's daily field reports.

E. All work areas must be coordinated with the Construction Manager's field representative. At no time shall this contractor independently select their schedule and locations of work.

F. All significant material deliveries must be coordinated with Construction Manager's field representative at least 48 hours in advance. Maintenance of traffic and pedestrian protection for deliveries and work performance is the responsibility of this contractor.

G. Storage of materials and equipment at the site shall be permitted only with prior approval, received by the Construction Manager's on-site representative. Prime contractors shall only store materials that are to be used in the next 30 days to maintain the ongoing construction activities.

H. Prime contractors are responsible for posting any applicable signage to warn workers and others of potential hazards due to the work, in addition to the standard signs and barricades.

I. Submit daily field reports indicating the number of workers by classification, hours worked, construction progress information, weather conditions, etc., to the Construction Manager's on-site representative daily.

J. This contractor agrees to take all precautionary measures necessary to prevent damage to the Owner's property and the work of other trades and contractors and to repair promptly any damage caused by this contractor's action or that of its employees,

subcontractors or vendors. If damage is caused by this contractor's action or that of its employees, subcontractors or vendors, this contractor must repair the damage within 1 calendar week*. If this contractor fails to make acceptable repairs within 1 week* of notification, the Construction Manager may direct these repairs to be completed on behalf of this contractor and at this contractor's expense.

1. In the event that the damage presents safety, security, or environmental risk, or affects the ability of other contractors to perform their work, the repairs must be made immediately.

K. Prime contractors are responsible for developing a Site Specific Safety Plan that is specific to this capital improvement project. Submit this Site Specific Safety Plan within 10 days of award and no later than the start of construction activities. Prime contractors shall conduct regular toolbox talks, as required by OSHA, which are focused on pertinent aspects of the ongoing project and potential areas of safety hazards. Meeting minutes, with attendance records, for respective toolbox talks and safety related meetings shall be maintained by each Prime Contractor.

L. Means of temporary lighting and power as required by OSHA, shall be provided by the Electrical Contractor. Task specific lighting as required to perform their specific scope of work will be provided by the contractor or subcontractor requiring the task lighting for their work.

M. Provide means of fastening to existing substrates. Any inadequate or poor surface conditions that prevent adequate attachments shall be pointed out to the Construction Manager's on-site representative and the Architect before proceeding with installations.

N. Prime contractors shall coordinate with environmental regulatory agencies, as necessary to perform their scope of work. When in doubt as to specific regulatory requirements, contractors shall proceed with caution and contact pertinent agencies to ensure that they are proceeding in compliance with all environmental requirements. Contractors shall notify the Architect, the Construction Manager, and the Owner before they contact regulatory agencies.

O. The Prime Contractors shall submit Requests for Information (RFIs), all project submittals/shop drawings, and other key project documentation electronically via the computer-based program implemented by the Design Team and/or Owner. Contractors shall also participate in any training sessions that are requested of them to attend, in order to more effectively use the designated computer-based program.

P. Prime Contracts shall reach final completion of their contract obligations and complete all remaining punch list and work items within one month (30 calendar days) of reaching substantial completion. Failure to reach final completion within this timeframe shall be subject to the same penalties associated with not meeting substantial completion.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

ATTACHMENT:

NEWBURGH ECSD - MILESTONE SCHEDULE

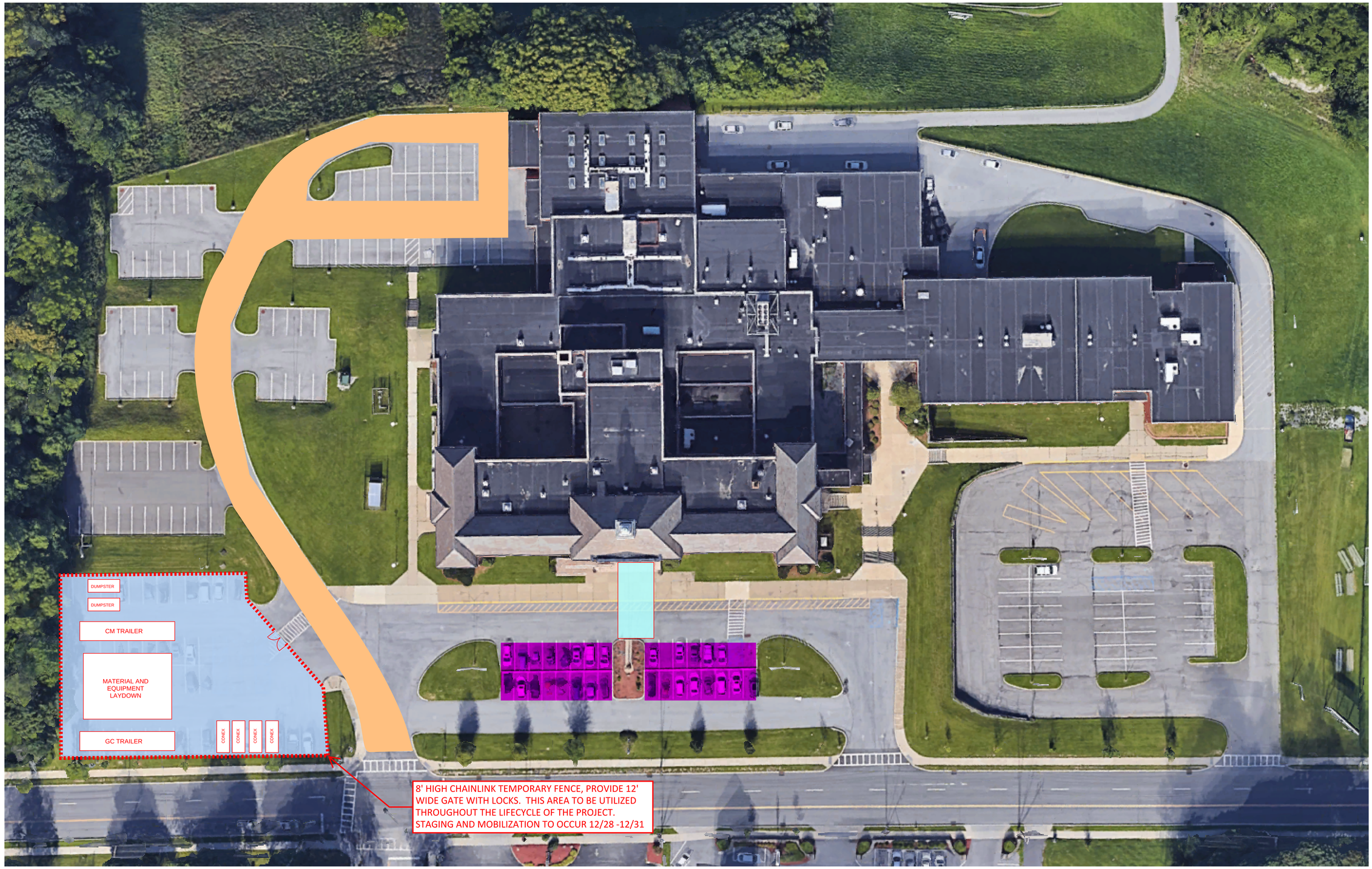
NEWBURGH ECSD – SITE LOGISTICS PLAN

NEWBURGH ECSD – FIELD OFFICE REQUISITION REQUIREMENTS

NEWBURGH ECSD – GENERAL SCOPE OF WORK & REQUIREMENTS

END OF SECTION 011200

	CONTRACTION CONEX / DUMPSTER LAYDOWN AREA
	CONTRACTOR PARKING
	NFA BUS DROP-OFF LOOP
	MATERIAL DROP OFF / REMOVAL OF DEMO MATERIAL



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Consultant

SCHOOLHOUSE CONSTRUCTION SERVICES LLC

It is a violation of Title VIII, Article 147 of NYS Education Law for any person, unless acting under the direction of a licensed architect, to alter any item on this document in any way. Any licensee who makes any alterations is required by law to affix his or her seal and the notation "altered by" followed by his or her signature and a specific description of the alteration made.

Project Title

NEWBURGH ENLARGED CSD
NEWBURGH FREE ACADEMY NORTH CAMPUS
AUDITORIUM RENOVATION

#	DATE	DESCRIPTION

Drawn By:	Author
Checked By:	Checker
Proj. #:	44-16-00-01-0-002-016
CSArch Proj. #:	108-2504
Construction Documents:	12-19-25

Sheet Title

SITE LOGISTICS PLAN

Sheet No.

NFA SL001

CONSTRUCTION DOCUMENTS

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GENERAL SCOPE OF WORK & REQUIREMENTS

All Prime Contractors

1. GENERAL RESPONSIBILITIES

A. Prime contractors shall supply all labor, materials, tools, equipment, supervision, layout, and coordination with other prime, trade contractors, Schoolhouse, the Architect, as necessary; in order to complete all of their work as required and detailed in the drawings, specifications, addenda, and all other contract documents.

B. Prime contractors shall provide their own OSHA compliant access to their work through use of staging, scaffolding, personnel lifts, temporary scaffolding, shoring, supports, guys, braces, falsework, cranes and the like to complete the work.

C. Correct any, or all, quality control issues or concerns, which are not deemed acceptable to Schoolhouse, the Architect, and Owner, or are not deemed as a high-quality finished product.

D. Verify that air and surface temperature, moisture, and humidity conditions are suitable for installation of this work, per the requirements of the specifications and product manufacturers. If the conditions prohibit installation, notify Schoolhouse's on-site representative. Documentation of conditions shall be noted within this contractor's daily field reports.

E. All drawings, specifications, and addenda prepared by the Design Team are applicable to the performance of this contract.

F. Provide means of fastening to existing substrates. Any inadequate or poor surface conditions that prevent adequate attachments shall be pointed out to Schoolhouse's on-site representative and the Architect before proceeding with installations.

G. Blocking for the work of each contract, including for all accessories, ADA hardware, wall mounted devices, casework, etc. shall be the work of each prime contractor for their respective work. Each contract is responsible for identifying blocking sizes and locations for its own work.

2. PRE-CONSTRUCTION DOCUMENTATION

A. Within one week of Notice of Award, each Prime Contractor shall provide a video recording of existing exterior and interior conditions within their work areas. Failure to provide this record shall result in the Prime Contractor being fully responsible for any disputed damage within those areas.

B. Each Prime Contractor shall provide all required engineered calculations, stamped as required, and all mockups necessary for review, including those required out of sequence to support design review or approvals.

3. SCHEDULING & TIME REQUIREMENTS

A. Prime Contractors shall provide proposed schedules showing submittals, material procurement (including lead times), and sequence of construction activities. The General Contractor shall create a baseline schedule [MS Project] for other prime contractors to integrate their tasks & durations into a single master schedule [MS Project] that is reviewed and finalized with Schoolhouse, the Architect, and Owner.

B. Time is of the essence for all work under this Contract. Each Prime Contractor shall review the finalized Master Schedule, including all milestone dates and phasing requirements, and shall provide written acknowledgement of

acceptance prior to commencing construction activities. The approved Master Schedule shall be binding upon all Prime Contractors and shall be used to evaluate progress, delay responsibility, and entitlement to time extensions or recovery measures.

C. The final master schedule shall be accepted by the Project Team and followed in the performance of construction activities. Contractors shall provide schedule updates on a weekly basis, including three-week look-ahead schedules at coordination meetings.

D. Prime Contractors will work overtime, at their own expense, included in their proposal, should they fail to maintain progress in accordance with the project schedule, as determined by Schoolhouse and/or the Architect and Owner.

E. The Prime Contractors understand that during the execution of the work, it is not assumed that construction can be carried out in a continuous, uninterrupted manner. Contractor must include any necessary remobilizations required to successfully complete this work and work around the Owner's operational needs.

F. Weekend work must be communicated and coordinated with Schoolhouse 48 hours in advance to commencement.

G. There will be no additional compensation assigned for weekend labor that is necessary to work around the Owner's operations.

4. SITE ACCESS, DELIVERIES & STORAGE

A. All work areas must be coordinated with Schoolhouse's field representative. At no time shall this contractor independently select their schedule and locations of work.

B. Any street, roadway, and/or parking lot closures must be coordinated with Schoolhouse's on-site representative and shall be scheduled around other project activities and municipal requirements.

C. All significant material deliveries must be coordinated with Schoolhouse at least 48 hours in advance. Maintenance of traffic and pedestrian protection for deliveries and work performance is the responsibility of this contractor.

D. Storage of materials and equipment at the site shall be permitted only with prior approval received by Schoolhouse's on-site representative. Prime contractors shall only store materials that are to be used in the next 30 days to maintain the ongoing construction activities.

E. Prime contractors are responsible for posting any applicable signage to warn workers and others of potential hazards due to the work, in addition to the standard signs and barricades.

5. SUPERVISION, STAFFING & COMMUNICATIONS

A. Submit daily field reports indicating number of workers by classification, hours worked, construction progress information, weather conditions, etc., to Schoolhouse's on-site representative on a daily basis.

B. All prime contractors shall assign a dedicated field superintendent to be on-site whenever their company, or their subcontractors, have on-going construction activities.

C. The General Contractor's designated field superintendent shall not be a working technician that is tasked with performing field installations, but rather shall remain focused on coordination and planning of construction activities, oversight of operations, and other supervisory tasks.

D. The General Contractor Prime shall be responsible for ensuring that all project work areas are fully secured and locked-up at the end of each working shift. Upon completing these checks and confirming that the respective work areas and buildings are secured, the General Contractor shall notify Schoolhouse's project representative in-writing via an email or text messaging.

E. All on-site workers shall wear an identification badge while on-site. Badges shall be displayed via a lanyard or other approved means of displaying proper identification.

F. Copies of OSHA 10-hour card to be provided to Schoolhouse on site.

G. The Prime Contractors shall submit Requests for Information (RFIs), all project submittals/shop drawings, and other key project documentation electronically via the computer-based program implemented by the Design Team and/or Owner. Contractors shall also participate in any training sessions that are requested of them to attend, in order to more effectively use the designated computer-based program.

H. Each Prime Contractor shall participate in all mechanical, electrical, plumbing and systems coordination efforts and meetings as directed by Schoolhouse, the Architect, and/or the Owner and shall provide knowledgeable representatives with authority to resolve conflicts. All Prime Contractors shall coordinate their Work through coordinated shop drawings and overlays and shall resolve all conflicts prior to fabrication or installation, including coordination of architectural conditions such as ceilings, soffits, fire/smoke partitions, doors, framing and similar elements, and coordination of all penetrations, sleeves and openings through slabs, walls, roofs and foundations required for their Work.

6. SAFETY, IAQ & ENVIRONMENTAL CONTROLS

A. Prime contractors are responsible for developing a Site Specific Safety Plan that is specific to this capital improvement project. Submit this Site Specific Safety Plan with in 10 days of award and no later than the start of construction activities.

B. Prime contractors shall conduct regular toolbox talks, as required by OSHA, which are focused on pertinent aspects of the ongoing project and potential areas of safety hazards. Meeting minutes, with attendance records, for respective toolbox talks and safety related meetings shall be maintained by each Prime Contractor.

C. In the event of an incident or injury occurring on-site, the Prime contractor and all subcontractors involved are required to furnish Schoolhouse and the owner with all relevant documentation, including but not limited to forms, reports, and any other records related to the incident.

D. Provide means for maintaining acceptable indoor air quality and adequate ventilation to eliminate fumes and/or the off gassing of material products, according to OSHA and SED requirements.

E. Means of temporary lighting and power shall be provided by the Electrical Contractor. This includes task specific lighting as required to perform their specific scope of work, and as required by OSHA.

F. Prime contractors shall coordinate with environmental regulatory agencies, as necessary to perform their scope of work. When in doubt as to specific regulatory requirements, contractors shall proceed with caution and contact pertinent agencies to ensure that they are proceeding in compliance with all environmental requirements. Contractors shall notify the Architect, Schoolhouse, and the Owner before they contact regulatory agencies.

7. FENCING, SECURITY & FIRE PROTECTION

A. Outside work areas, excavations, and stored materials shall have perimeter fencing (8’-0” chain-link) provided and maintained by the respective contractor performing the work, as directed by Schoolhouse’s on-site representative. The General Contractor (GC) shall provide fencing at common work areas where multiple prime contractors are working and also surrounding designated material laydown area and zones that accommodate field office trailers and storage units. Other forms of fencing, such as orange snow fencing, are not acceptable.

- *Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 8 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top rails. Provide privacy screening for all chain-link fencing applications.*

B. Fire Extinguishers: General Contractor (GC) shall provide and maintain “general use” fire extinguishers for each building construction area; comply with applicable codes for quantities required. Comply with NFPA for recommended classes for exposure; extinguishers shall be inspected and appropriately tagged prior to being brought on site. Provide stands, painted bright orange, sturdy enough to carry the extinguisher, and built as not to create a tipping hazard.

C. Prime Contractor that is responsible for Roofing scope shall provide an OSHA compliant stair tower system that shall be available to all pertinent project parties to utilize throughout the duration of the roofing work, from commencement of roofing activities up until final closeout of the contract. Contractor shall coordinate the location of the structure with the Construction Manager and Owner. The structure shall be secured with appropriate locking mechanisms and ten (10) access keys provided to the Construction Manager. Upon final closeout of the contract, the Contractor shall remove the structure and fully restore any damaged areas caused to lawn, pavement, and other site surfaces.

D. Prime Contractor that is responsible for fire alarm scope shall provide heat detectors tied to central fire alarm system in areas where smoke heads have been covered and/or removed for construction purposes. This ensures that construction zones within the occupied building still have system tied devices in place.

8. PROTECTION OF WORK & EXISTING CONDITIONS

A. Prime contractors agree to take all precautionary measures necessary to prevent damage to the Owner's property and the work of other trades and contractors and to repair promptly any damage caused by the contractor’s action or that of its employees, subcontractors or vendors. If damage is caused by the prime contractor’s action or that of its employees, subcontractors or vendors, the prime contractor must repair the damage within 1 calendar week*. If the prime contractor fails to make acceptable repairs within 1 week* of notification, Schoolhouse may direct these repairs to be completed on behalf of this contractor and at this contractor’s expense.

- *In the event that the damage presents a safety, security, or environmental risk, or affects the ability of other contractors to perform their work, the repairs must be made immediately.*

B. Each Prime Contract is responsible for protecting their installations at all times, and to not damage adjacent items and/or the work or items of others. This includes a minimum of protective blankets and at least 5/8” plywood being placed over wood or other floor finishes that are susceptible to damages, before major reconstruction and/or manlifts are used on these surfaces.

C. Prime Contractors need to be aware that during the duration of this Project there may be work by other projects occurring simultaneously at the same building(s). Each Prime Contractor must coordinate the execution of their work for this project with the work of other Prime Contractors for this project and other potential projects.

D. Protection of Work Areas: Prime Contractors are required to protect entire work areas during times/days when School is in session. This includes but is not limited to: temporary chain-link fencing (with full privacy screening), temporary partitions (with temp. finishes), plastic curtains/dust barriers, etc., as needed to protect all ongoing work, material(s) and equipment. During times where School is not in session, Contractors are required to protect direct work areas daily and ensure that the project site is safe at all times.

9. CLEANING & HOUSEKEEPING

A. Each Prime contractor is 100% responsible for their own daily and final clean-ups. This includes daily (or more often as needed and deemed by Schoolhouse’s on-site representative) removal of waste to appropriate dumpsters.

B. Besides general sweeping of work areas, mopping of work areas and affected corridors is required when the Owner intends to use the facilities before the next working shift.

C. Failure to perform clean-up daily may result in back charges and fines to Prime Contractors.

D. General Contractor shall include multiple final cleanings of major areas of reconstruction by a professional

cleaning company to prepare spaces for immediate usage by the Owner.

E. All prime contractors are responsible for their own removal of debris, including the provision of clean-up, dumpsters, hauling, etc.

10. FINAL COMPLETION & CLOSEOUT

A. Prime Contracts shall reach final completion of their contract obligations and complete all remaining punchlist and work items within one month (30 calendar days) of reaching substantial completion.

SECTION 011400 - WORK RESTRICTIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Modified General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for Project site work restrictions including, but not limited to, the following;
   1. Occupancy requirements.
   2. Use of premises.
   3. Area available for use.
   4. Travel not obstructed.
   5. Phasing.
   6. Uniform Safety Standards for School Construction and Maintenance Projects.
   7. Smoking policy.
   8. Product delivery, storage and handling.

B. Related Sections include the following:
   1. Division 1 Section “Summary of Multiple Contracts” for additional work restriction requirements.

1.3 OCCUPANCY REQUIREMENTS

A. Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.
   1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
   2. The Owner will obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
   3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will provide, operate, and maintain mechanical and electrical systems serving occupied portions of building.
   4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.4 USE OF PREMISES

A. Use of Site: Limit use of premises to work in areas indicated. Confine operations to areas within Contract limits indicated. Do not disturb portions of site beyond areas in which the Work in indicated. No signs or advertising are allowed except as approved by Architect or as required by laws, regulations or the Prime Contractor's protection as persons and property.
   1. Limits: Prime Contractors shall comply with Owner occupancy, and phasing requirements.
      a. Prime Contractors shall limit operations including storage of materials and prefabrication to areas within the Contract Limit Lines unless otherwise permitted by Owner's Project Representative at the Owner's option.
      b. Prime Contractors shall limit use of the premises for Work and for storage, to allow for:
         1) Owner occupancy & use.
         2) Work by other Prime Contractors.
         3) Work by Owner.

B. Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.
   1. Keep all areas free from accumulation of waste material, rubbish or construction debris on daily basis.
   2. Prime Contractors shall provide temporary closures at all openings in outside walls to maintain weather protection and security as directed by Owner's Project Representative.
   3. Open fires are not permitted.

C. Prime Contractors shall coordinate the use of premises with the Owner through Owner's Project Representative and shall move any stored products under Prime Contractor's control, including excavated material, which interfere with operations of the Owner or separate contractors, at no expense to Owner.

D. Prime Contractors shall assume full responsibility for the protection and safekeeping of products under Contract, stored on the site and shall cooperate with the Owner's Project Representative to insure security for the Owner's property.

E. Lockout Tagout Policy: Each Prime Contractor shall follow this policy in addition to requirements of regulating authorities. Prime Contractors shall not circumvent or complicate Lockout Tagout Policy.
   1. At progress meetings, each Prime Contractor shall indicate extent of their Work with Owner's Project Representative for the period up to the next progress meeting.

a. Each Prime Contractor shall identify all valves, disconnect devices or other devices requiring manipulation or turn off/on to District's Superintendent of Buildings and Grounds.
b. District's maintenance personnel will manipulate devices per Superintendent's directive only.
c. District's maintenance personnel will use Lockout Tagout procedure on all valves, disconnect devices and other devices.
d. Devices not coordinated during progress meeting shall be coordinated through the Owner's Project Representative. Provide 48-hour notice of required action.

F. Protection of Equipment Material: Each Prime Contractor shall assume full and complete responsibility for protection and safekeeping of products and equipment stored and install at Project.

G. Areas of Special Protection
1. Operations of the Contractor may not block, hinder, impede, or otherwise inhibit the safe and expeditious exiting of the building's occupants during an emergency.
2. In the event of an emergency (designated by the sounding of the fire alarm system) all construction activities must immediately cease. Contractor's work force will evacuate themselves from work areas and remain outside of work areas until the "all clear" is given. No work operations will be tolerated during the evacuation of the building or during an emergency.

1.5 AREA AVAILABLE FOR USE

A. Prime Contractors shall confine operations to those portions of the Owner's property, and to the right-of-ways or easements, temporary or permanent, acquired or designated for the work of the Contract as shown on the Drawings. Private property adjacent the Site shall not be entered upon or used by the Prime Contractors for any purpose without the written consent of the Owner thereof. A copy of such consent shall be filed with the Owner's Project representative.

1.6 TRAVEL NOT OBSTRUCTED

A. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
1. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

B. Each Prime Contractor shall not needlessly hinder or inconvenience travel on any public or private way, nor wholly obstruct a traveled way, and shall provide plain, appropriately worded signs, adequate barricades and lighting announcing such obstruction at the nearest cross streets, and at each end of the obstructed portion, directing traffic to and along an approved detour.

1.7 PHASING

A. Prime Contractor shall assume full responsibility for Project Phasing requirements (See Exhibits A for Project Schedule & Phasing Plan). Coordinate with Owner's Project representative the following:
   1. Shut down of utilities.
   2. Deliveries.
   3. Change over of utilities.
   4. Painting prior to installation of equipment in areas not accessible after equipment installation.
   5. Inspection of systems and equipment prior to any Prime Contractor concealing items in walls, floors and ceilings.
   6. Testing and inspection agency requirements.

B. Notify Owner's Project Representative of Construction Schedule modifications in writing at each progress meeting.

1.8 UNIFORM SAFETY STANDARDS FOR SCHOOL CONSTRUCTION AND MAINTENANCE PROJECTS

A. The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy.

B. General Safety and Security Standards for Construction Projects:
   1. All construction material 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 sidewalk 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.

C. Separation of Construction Areas from Occupied Spaces: Construction areas that 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 assemblies must be used in exit ways or other areas that required 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 shall be assigned by the Construction Manager 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 hallways 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.

D. 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.

E. Prime Contractors shall be responsible for control of chemical fumes, gases, and other contaminates produced by the work to ensure they do not enter occupied portions of the building or air intakes.

F. Prime Contractors 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.

G. Prime Contractors shall provide temporary partitions and / or systems as required to prevent the migration of airborne contaminants from unoccupied areas or the exterior work areas, into occupied areas during construction operations.

H. Large and small asbestos abatement projects as defined by 12NYCRR56 shall not be performed while the building is occupied". The term "building" ,", as referenced in this section, 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 exits which do not pass through the occupied portion and the ventilation systems must be physically separated and sealed at the isolation barrier.

1. 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.

1.9 SMOKING POLICY

A. Use of tobacco at all Work sites, job office, parking lots and of Owner's property is prohibited. Use of tobacco may result in removal from Owner's property.

B. This policy shall apply to all individuals entering a Work site or Owner's property including, but not limited to, part-time personnel, consultants, and employees of other companies or Prime Contractor's employees, sub-consultants, installers, etc., working on Project site.

1.10 PRODUCT DELIVERY STORAGE AND HANDLING

A. Deliver, store and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturers written instructions.
   1. Schedule delivery to minimize long-term storage at Project site and to prevent over crowdingovercrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instruction for handling, storing, unpacking, protecting, and installing.
   4. Prime Contractor shall inspect products on delivery to ensure correct products have been delivered and are in compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
   5. Store materials in a manner that will not endanger Project structure.
   6. Store products to allow for inspection and measurement of quantity or counting of units.
   7. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.
   8. Comply with product manufacturer's written instruction for temperature, humidity, ventilation, and weather-protection requirements for storage.
   9. Protect stored products from damage.

PART 2 PART 2 – PRODUCTS (NOT USED)

PART 3 PART 3 – EXECUTION (NOT USED)

END OF SECTION 011400

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SECTION 011410 - NYSED 155.5 REGULATIONS

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 specifies requirements of 8NYCRR155.5, Uniform Safety Standards for School Construction and Maintenance Projects, which are required in construction documents. The Contractor shall comply with these requirements in addition to any and all similar requirements in the Contract Documents.

1.3 REQUIREMENTS

A. The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy. In addition, the following shall be strictly enforced and cooperated with:
   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

B. Verify that all school areas to be disturbed during renovation or demolition have been or will be tested for lead and for asbestos. For any project work that disturbs surfaces that contain lead or asbestos, follow the plans and specifications prepared by a certified Lead Risk Assessor or Supervisor which details provisions for occupant protection, worksite preparation, work methods, cleaning, and clearance testing; which are in general accordance with HUD Guidelines.
   1. 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(12NYCRR56), and the federal Asbestos Hazard Emergency Response Act (AHERA), 40 CFR Part 763 (Code of Federal Regulations, 1998 Edition); available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234.

2. Any construction or maintenance operations which will disturb lead-based paint will require abatement of those areas pursuant to protocols detailed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing", June 1995; U.S. Department of Housing and Urban Development (HUD), Washington, D.C. 20410; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234.

C. 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.

D. 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.

E. The Architect will prepare phasing plans indicating exiting, required by the applicable building code, which shall be maintained during construction.

1. The Contractor shall submit plans, to be approved by the Architect, indicating temporary construction required to isolate construction equipment, materials, people, dust, fumes, odors, and noise during the construction period and meeting the requirements of the phasing plans.
2. Temporary construction details shall meet code-required fire ratings for separation and corridor enclosure.
3. At a minimum, required exits, temporary stairs, ramps, exit signs, and door hardware shall be provided at all times.

F. Prepare a plan detailing how adequate ventilation will be maintained during construction.
1. 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.
2. The plan shall also indicate how required ventilation to occupied spaces affected by construction will be maintained during the project.

G. 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.

H. The contractor shall be responsible for the control of chemical fumes, gases, and other contaminates 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.

I. 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.

J. Large and small asbestos abatement projects as defined by 12NYCRR56 shall not be performed while the building is occupied. The term "building", as used in this paragraph, 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 exits that do not pass through the occupied portion, and ventilation systems must be physically separated and sealed at the isolation barrier.

K. 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.

END OF SECTION 011410

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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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.
   1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor.

B. Types of allowances include the following:
   1. Contingency Allowances

1.3 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance cost proposal.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance cost proposal.

C. 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 ALLOWANCES

A. Use the allowance only as directed by Architect for Owner's purposes and only by change documentation that indicate amounts to be charged against the allowance.

B. Contractor's overhead, administrative expenses, project management, profit, and related costs for labor, products and equipment ordered by Owner under allowances are to be included within the allowance, and thereby included in the Contract Sum.

C. Change Orders authorizing use of allowances will include all related Contractor's costs including but not limited to, procurement, installation, insurance, equipment rental, and similar costs as applicable to the specific allowance.

1.6 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowances, the Architect will prepare a Change Order reflective of approved costs, utilizing Unit Prices if applicable, that will result in Allowance Remaining, if any.
   1. Contractor shall include installation costs in purchase amount only where indicated as part of the proposal request.
   2. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
   3. At Project closeout, credit unused amounts remaining in the allowance to Owner by deductive credit Change Order.

B. Contractor shall 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 work.
   1. Contractor shall not include Contractor's or subcontractors' indirect expense in the cost proposal amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
   2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALLOWANCES:

A. The following Contingency Allowances and Unit Price Allowances shall be included in the Base Bid value for each respective Contract:
   1. For Contract No. 01 – General Construction (GC):
      a. Contingency Allowance No. **CA-GC-01-001**: General Construction Contingency Allowance for work at Newburgh Free Academy North Campus in the amount of $80,000.00 lump sum.
   2. For Contract No. 02 – Mechanical Construction (MC):

a. Contingency Allowance No. **CA-MC-02-001**: Mechanical Construction Contingency Allowance for work at Newburgh Free Academy North Campus in the amount of $35,000.00 lump sum.

3. For Contract No. 03 – Electrical Construction (EC):
   a. Contingency Allowance No. **CA-EC-03-001**: Electrical Construction Contingency Allowance for work at Newburgh Free Academy North Campus in the amount of $75,000.00 lump sum.

END OF SECTION 012100

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SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General conditions and other Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the agreement, applicable during the duration of the work as a price per unit of measurement for materials, equipment, or services, or a portion of the work, added to or deducted from the contract sum by appropriate modification, if the scope of work or 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 (labor, equipment, etc.), insurance, applicable taxes, overhead, and profit.

B. Measurement and payment: see individual specification sections and drawings 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.

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.

E. Any unused base bid quantities of designated allowances shall be credited back to the owner as part of the contract closeout process.

F. Coordinate Unit Price with allowance adjustment requirements of Division 01 Section "012100 Allowances".

G. All identified unit price quantities are in addition to any quantities and locations shown elsewhere in the contract documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES – GENERAL CONTRACT

A. UNIT PRICE NO. GC-UP-01: – FLOOR PATCHING

1. Description: Labor and Material for surface patching (some infill and sanding), application of new self-leveling topcoat as specified according to Division 09.

2. Unit of measurement: per square foot of specified patching and topcoat application.

3. Base bid: Include an additional 250 square feet of specified patching and topcoat application in base bid.

B. UNIT PRICE NO. GC-UP-02: – PLASTER PATCHING

1. Description: Labor and Material for surface patching of plaster (some infill and sanding), application of topcoat(s) as specified according to Division 09.

2. Unit of measurement: per square foot of specified patching and topcoat application.

3. Base bid: Include an additional 250 square feet of specified patching and topcoat application in base bid.

END OF SECTION 012200

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.
   1. Provisions of this Section apply to the Work of each Prime Contract.

B. Related Sections include the following:
   1. Division 1 Section “Project Forms” for example forms.
   2. Division 1 Section "Allowances" for procedural requirements for handling and processing allowances.
   3. Division 1 Section "Product Substitution Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. The Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA G710 Document, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
   1. Proposal Requests issued by the Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
   2. 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 or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish data to substantiate quantities.
b. Indicate applicable, 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.

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 Site Coordinator.
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 data to substantiate quantities.
3. Indicate applicable 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.
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 G709 Document for Proposal Requests and Change Proposal Form Cover Sheet (See Special provision Exhibit E)..

1.5 CONTINGENCY ALLOWANCES

A. Prime Contractor’s costs for material, equipment, delivery, unloading, storage, handling and installation, and labor shall be included in the value of the contingency allowance authorization.

B. Overhead and profit values including the costs of bonds, insurance, administrative and supervision are part of the Base Bid, outside the value of the contingency allowance authorization.

C. Contingency Allowance Adjustment: To adjust allowance amounts, base each Allowance Disbursement upon the written authorized amount of the Architect.
1. Prepare explanation, documentation and itemization to substantiate distribution of costs claimed.

a. Submit invoices and delivery slips to show actual quantities of materials delivered to Site for use in fulfillment of each allowance.

2. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measures, or counts.

D. Form: Use Architect's Allowance Disbursement form per Division 1 Section "Project Forms".

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of the Architect, Owner and Contractor on AIA G701 Document Change Order form.

1. All quotations shall be accompanied by a complete itemization of costs, including labor (type, quantity and unit cost per hour), materials (type, quantity and unit cost) and copies of written quotations from subcontractors and suppliers itemized in the same manner.
   a. Overhead shall be deemed to include the cost of insurance, and similar contract requirements.
   b. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
2. The combined overhead and profit included in the total cost to the Owner shall be based on the schedule included in the General Conditions.
3. Performance and Payment Bond Adjustments: Do not itemize increased bond premiums for each individual Change Order per General Conditions of the Contract, paragraph 11.4.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When Owner and Prime Contractor are not in agreement on terms of Proposal Request, the Architect may issue a Construction Change Directive on AIA G714 Document. The Construction Change Directive instructs Prime Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a 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. Prime Contractor Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. Upon completion of change, submit an itemized account and supporting data necessary, or as requested by Architect, to substantiate cost and time adjustments to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

A. Use the approved Schedule of Values form for each Application for Payment.

1.4 APPLICATIONS FOR PAYMENT

A. Submit Applications for Payment only after Schedule of Values have been approved.

B. 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. Initial progress report.
   11. Report of preconstruction conference.
   12. Certificates of insurance and insurance policies.
   13. Performance and payment bonds.
   14. Data needed to acquire Owner's insurance.
   15. Initial settlement survey and damage report if required.

C. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager as to the actual value of the Work, which will be completed by the end of the month 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.

D. Payment Application Times: The date for each progress payment is the 30th day of each month.
   1. This date is a basis of cycle time, and shall be confirmed at the Pre-Construction Conference, based on the owner's requirements for processing Applications for Payment. The owner reserves the right to adjust this cycle if necessary, with payments executed net 30 days."

E. Draft copies (pencil copies) shall be submitted to the Construction Manager, by the same day of the month, for the duration of the project. This day shall be established at the Pre-Construction Conference, based on the owner's requirements for processing Applications for Payment. This day may be modified from time to time to accommodate the owners schedule
   1. Reflect an accurate projection of Work that the Prime Contractor anticipates will be completed through the end of each month.
   2. Final copies, including review adjustments, shall be submitted to the Construction Manager by the 30th day of the month.
      a. Provided that a fully executed and complete Application for Payment is submitted on the 30th day of each month, the Owner will receive requisitions by the 10th day of the next month.

F. Payment Application Forms: Use approved Schedule of Values for as form for Application for Payment.
   1. Provide itemized data on the Continuation Sheet. Format, schedules, line items, and values shall be those of the approved Schedule of Values.

G. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
   1. Entries shall match data of the approved Schedule of Values.
   2. Provide updated Prime Contractor Construction Schedule with each application.

H. Transmittal: Submit 4 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application in acceptable manner discussed with Architect.

I. Certified Payrolls: With each Application for Payment, submit certified payrolls from the Prime Contractor's own forces and subcontractors for the construction period covered by the previous application.

J. All substantiating data and attachments required by the Contract Documents shall accompany each Application for Payment upon submission in the form required by the Architect

K. 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 in previous application, after 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. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
   5. An Affidavit of Payments to Subcontractors and Suppliers on a form approved by Architect.
      a. Forms are for previous month's application and are to be submitted with every application through and including the latest pay period prior to the date of submittal of the application.
   6. When Architect requires additional substantiating data, Prime Contractor shall promptly submit suitable information with a cover letter.

L. Monthly Application for Payment: Administrative actions and submittals for each monthly application for payment include the following:
   1. Change Orders: Submit only fully executed, including signatures by all parties, documenting approval.

M. 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.

N. Final Payment Application: Submit final Application for Payment with executed 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.

O. Full and Final Payment will not be made until the following have been supplied, approved and accepted by the Owner and Architect.
1. The required number of copies of all written guarantees, warranties, bonds, operating and maintenance manuals, and test results.
2. Documentation that all verbal and written instructions and training sessions required by the Contract has been completed.
3. The required number of copies of all Project Record Documents (“as-built” drawings) has been received.
4. All materials and equipment required as stock is delivered.
5. Any other requirement of the Contract Documents which remains outstanding.

PART 2 PRODUCTS (NOT USED)

PART 3 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. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. Coordination Drawings.
   2. Administrative and supervisory personnel.
   3. Project meetings.
   4. Requests for Interpretation (RFIs).
   5. Special Reports.
   6. General Coordination Provision.

B. Each Prime Contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

B. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
   1. Coordination Drawings may include components previously shown in detail on Shop Drawings or Product Data.

1.4 COORDINATION

A. 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. Project meeting attendance shall facilitate open communications. Attendance of contractors representatives being a requirement.

2. 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.
3. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
4. Make adequate provisions to accommodate items scheduled for later installation.
5. Where availability of space is limited, each Prime Contractor shall coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
2. Each Prime contractor shall prepare and distribute a Two Week Look Ahead Schedule. The Two Week Look Ahead Schedule shall be updated and distributed weekly at the coordination meeting.

C. Administrative Procedures: Each Prime Contractor shall coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other Prime 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. Pre-installation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Processing of coordination drawings.
10. Daily cleaning and protection.

D. Conservation: Each Prime Contractor shall coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Provide for material and waste recycling methods.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 SPECIAL REPORTS

A. General: Submit special reports to Owner within one day of an occurrence. Submit a copy of report to Architect and other entities affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual or significant nature occurs at Site, Prime Contractor shall prepare and submit a special report. The report shall list data, observations of chain of events, persons affected, and participating response by Prime Contractor's personnel and similar pertinent information.
   1. Advise the Owner in advance when such events are known or predictable.

1.6 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
   1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
      a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
      b. Indicate required installation sequences.
      c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
   2. Sheet Size: Coordination Drawings shall be generated on sheets 30 by 42 inches.
   3. Number of Copies: Submit two opaque copies of each submittal. Architect, will return one copy.
      a. Submit five copies where Coordination Drawings are required for operation and maintenance manuals. Architect will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.
   4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.
   5. Coordination Drawing Sequence:
      a. GC shall prepare the base sheet for the coordination drawing.
         1) Show all structural steel on the coordination drawing.
         2) Show all walls on Coordination drawings.
         3) Show all doors and windows on the Coordination Drawings.
         4) Upon completion of the coordination drawings by the GC, the GC will give the finished base drawings to the MC for their use.

b. MC shall prepare coordination drawings on the base sheets furnished by the GC.
   1) Show all openings on the coordination drawing.
   2) Show all sleeve sizes and locations on Coordination drawings.
   3) Show all ductwork openings and openings larger than 2 inches diameter on the Coordination Drawings.
   4) Show rough openings at each wall, floor and roof shall be indicated by on Coordination Drawings
   5) MC shall hang streamers from above all ceiling equipment that will require access. This is in addition to any specification requirements for tags, labels, etc. Coordination Drawings shall highlight these areas for Architect's review.
   6) Upon completion of the coordination drawings by the MC, the MC will give the finished base drawings to the PC for their use.

c. PC shall prepare coordination drawings on the base sheets furnished by the MC.
   1) Show all openings on the coordination drawing.
   2) Show all sleeve sizes and locations on Coordination drawings.
   3) Show all openings larger than 2 inches diameter on the Coordination Drawings.
   4) Show rough openings at each wall, floor and roof shall be indicated by on Coordination Drawings
   5) PC shall hang streamers from above all ceiling equipment that will require access. This is in addition to any specification requirements for tags, labels, etc. Coordination Drawings shall highlight these areas for Architect's review.
   6) Upon completion of the coordination drawings by the PC, the PC will give the finished base drawings to the EC for their use.

d. EC shall prepare coordination drawings on the base sheets furnished by the PC.
   1) Show all openings on the coordination drawing.
   2) Show all sleeve sizes and locations on Coordination drawings.
   3) Show all openings larger than 2 inches diameter on the Coordination Drawings.
   4) Show rough openings at each wall, floor and roof shall be indicated by on Coordination Drawings
   5) EC shall hang streamers from above all ceiling equipment that will require access. This is in addition to any specification requirements for tags, labels, etc. Coordination Drawings shall highlight these areas for Architect's review.

6) Upon completion of the coordination drawings by the EC, the EC will submit the Coordination Drawings to the Architect for review and comment to all Prime Contracts. When the coordination drawings are approved, the architect will send a copy to all of the Prime Contracts.

e. All Prime Contracts shall install Work in accordance with approved Coordination Drawings at no additional cost to the Owner. No additional compensation will be made for extra offsets and conduit or retrofit work due to improper component location, or lack of Prime Contractor(s)' coordination.

f. The GC shall provide Coordination Drawings to MC, PC and EC Contracts indicating all details for the installation of all Plumbing, HVAC, and Electrical components for equipment furnished under the each Prime Contract and connected by the PC, MC and EC.

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 and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.
2. Submit list to Construction Site Coordinator.

1.7 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

B. Supervision: Each Prime Contractor's project manager and field superintendent throughout project duration shall have five years experience minimum in the proposed position.

1. Two years minimum of the five years experience for position shall be with Prime Contractor's firm.
2. Asbestos Abatement: Additionally field superintendent shall meet requirements of OSHA 1926.1101 "Competent Person," have one year of on-the-job training minimum, and hold certification as an Asbestos Project Supervisor.

C. Should the project managers or superintendents prove unqualified for the position at any point in the project, the Construction Manager shall issue a letter stating that the person is to be removed from involvement in the project.

1. Action must be made by Prime Contractor within seven working days of receipt of such letter.

D. Staff Names: At Preconstruction Conference each Prime Contractor shall submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities. List businesses addresses and telephone numbers, including business office, field office, cellular, and facsimile.
   1. Post copies in Project meeting room, each temporary field office and at each temporary telephone.

E. Provide corresponding identification badge number for each staff listed.

1.8 PROJECT MEETINGS

A. General: Construction Manager shall 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: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, Construction Manager and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Architect AND Construction Manager will conduct the meeting to review responsibilities and personnel assignments.
   1. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; each Prime Contractor and its superintendent; major subcontractors; manufacturer's suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   2. Agenda: Discuss items of significance that could affect progress, including the following:
      a. Introduction and sign in of attendees.
      b. Each Prime Contractor shall submit the:
         1) Tentative construction schedule.
         2) Staff names.
         3) Preliminary submittal schedule.
         4) Labor rate sheets; provide for each trade classification of Prime Contract workforce on form per Division 00 Section, "Project Forms".
      c. Critical work sequencing and long-lead items.
      d. Designation of key personnel and their duties.

e. Procedures for processing field decisions and Change Orders.
f. Procedures for RFIs.
g. Procedures for testing and inspecting.
h. Procedures for processing Applications for Payment.
i. Distribution of the Contract Documents.
j. Submittal procedures.
k. Architect to provide overview of projected construction milestone schedule, phasing requirements and schedules.
l. Labor Wage Rates
m. Preparation of Record Documents.
n. Use of the premises and existing building.
o. Work restrictions.
p. Identification badges.
q. Daily Cleaning Procedures.
r. Owner's occupancy requirements.
s. Responsibility for temporary facilities and controls.
t. Construction waste management and recycling.
u. Parking availability.
v. Field office, work, and storage areas.
w. Equipment deliveries and priorities.
x. First aid.
y. Security.
z. Progress cleaning.
aa. Working hours.

3. Minutes: Construction Manager will record and distribute meeting minutes.

C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Prime Contractor, Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Construction Site Coordinator of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
a. The Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.

h. Review of mockups.
i. Possible conflicts.
j. Compatibility problems.
k. Conformance with Architect's project schedule.
l. Weather limitations.
m. Manufacturer's written recommendations.
n. Warranty requirements and manufacturer's inspection notification.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Construction Manager to record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
5. Do not proceed with installation if the conference cannot be successfully concluded. Architect shall initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at biweekly intervals. Coordinate dates of meetings with preparation of payment requests. Meetings will be held weekly, as determined by the Construction Manager if, construction sequencing is critical or if construction fall behind schedule.
1. Attendees: In addition to representatives of Owner, Construction Site Coordinator 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. 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. Prime 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) Construction Schedule Updating: Prime Contractors to revise construction schedule after each meeting when revisions have been recognized or made. Forward the updated construction schedule to Architect within 2 working days of the progress meeting.
      a) Conflicts: Each Prime Contractor is to review the approved schedules of other Prime Contractors and attempt to resolve together, any conflicts.
      b) Delay of Work Claims: Document in updated construction schedules overdue milestone or event dates due to other Prime Contractors non-compliance with Architect's project schedule.
      c) Reporting: Provide in writing any unresolved conflicts with other Prime Contractors that may affect or delay overall project goals within 24 hours of occurrence to Architect.

b. Review present and future needs of each entity present, including the following:

   Architect

   1) Identify present problems and necessary resolutions.
   2) Status of submittals.
   3) Field observations.
   4) RFIs.
   5) Status of proposal requests.
   6) Pending changes.
   7) Status of Change Orders.
   8) Pending claims and disputes.
   9) Documentation of information for payment requests.

   Construction Manager.

   1) Deliveries.
   2) Access.
   3) Site utilization.
   4) Temporary facilities and controls.
   5) Work hours.
   6) Progress cleaning.
   7) Quality and work standards.

   Prime Contractor

1) Interface requirements and compatible product issues of products and construction methods within place products of other Prime Contractors.
2) Sequence of operations.
3) Status of submittals.
4) Off-site fabrication.
5) Temporary facilities and controls.
6) Hazards and risks.
7) Status of correction of deficient items.

3. Minutes: Construction Manager will Record the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
   a. Schedule Updating: Revise Contractor's Construction Schedule monthly where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
   1. Attendees: In addition to representatives of Owner, Construction Site Coordinator 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
      a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
      c. Review present and future needs of each contractor present, including the following:
         1) Interface requirements.

2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.9 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
1. RFIs shall originate with the Prime Contractor. RFIs submitted by entities other than Contractor will be returned 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 interpretation and the following on this projects form:
1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Architect.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. Hard-Copy RFIs:
1. Identify each page of attachments with the RFI number and sequential page number.

D. Software-Generated RFIs: Software-generated form with the same content and layout as indicated above.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.

E. Architect's and Construction Manager Action: Architect and Construction Site Coordinator will review each RFI, determine action required, and return it. Allow five working days for Architect's response for each RFI. RFIs received after 3:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Architect's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.
2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
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 Division 01 Section "Contract Modification Procedures."
a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Site Coordinator in writing within 10 days of receipt of the RFI response.

F. On receipt of Architect's and Construction Manager, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Site Coordinator within seven days if Contractor disagrees with response.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

A. Inspection of Conditions: Require Installer of each major component to inspect both substrate and conditions under which Work is to be performed. Correct unsatisfactory conditions prior to proceeding.

B. Coordinate temporary enclosures with required inspection and tests to minimize the necessity of uncovering completed construction for that purpose.

3.2 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
   1. Before construction, verify the location and points of connection of utility services.
   2. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
   3. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Acceptance of Conditions: Prime Contractor shall 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 and submit to Architect.
   1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
      a. Date of examination.
      b. Description of the Work.
      c. List of detrimental conditions, including substrates.
      d. List of unacceptable installation tolerances.
         1) Verify Specification Section for responsibility of corrective measures.
      e. Recommended correction of those not part of Work as detailed in Specification Section.
   2. Verify compatibility with and suitable of substrates, including compatibility with existing finishes or primers.
   3. Examine roughing-in for mechanical and electrical systems to verify actual location of connection before equipment and fixture installation.

3.3 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with Architect and authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify Construction Site Coordinator in advance of proposed utility interruptions.
      a. Submit shutdown request form to Construction Site Coordinator for written permission and authorization.
   2. Do not proceed with utility interruptions without written permission and authorization.

C. 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. Prime Contractor to verify fabrication schedule coincides with Architect's construction schedule to avoid delaying the Work.

D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.4 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to layout the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, immediately notify Architect.

B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

C. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey part member and types of instruments and tapes used. Make the log available for reference by Architect.

END OF SECTION 013100

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SECTION 013150 - SAFETY AND HEALTH

PART 1 GENERAL

1.1 SAFETY AND HEALTH REGULATIONS

A. Site Safety Plan

1. The Owner expects the full cooperation of all contractors, regardless of tier, monitoring, supervision, and enforcing the project safety and fire prevention program, including requirements by the Owner.
2. The safety of the Contractor and subcontractors, and their representatives, agents, employees and invitees, while on the Work site, or of any other person who enters upon the Work site with the consent of Contractor, subcontractors or the representatives, agents, employees or invitees of any of them for reasons relating to the Contract, shall be the sole responsibility of Contractor. Contractor shall at all times maintain good order among it employees and shall not employ, for purposes of the Contract, any person unfit or not skilled in the Work assigned.
3. Contractor shall, at all times during the performance of the Contract, take all measures and precautions to (i) protect the property of the Owner and others, and (ii) prevent injury, illness or death to any person. Such measures and precaution shall include, but shall not be limited to, all safeguards and warnings necessary (i) to protect all persons against any condition, including exposure to health hazard, on the Work site which could be dangerous and (ii) to prevent accidents of any kind whenever the Work is being performed, particularly where the Work is being performed in proximity to any moving or operating machinery, equipment or facilities, whether such machinery, equipment or facilities are the property of or are being operated by, Contractor, its subcontractors, Owner, or other persons.
4. Contractor shall promptly comply and shall at all times during the performance of the Contract take all measures and precautions necessary to ensure that subcontractors and their representatives, agents, employees and invitees shall promptly comply with any and all of Owner’s requirements, if any, to initiate corrective action for deficiencies regarding (i) the prevention of accidents or fires or (ii) the elimination of accident hazards, fire hazards or unsafe practices.

5. Contractors shall comply, and shall at all times during the performance of the Contract take all measures and precautions necessary to ensure that subcontractors and their representatives, agents, employees and invitees shall comply with all federal, state and local safety, health and environmental laws, rules, regulations, ordinances, orders, decrees, decisions, restrictions and permits and licenses including, but not limited to, the Occupational Safety and Health Act, 29 U.S.C. § 651 et. seq.; as they have been or will be amended from time to time, and the regulations implementing such statutes; any similar state and local laws and ordinances concerning the protection of human health and the environment and the regulations implementing such statutes.
6. Contractor shall comply, and shall at all times during the performance of the Contract take all measures and precautions necessary to ensure that subcontractors and their representative, agents employees and invitees shall comply, with such regulations, policies and procedures as Owner may from time to time establish.
7. Contractor shall not introduce, and shall at all times during the performance of the Contract take all measures and precautions necessary to ensure that subcontractors and their representatives, agents, employees and invitees shall not introduce, onto the Work site any Hazardous Substance without Owner's prior written approval. "Hazardous Substance(s)" means (i) any substance, material, chemical or waste which is or shall be listed or defined as hazardous, toxic or dangerous under any Applicable Environmental Law, or (ii) any petroleum products, or (iii) any substance, material, chemical or waste which is or may become, directly or indirectly, by chemical reactions or otherwise, hazardous, toxic or dangerous to life, health, property or the environment by reason of toxicity, flammability, explosiveness, corrosivity or any other reasons.
    a. "Applicable Environmental Law" means any and all laws concerning the protection of human health and the environment which include, but shall not be limited to, the Comprehensives Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601, et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901, et seq.; the Federal Water Pollution Control Act, 33 U.S.C. §§ et seq.; the Clean Air Act, 42 U.S.C. §§ 7401 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C §§ 1471 et seq.; the Toxic Substances Control Act, 15 U.S.C. §§ 2601 through 2629; and the Safe Drinking Water Act, 42 U.S.C. §§ 300f through 300j; as they have been or will be amended from time to time, and the regulations implementing such statues; and any similar state and local laws and ordinances concerning the protection of human health and the environment and the regulates implementing such statutes.

B. Safety Program
    1. Contractors to be responsible for maintaining a safe job. This will be insured by the following means:

a. **All construction employees shall wear a hard hat and safety glasses at all times.** Other safety protection shall be as dictated by the work. Each contractor shall keep spares of each in their site trailer or gang box for new employees and replacement.

b. **All workers are required to wear green fluorescent safety vests** for increased awareness/visibility at all times while working on site. Each contractor shall keep spares in their site trailer or gang box for new employees and replacement.

c. A bi-weekly jobsite safety meeting will be conducted on the job site by the contractors. Construction Manager may attend to assist with overall project coordination. Contractors and their subcontractors working on the project will be required to have responsible representation attend these meetings. At these meetings, observations regarding safety of the project will be discussed with recommendations and follow-up for corrections given. Also, contractors shall advise of the forthcoming operations that could create new hazards. There will be a 24-hour limitation imposed on correction of safety violations (immediately on critical hazard).

d. In accordance with OSHA and CAP requests, each contractor will hold weekly "Tool Box" meetings with jobsite personnel to discuss safety. Minutes of each (handwritten) of these meetings shall be turned in weekly with the hazmat log to the Construction Manager

e. All Contractors and (including delivery drivers) persons employed on the job site are required to wear a hard hat and eye protection as a condition of employment. There are no exceptions to this rule. Contractors will provide his workers with all necessary personal protective equipment and tools and enforce the use of same.

f. Any visitors to the job site are required to check in with Superintendent in advance (must receive access approval), and sign a release form if approved.

g. Aluminum or steel ladders are not allowed on this project (electrical conductors).

h. Steel erectors and metal deck installers are required to utilize 100% positive fall protection at all times.

i. **There is a 6'-0" positive fall protection rule for all work on this project.** The use of guard rail, safety harness with a personal protection device, or safety net **whenever<u>ANYONE</u>** is working at or above 6'-0" is required except as follows:

   1) Use of a trained <u>full time</u> safety monitor if other positive means are deemed to be infeasible by the employer and agree upon by Superintendent for roof and leading edge work,

2) During scaffold erection and dismantling the designated competent person overseeing the operation shall determine the feasibility of positive fall protection. If it is deemed that positive is infeasible, the competent person shall put a fall protection plan in writing which meets the Federal OHSA requirements found in Subpart L section 1926.451(g) and submit to Superintendent for review prior to commencing the operation.
3) The 6'-0" fall policy does not apply to moving up and down ladders. However, when working from ladders, and an individual's work requires him/her to lean out over the side rails of the ladder, positive fall protection utilization is mandatory.

j. The contractor is expected to have a scheduled maintenance program for all tools and equipment.
k. Contractors are responsible to remove and replace in original positions barricades, railings, covers, etc., in accordance with subpart M, OSHA 1926,500. The unguarded opening(s) shall be manned until the barricade is replaced. During discontinuous or intermittent work operation, safety protection is to be replaced immediately. If not promptly replaced, replacement will be by others at the removing contractor's expense.
l. All electrically operated tools and equipment must be properly grounded with the exception of approved insulated types.
m. Only low velocity powder actuated tools can be used. All personnel must be certified when using powder activated tools and laser devices. All use of these tools must be approved and be logged in with the Construction Manager Superintendent prior to their usage, as well as, posting all proper signage.
n. All compressed gas cylinders must be properly handled. They must always be in the upright position and properly secured when stored. Cylinders are to be separated by a minimum of 15 feet. All oxygen and acetylene cylinders in use should be secured on a special carrier with a fire extinguisher.
o. All shanties and trailers must be supplied with a current 20# ABC fire extinguisher, an OSHA approved first aid kit and a copy of the OSHA Construction Standards. A prominent sign is required at the extinguishers location. If gang boxes are used instead of a shanty, the gang box shall contain the above.
p. Take all necessary precautions to avoid fires. Provide fire watches when welding or burning operations are in progress.
q. Construction Manager is to be notified immediately of any accident on site. Contractors shall provide accident reports to Construction Manager no later than (3) working days after an accident occurs.

r. All project employees shall wear attire suitable for construction work. They shall wear shirts, long trousers and proper shoes at all times. No shorts, tank tops or sneakers shall be permitted.

s. Each Contractor is responsible for all his subcontractors and suppliers safety compliance, regardless of tier, with the contractor's project safety program, and all Federal, State and Local Codes and Regulations.

t. Each Contractor shall have at least one (1) qualified first aid person and competent person on the Project at all times. The name of this person and date of certification shall be submitted to Project Superintendent at the start of his work and any change shall be noted on the weekly Tool Box Talk Minutes.

u. Alcoholic beverages or illegal drugs are not permitted on this Project.

v. Walkman type radios with earphones are not permitted on this Project. Loud radio playing is a potential hazard, disrupting to building occupants and is not permitted.

w. No Contractor shall permit their employees to use another contractor's scaffold without written permission from the owner of the scaffold. All scaffolds shall be checked daily and before each use for safety compliance. No scaffold shall be left at any time in an unsafe condition and shall be removed immediately if not to be used again.

x. All extension cords, cables and hoses shall be maintained at least 6 feet 6 inches above the working floor. Where this is impossible, these items shall be inspected daily and repaired immediately or tagged and removed from use until repaired.

y. All temporary electrical installations and all extension cords shall conform to the latest OSHA Construction Standards.

z. No material shall be stored within 6 feet of a floor opening of the building. For assistance with storage locations, contact the Project Superintendent.

aa. All equipment, materials and debris shall be secured at all times, or removed immediately to grade level until the building is enclosed, to prevent wind blown objects.

bb. Each Contractor shall be responsible for maintaining general housekeeping in their work area and all debris shall be placed in debris containers.

cc. In accordance with the provisions of the HAZARD COMMUNICATION STANDARD 29 CFR-1926, Material and Safety Data Sheets for any chemical/substance alone with any additional information, safety data or supplemental material safety data sheets available now or in the future are required to be submitted to Construction Manager prior to material deliveries to the site.

1) Failure to comply with the agreement may result in Construction Manager receiving a citation from the Occupational Safety and Health Administration (OSHA), for violation of the Hazard Communication Standard. The contractor shall be responsible for all costs to Construction Manager for such citations issued in connection with the contractor's material.
2) The contractor shall be responsible for, but not limited to, the following conditions as it relates to the Hazards Communications Act:
    a) Set up and conduct a program for its employees at each jobsite.
    b) Attend (mandatory) Monthly Safety meeting each jobsite for exchange of information.
    c) Maintain an updated chemical inventory sheet an MSDS's, which must be coordinated and shared with Construction Manager and all other subcontractors at the jobsite. Contractors shall turn these in with copies of their Tool Box Talks.
    d) Each contractor is responsible for maintaining an updated file for this jobsite for all hazards that may be encountered on the job.
    e) Each contractor is responsible for labeling and identifying materials (per OSHA requirements) used by him and sharing this information with all other contractors and subcontractors at the jobsite.
    f) Training and documentation of training in hazard communications is the responsibility of each contractor.
    g) Each contractor is responsible to coordinate with Field Superintendent in satisfying all OSHA requirements.
    h) All documentation of respiratory "Fit Test", medical records,etc., shall be submitted prior to any work shall be performed requiring such protection.

END OF SECTION 013150

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. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Preliminary Construction Schedule.
   2. Contractor's Construction Schedule.
   3. Submittal Schedule.
   4. Daily construction reports.
   5. Material/equipment status reports.
   6. Field condition reports.
   7. Special reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
   1. Critical activities are activities on the critical path. They 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. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time 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.

F. Major Area: A story of construction, a separate building, or a similar significant construction element.

G. Milestone: A key or critical point in time for reference or measurement.

H. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

I. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 SUBMITTALS

A. Qualification Data: For scheduling consultant.

B. Submittals Schedule: Submit 4 copies of schedule. Arrange the following information in a tabular format:
1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's Construction Site Coordinator’s final release or approval.

C. Preliminary Construction Schedule: Submit three opaque copies.
1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.

D. Contractor's Construction Schedule: Submit three opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
1. Submit an electronic copy of schedule, using software indicated, on CD-R, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

E. Daily Construction Reports: Submit one copy at no less than weekly intervals.

F. Material/Equipment Status Reports: Submit two copies at bi-weekly intervals.

G. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

H. Special Reports: Submit two copies at time of unusual event.

I. Two Week Look Ahead Schedule: submit one copy weekly at the project coordination meeting.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "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 time required for review of submittals and resubmittals.
   7. Review requirements for tests and inspections by independent testing and inspecting agencies.
   8. Review time required for completion and startup procedures.
   9. Review and finalize list of construction activities to be included in schedule.
   10. Review submittal requirements and procedures.
   11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from parties involved.
   2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
   2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
      a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.
   3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame: Extend schedule from date established for the Notice of Award 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.

C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than 30 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 Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
   4. Startup and Testing Time: Include not less than 10 days for startup and testing.
   5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Site Coordinator’s administrative procedures necessary for certification of Substantial Completion.

D. 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 Division 01 Section "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 Division 01 Section "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. Startup and placement into final use and operation.
8. Area Separations: 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. Permanent space enclosure.
    c. Completion of mechanical installation.
    d. Completion of electrical installation.

e. Substantial Completion.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
1. Refer to Division 01 Section "Payment Procedures" for cost reporting and payment procedures.
2. Contractor shall assign cost to construction activities on the Construction Schedule. Costs shall not be assigned to submittal activities unless specified otherwise but may, with Architect's approval, be assigned to fabrication and delivery activities. Costs shall be under required principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
3. Each activity cost shall reflect an accurate value subject to approval by Architect.
4. Total cost assigned to activities shall equal the total Contract Sum.

G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

H. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for the Notice of Award.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 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 of Award. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was 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 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.5 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.
   7. Accidents.
   8. Meetings and significant decisions.
   9. Unusual events (refer to 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 bi-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.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation on CSI Form 13.2A. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At bi-weekly 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 Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Construction Site Coordinator, 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 013233 - PHOTOGRAPHIC 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. This Section includes administrative and procedural requirements for the following:
   1. Preconstruction photographs.
      a. Contractor shall photograph all existing condition related to their work areas prior to commencement of any work. These photos shall be submitted electronically to the Architect and CM and shall serve as the basis for any future claims based on existing conditions.

1.3 SUBMITTALS

A. Qualification Data: For photographer.

B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same label information as corresponding set of photographs.

C. Construction Photographs: Submit two prints of each photographic view within seven days of taking photographs.
   1. Format: 8 by 10 inch smooth-surface matte prints on single-weight commercial-grade photographic paper, punched for standard 3-ring binder.
   2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
      a. Name of Project.
      b. Name and address of photographer.
      c. Name of Architect.
      d. Name of Contractor.
      e. Date photograph was taken if not date stamped by camera.
      f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
      g. Unique sequential identifier.

3. Digital Images: Submit a complete set of digital image electronic files with each submittal of prints on USB. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.

1.4 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.5 COORDINATION

A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested; including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

1.6 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.

PART 3 EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. Preconstruction Photographs: Before commencement of demolition, take, digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
   1. Flag excavation areas before taking construction photographs.
   2. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

B. Photographer: Engage a qualified commercial photographer to take construction photographs.

C. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
   1. Maintain key plan with each set of construction photographs that identifies each photographic location.

D. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
   1. Photo documentation shall be submitted on the first calendar business day of each month.
   2. Date and Time: Include date and time in filename for each image.
   3. Field Office Images: Maintain one (1) set of images on USB in the field office at Project site, available always for reference. Identify images same as for those submitted to Architect.

END OF SECTION 013233

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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1. The submittal process will be administered through a web-based information exchange system, provided by *Submittal Exchange* **www.submittalexchange.com**.
2. This service is administered by the General Contractor, provided at no cost to the contractor(s).
3. Each Prime Contractor will require internet access.
4. Web-based training and tech support (1-800-714-0024), will be provided by *Submittal Exchange* free of charge.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by *Adobe Systems* used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

A. List of expected submittals: The Architect will establish the list of submittals required for this Project, on the information exchange system *Submittal Exchange* website.

B. Submittal Schedule: Each Prime Contractor shall input the date that each submittal will be received by the Architect on the *Submittal Exchange* website for this Project. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, schedule of values, and Prime Contractor's construction schedule.
2. Initial Submittal Schedule dates: Populate dates concurrently with startup construction schedule. Include submittals required during the first thirty (30) days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal Schedule dates: Edit dates to align with first complete submittal of Prime Contractor's construction schedule.
    a. Final Submittal Schedule dates must be approved by the Architect before the second Application for Payment will be approved.
4. Submittal schedule dates will be available to be viewed on the *ProjectSight* website by all Project team members.
5. The submittal schedule shall indicate that all action submittals are to be sent to the Architect within sixty (60) days after the execution of the Owner/Contractor Agreement.
    a. If a submittal cannot be sent to the Architect within the specified time period, then the Prime Contractor shall provide an explanation for the additional time.

2.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Unless otherwise agreed upon, and only upon execution of form AIA C106, Electronic digital data files of the Contract Drawings will not be provided by Architect for Prime Contractor's use in preparing submittals.

B. Electronic Submittal Requirement: All action and informational submittals shall be submitted as PDF formatted files through *Submittal Exchange*.

1. Use the submittal number assigned by the Architect through *Submittal Exchange*.

2. All submittals will be returned to the Prime Contractor(s) electronically via *Submittal Exchange*.
3. Internet Service and Equipment Requirements:
    a. Email address and Internet access.
    b. *Adobe Acrobat* www.adobe.com, *Bluebeam PDF Revu* www.bluebeam.com, or other similar PDF review software is required for applying electronic stamps, edits and comments.

C. Submittal package: Assemble each submittal and re-submittal individually and appropriately for transmittal and handling. Every submittal shall be under the cover of a fully completed Submittal Cover sheet. Ensure the following information for each submittal is completed on each submittal form:
    a. Contract number.
    b. Contract for: i.e. General Construction Contract.
    c. Prime Contractors' name.
    d. Subcontractor and suppliers name.
    e. Submission number and the date for each initial submittal and re-submittal.
    f. Shop drawing name and number.
    g. Contents.
    h. Name of manufacturer.
    i. Specification section paragraph number(s) showing product being submitted on.
    j. Signature of Prime Contractor indicating approval of the submittal with date of approval and all applicable check boxes marked.

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 require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

E. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence upon Architect's receipt of submittal. No

extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. It is the Prime Contractor's responsibility to provide required submittals complete with enough information to show conformance with the construction documents in a time frame that will not affect the construction schedule. The construction schedule will not be extended due to the Architects' "UNREVIEWED", "REJECTED" or "REVISE AND RESUBMIT" action on a submittal when the submittal is found to be lacking adequate information showing conformance with the contract documents and/or does not conform to the contract document requirements.
2. The Architect will review a maximum of two submittals for any single item requiring a submission at no cost to the Prime Contractor. Upon request by the Architect, the Prime Contractor will compensate the Owner, via Credit Change Order (Back-Charge) for all further submissions to the Architect and/or Owner due to submissions that do not provided enough data to prove compliance with the specifications, or that in the opinion of the Architect do not meet the project specifications. Compensation will be computed by the additional hours needed to perform the review and correspondence multiplied by the Architect's normal/contractual billing rate.
3. Initial Review: Allow ten (10) working days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Prime Contractor when a submittal being processed must be delayed for coordination.
4. Resubmittal Review: Allow seven (7) working days for review of each resubmittal.

F. Options: Identify options requiring selection by Architect.

G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp that indicates "NO EXCEPTION TAKEN", or "MAKE CORRECTIONS NOTED."

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.

J. Use for Construction: Retain complete printed copies of all approved submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

CSARCH

Submittal Cover

CSArch Submittal No. Enter Number

PROJECT: Hartford Central School District- 2016 Capital Project

CSARCH PROJECT No. 178-1601

CONTRACT No. Enter Number
CONTRACT FOR: Enter text.
CONTRACTOR: Enter text.
SUBCONTRACTOR: Enter text.

SUBMITTAL INFORMATION

☐ 1ST Submission Date: Enter Date
☐ 1st Re-Submittal Date: Enter Date
☐ 2nd Re-Submittal Date: Enter Date

Description: Enter text.
Shop Drawing Title: Enter text.
Shop Drawing No. Enter Number
Contents: ☐ Product Data ☐ Samples ☐ Tests ☐ Schedules
Manufacturer: Enter text.
SPEC SECTION: Enter text. Paragraph(s): Enter text. Drawing Number: Enter Number

CONTRACTOR'S APPROVAL

Date: Enter Date By: Enter Name

☐ Submitted product has been reviewed for release to Architect/Engineer
☐ Submitted product is as specified
☐ Submitted product is equal to specific product

Upon Approval, delivery lead time Enter Number days

CSARCH REMARKS

Enter text.

ARCHITECT'S ACTION:

Date: Enter Date By: Enter Name
☐ No Exception Taken ☐ Make Corrections Needed
☐ Rejected ☐ Revise & Resubmit

Reviewing is only for conformance with the Project's design concept and compliance with the information in the Contract Documents. The Contractor is responsible for quantities and dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication processes or to the mean, methods, techniques, sequences & procedures of construction; and for coordination of the Work of all trades. Any corrections on the submittal shall not be deemed an order for extra work.

40 BEAVER STREET, ALBANY, NEW YORK 12207 // 518.463.8068 CSARCHPC.COM

PART 3 - EXECUTION

3.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Post electronic submittals as PDF electronic files directly to the Project website at submittalexchange.com specifically established for Project.
      a. After their review, the Architect will post the annotated file to the Project's website. The Prime Contractor will then be notified via e-mail that the submittal has been reviewed and may download the submittal file.
      b. The Prime Contractor is responsible for printing hard copies of electronic submittals for their own use.
   2. Certificates and Certifications Submittals: Provide a 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.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. Clearly mark each copy of each submittal in bold marking of contrasting color to show which products and options are applicable.
   2. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
   3. For equipment, include the following in addition to the above, as applicable:
      a. Wiring diagrams showing factory-installed wiring.
      b. Printed performance curves.
      c. Operational range diagrams.
      d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
   4. Submit Product Data before or concurrent with Samples.
   5. Submit Product Data in the following format:
      a. PDF electronic file.

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: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.
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 42 inches.
3. Submit Shop Drawings in the following format:
   a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
   a. Transmit samples via hand delivery, currier, or mail service to the Architect's Office.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Project name and site name, if Project involves multiple site locations.
   b. Submittal number assigned per submittal schedule.
   c. Generic description of Sample.
   d. Product name and name of manufacturer.
   e. Sample source.
   f. Number and title of applicable Specification Section.
   g. Specification paragraph number and generic name of each item.
3. For projects where electronic submittals are required, also provide corresponding electronic submittal of the completed Submittal Cover, a digital image file illustrating the Sample's characteristics, and identification information for record.
   a. Transmit printed copies of the above along with the physical Sample in the same quantity as required for the Samples.
4. Disposition: 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.

5. 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.
   a. Number of Samples: Submit three (3) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one (1) submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or 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.
   a. Number of Samples: Submit minimum two (2) sets of Samples. Architect will retain one (1) Sample set; remainder will be returned.
      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Prime Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
   a. PDF electronic file.

F. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

G. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

H. Application for Payment and Schedule of Values: Comply with requirements specified in the General Conditions of the Contract.

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

K. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports

on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit written reports 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 in the Contract Documents.

X. Design Data: Prepare and submit 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.

Y. Construction Photographs: Comply with requirements specified in Division 01 Section "Photographic Documentation."

Z. Material Data Sheets (MDS): Prime Contractor shall provide and maintain a hard copy of all MDS sheets at each Project Site as per OSHA requirements.

1. Prime Contractor shall simultaneously maintain electronic posting of MDS sheets on web-based information exchange system *ProjectSight* for informational purposes. Do not submit MDS sheets to the Architect for review.

3.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Prime Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

3.3 PRIME CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.4 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. NO EXCEPTION TAKEN – Submittal is approved and released for fabrication and can be incorporated into the work.
2. MAKE CORRECTIONS NOTED - Submittal is approved and released for fabrication and can be incorporated into the work with the modifications as noted.
3. REVISE & RESUBMIT – Submittal is not approved, and resubmission is required per the Architect’s comments. Such products cannot be purchased nor incorporated into the work.

4. REJECTED – Submittal is not approved, and submission does not meet requirements of the Project. Resubmit products that conform to the Contract Documents.
5. UNREVIEWED – Submittal was not required, incomplete, unrelated, or not of the nature in which the Architect will respond with an action.

B. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Submittals not required by the Contract Documents may be returned by the Architect without action.

E. Submittals that do not follow the protocol that is outlined in the applicable Specification Section, or this Section, of the Project Manual may be returned to the Prime Contractor without action by the Architect.

F. Submittal packages received from sources other than the Prime Contractor, will be discarded by the Architect.

END OF SECTION 013300

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SECTION 014000 - QUALITY REQUIREMENTS

QUALITY REQUIREMENTS

PART 1 GENERAL

2.1 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.

2.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.
   1. Quality Control requirements include inspections, tests, and related actions including reports performed by Prime Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Owner's Project Representative or Architect.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Prime Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specific quality-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 Prime Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Prime Contractor to provide quality-control services required by Architect or Owner, or provisions of this Section do not limit authorities having jurisdiction. Testing Agency services provided by Prime Contractor:
      a. All Prime Contracts: Verify all Specification Sections for requirements in addition to the following:
         1) Testing done for the convenience of the Prime Contractor.
         2) Testing related to remedial operations or possible defects.

2.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements.

C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish the standard by which the Work will be judged.
   1. Field Samples: Full size physical examples erected in-place to illustrate construction systems, finishes, coatings or finish materials.
   2. Mockups: Full size assemblies for review of construction, coordination, located on site as directed to illustrate aesthetic qualities of finish materials.

D. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
   1. Testing Agency services are solely on assurance that contract provisions are met.
      a. Owner's Project Representative's approval of agency required prior to proceeding with work.

2.4 RESPONSIBILITIES

A. Prime Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, each Prime Contractor shall provide inspection, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. Costs for these services are included in the Contract Sum.
   1. Where indicated Sections specifically indicate that certain inspections, tests and other quality-control services are Prime Contractor's responsibility, Prime Contractor shall employ and pay a qualified independent testing agency to perform quality-control services.
   2. Where individual sections specifically indicate that certain inspections, tests and other quality-control services are the Owner's responsibility, The Owner will employ and pay a qualified independent testing agency to perform those services.
      a. Where the Owner has engaged a testing agency and Prime Contractor is also required to engage an entity for the same or related element, Prime Contractor shall not employ the entity engaged by Owner, unless agreed to in writing by the Owner.

B. Retesting: Prime Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Documents requirements, regardless of whether the original test was Prime Contractor's responsibility.

1. Cost of retesting construction, revised or replaced by Prime Contractor, is Prime Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.

C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services 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:
1. Provide access to the Work.
2. Furnish incidental labor and facilities necessary to facilitate inspection and tests.
3. Ladders.
4. Provide facilities for storage and curing of test samples.
5. Delivery of samples to testing laboratories.
6. Provide design mix documentation.
7. Provide security and protection of samples and test equipment at the Project site.

D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling and testing of materials and construction specified in individual sections shall cooperate with Owner's Project Representative and Prime Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
1. The Agency shall notify Owner's Project Representative, Architect and Prime Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. The Agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
3. The Agency shall not perform any duties of Prime Contractor.

E. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. Each Prime Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities through Site Coordinator.

2.5 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Responsible party for services, shall submit as indicated a certified written report, of each inspection, test or similar service.
1. Submit additional copies of certified written report directly to governing authority, when so directed or requested.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
   1. Specification Section number and title.
   2. Description of test and inspection.
   3. Identification of applicable standards.
   4. Identification of test and inspection methods.
   5. Number of tests and inspections required.
   6. Time schedule or time span for tests and inspections.
   7. Entity responsible for performing tests and inspections.

D. Reports: Prepare and submit certified written reports that 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. Ambient conditions at time of sample taking and testing and inspecting.
   11. Name and signature of laboratory inspector.
   12. Recommendations on retesting and re-inspecting.

E. 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. Submit copies of results to Architect, through Owner’s Project Representative, with 10 days of performed task, inspection or both.

2.6 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a documented record of successful in-service performance.

D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

E. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E329, and that specializes in types of tests and inspections to be performed.
   1. Each independent inspection and testing agency engaged shall be authorized by jurisdiction to operate in the State where Project is located.

F. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
   1. Build mockups in location and of size indicated or, if not indicated, as directed by Owner's Project Representative.
      a. Construct mockups complete, including work of all trades required in finished Work.
   2. Notify Owner's Project Representative 7 days in advance of dates and times when mockups will be constructed.
   3. Demonstrate the proposed range of aesthetic effects and workmanship.
   4. Obtain Architect's and Owner's approval of mockups before starting work, fabrication, or construction.
   5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
   6. Demolish and remove mockups when directed, unless otherwise indicated.

2.7 QUALITY CONTROL

A. Prime Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
   1. Engage a qualified testing agency to perform quality-control services.
      a. If any portion of the work shows low-test results, evidence of detrimental placing or curing conditions, the Owner may require additional testing, compaction core samples or re-welding at the Prime Contractor's expense. In no case shall the inspector prescribe the method of repair of the defect.
   2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   3. Submit a certified written report, in triplicate, of each quality-control service.

4. Testing and inspecting requested by Prime Contractor and not required by the Contract Documents are Prime Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
6. Furnish to the Laboratory such samples of materials as may be necessary for testing purposes.
7. Furnish such casual labor, equipment and facilities as is necessary to obtain and handle samples at the project.
8. Provide and maintain, for the sole use of the Testing Agency, adequate facilities for safe storage and proper curing of concrete test cylinders on the project site for the first 24 hours as required by ASTM C31/C31M.
9. Maintain records at the project site showing the date and extent of each concrete placement.
10. Provide safe access to items to be tested. This includes sheeting and ladders for deep excavation; scaffolding and ladders for inspection and testing of superstructure items.

B. 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 indicated.

C. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Prime Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.

D. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

4.1 QUALITY CONTROL

A. The Contractor shall obtain a testing laboratory to perform the following tests and inspections:
1. Select Fill and Compaction.
a. Sieve analysis of proposed backfill material.
b. Optimum moisture – maximum density curve for each soil used for backfill in accordance with ASTM D1557, Method A.

c. Tests of actual in-place density for each strata placed in accordance with ASTM D1556/D1556M , or ASTM D2167 or ASTM D2922.

2. Concrete.
   a. Tests of proposed aggregates for conformance with ASTM C33/C33M.
   b. Compressive Strength Tests: ASTM C39/C39M. One set of 3 cylinders for each 50 cubic yards, or fraction thereof, place in one day. One specimen tested at 7 days and 2 specimens tested at 28 days.
   c. Slump Tests: ASTM ASTM C143/C143M . One test for each set of compressive strength test specimens.
   d. Air Content Tests: ASTM C173/C173M . One for every other load at point of discharge, or when required by an indication of change.
   e. Temperature: Note temperature of each load of concrete at point of discharge. Note air temperatures during placing period.

4.2 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 Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching as approved by Architect.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Prime Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

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SECTION 014200 - REFERENCES AND DEFINITIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": Terms such as "directed," 'accepted,' 'deleted,' 'permitted,' 'requested,' 'required,' and 'selected' mean, unless otherwise explained, 'accepted by the Architect,' 'directed by the Architect,' 'permitted by the Architect, 'requested by the Architect,' 'required by the Architect,' and 'selected by the Architect.' However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.

1. A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.

E. Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

F. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work form of incorporation into the Project, and maintained ready for use. Supply and deliver products requiring additional or supplemental fitting, assembly, fabrication, or incorporation into other elements of the Project directly to the fabricator, installer or manufacturer as requiredLaws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

G. "Furnish": The term "furnish" means to supply and deliver to Project site, or other designated location ready for unloading, unpacking, storing assembly, installation, application, erection, or other form of incorporation into the Project, and maintained ready for use. Supply and deliver products requiring additional or supplemental fitting, assembly, fabrication or incorporation into other elements of the Project directly to the fabricator, installer or manufacturer as requiredSupply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

H. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations required to properly incorporate work into the project..

I. "Provide": Furnish and install, complete and ready for the intended use.

J. "Project Site": is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be builtSpace available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

K. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.

L. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
   1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

M. The term 'replace' means remove designated, damaged, rejected, defective, unacceptable, or nonconforming work from the Project and provide new work meeting the requirements of the Contract Documents in place thereof.

N. "Include": The words 'include,' in any form other than inclusive,' is non-limiting and is not intended to mean all-inclusive."

O. The terms 'Specifications' and 'Project Manual' are interchangeable.

P. "Custom Color" is a special color that is not available from the manufactures standard colors and will require a once in a lifetime color match as selected by the Architect.

Q. "Standard color" is a minimum of 8 standard colors that the manufacture commonly offers for their product.

R. "Match existing" is to match the existing material system including but not limited to: color, texture, size, and edge treatment (including the systems grout/mortar color, texture, size, shape and revel)

S. "Concealed" where used in connection with insulation, painting of piping, piping, conduit, ducts, and accessories shall mean that they are hidden from sight as in trenches, chases, shafts, furred spaces, walls, slabs, or hung ceilings; also where they are not hidden from sight in the following locations: in partly excavated spaces or crawl spaces, or in service tunnels and used solely for repairs or maintenance.

T. "Exposed" where used in connection with insulation, painting of piping, piping, conduit, ducts, accessories shall mean that they are not "concealed" as defined herein above.

U. "Piping" includes in addition to pipe, also fittings, valves, hangers, and other accessories that comprise system.

V. "Below Grade" includes all areas below the finished grade line and below the finished floor, where the finished floor system is supported on earth and gravel systems.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request..

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America	(866) 956-5888

	www.airbarrier.org	
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute	(859) 288-4960

	www.asphaltinstitute.org	
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372

APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)	
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400

ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industry International) www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (Now WCSC)	
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood-Preservers' Association www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711

BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700

CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services)	(866) 797-4272 (416) 747-4000

	www.csa-international.org	
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association www.esda.org	(315) 339-6937

FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35
FM Approvals	FM Approvals www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FMRC	Factory Mutual Research (Now FM Global)	
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridaroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America	(785) 271-0208

	www.glasswebsite.com	
GRI	(Now GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	
IBF	International Badminton Federation www.internationalbadminton.org	(6-03) 9283-7155
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369

ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 255-1561
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020

ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek Testing Service NA www.intertek.com	(972) 238-5591
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America	(800) 345-1815

	www.mhia.org	(704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800) 213-7193, ext. 453
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc.	(800) 557-2848

	www.nbgqa.com	
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (303) 697-8441
NFHS	National Federation of State High School Associations	(317) 972-6900

	www.nfhs.org	
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.com	(901) 526-5016
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International	(800) 673-6275

	(National Sanitation Foundation International) www.nsf.org	(734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. (Now ITS)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.ce.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network	(800) 395-2522

	(Formerly: ACLA - Associated Landscape Contractors of America) www.landcarenetwork.org	(703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234

SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026

SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tileroofing.org	(312) 670-4177

UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (Now WCSC)	
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 297-2109
WDMA	Window & Door Manufacturers Association	(800) 223-2301

	(Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(847) 299-5200
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

BOCA	BOCA International, Inc. (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	

ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
SBCCI	Southern Building Code Congress International, Inc. (See ICC)	
UBC	Uniform Building Code (See ICC)	

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers www.usace.army.mil	
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense http://.dodssp.daps.dla.mil	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220

EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration	(800) 321-6742

	www.osha.gov	(202) 693-1999
PBS	Public Building Service (See GSA)	
PHS	Office of Public Health and Science www.osophs.dhhs.gov/ophs	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board http://gulliver.trb.org	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	(800) 872-253 (202) 272-080
CFR	Code of Federal Regulations	(866) 512-800

	Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(202) 512-800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-664
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-664
	Available from Defense Standardization Program www.dps.dla.mil	
	Available from General Services Administration www.gsa.gov	(202) 619-925
	Available from National Institute of Building Sciences www.wbdg.org/ccb	(202) 289-800
FTMS	Federal Test Method Standard (See FS)	
MIL	(See MILSPEC)	

MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-664
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-253 (202) 272-080

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF	State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation www.dca.ca.gov/bhfti	(800) 952-5210 (916) 574-2041
CCR	California Code of Regulations www.calregs.com	(916) 323-6815
CPUC	California Public Utilities Commission www.cpuc.ca.gov	(415) 703-2782
NYSBC	New York State Building Code	
NYSDOT	New York State Department of Transportation	
NYSHD	New York State Health Department	
NYSDEC	New York State Department of Environmental Conservation	

TFS Texas Forest Service (979) 458-6650
Forest Resource Development
http://txforestservice.tamu.edu

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 014200

SECTION 014533 - CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.1 Section Includes

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

D. Manufacturers' field services.

E. Fabricators' field services.

1.2 Related Requirements

A. Section 012100 - Allowances: Allowance for payment of testing services.

B. Section 014000 - Quality Requirements.

C. Section 016000 - Product Requirements: Requirements for material and product quality.

1.3 Abbreviations and Acronyms

A. AHJ: Authority having jurisdiction.

B. IAS: International Accreditation Service, Inc.

C. NIST: National Institute of Standards and Technology.

1.4 Definitions

A. Code or Building Code: ICC (IBC)-2018, Edition of the International Building Code and specifically, Chapter 17 - Special Inspections and Tests.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspection:

1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.5 Reference Standards

A. AISC 360 - Specification for Structural Steel Buildings; 2022, with Errata (2025).

B. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.

D. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2025b.

E. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete; 2025.

F. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2023.

G. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2025a.

H. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2021.

I. ASTM E605/E605M - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members; 2019 (Reapproved 2023).

J. ASTM E736/E736M - Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members; 2019 (Reapproved 2023).

K. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems; 2024.

L. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers; 2020a.

M. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2022).

N. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel; 2018, with Errata (2022).

O. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2021.

P. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291; 2025, with Editorial Revision.

Q. ICC (IBC)-2018 - International Building Code; 2018.

R. SDI QA/QC - Standard for Quality Control and Quality Assurance for Installation of Steel Deck; 2022.

S. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.6 Submittals

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Submit certification that Special Inspection Agency is acceptable to AHJ.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Submit certification that Testing Agency is acceptable to AHJ.

D. Smoke Control Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit documentary evidence that agency has appropriate credentials and documented experience in fire protection engineering, mechanical engineering and HVAC air balancing.
3. Submit certification that Testing Agency is acceptable to AHJ.

E. Manufacturer's Qualification Statement: Manufacturer is required to submit documentation of manufacturing capability and quality control procedures. Include documentation of AHJ approval.

F. Fabricator's Qualification Statement: Fabricator is required to submit documentation of fabrication facilities and methods as well as quality control procedures. Include documentation of AHJ approval.

G. Special Inspection Reports: After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Architect and one to the AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of Special Inspector.
      d. Date and time of special inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of special inspection.
      h. Date of special inspection.
      i. Results of special inspection.
      j. Compliance with Contract Documents.
   2. Final Special Inspection Report: Document special inspections and correction of discrepancies prior to the start of the work.

H. Fabricator Special Inspection Reports: After each special inspection of fabricated items at the Fabricator's facility, Special Inspector is required to promptly submit at least two copies of report; one to Architect and one to AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of Special Inspector.
      d. Date and time of special inspection.
      e. Identification of fabricated item and specification section.
      f. Location in the Project.
      g. Results of special inspection.
      h. Verification of fabrication and quality control procedures.
      i. Compliance with Contract Documents.
      j. Compliance with referenced standard(s).

I. Test Reports: After each test or inspection, promptly submit at least two copies of report; one to Architect and one to AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.

c. Name of inspector.
d. Date and time of sampling or inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of test or inspection.
h. Date of test or inspection.
i. Results of test or inspection.
j. Compliance with Contract Documents.

J. Certificates: When specified in individual special inspection requirements, Special Inspector shall submit certification by the manufacturer, fabricator, and installation subcontractor to Architect and AHJ, in quantities specified for Product Data.
1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

K. Manufacturer's Field Reports: Submit reports to Architect and AHJ.
1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in Contract Documents.

L. Fabricator's Field Reports: Submit reports to Architect and AHJ.
1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in Contract Documents.

1.7 Special Inspection Agency

A. Owner or Architect will employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.

B. The Special Inspection Agency may employ and pay for services of an independent testing agency to perform testing and sampling associated with special inspections and required by the building code.

C. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.8 Testing and Inspection Agencies

A. Owner or Architect may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.9 Quality Assurance

A. Special Inspection Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.

B. Testing Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.

C. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 Schedule of Special Inspections, General

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
   2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.2 Special Inspections for Steel Construction

3.3 Special Inspections for Concrete Construction

3.4 Special Inspections for Masonry Construction

3.5 Special Inspections for Sprayed Fire Resistant Materials

A. Sprayed Fire Resistant Materials, General:
   1. Verify compliance of sprayed-fire resistant materials with specific fire-rated assemblies indicated in approved Contract Documents, and with applicable requirements of the building code.
   2. Perform special inspections after rough installation of electrical, mechanical, plumbing, automatic fire sprinkler and suspension systems for ceilings.

B. Physical and visual tests: Verify compliance with fire resistance rating.

1. Condition of substrates; periodic.
2. Thickness of sprayed fire resistant material; periodic.
3. Density of sprayed fire resistant material in pounds per cubic foot; periodic.
4. Bond strength (adhesion and cohesion); periodic.

C. Structural member surface conditions:
1. Inspect structural member surfaces before application of sprayed fire resistant materials; periodic.
2. Verify preparation of structural member surfaces complies with approved Contract Documents and manufacturer's written instructions; periodic.

D. Application:
1. Ensure minimum ambient temperature before and after application complies with the manufacturer's written instructions; periodic.
2. Verify area where sprayed fire resistant material is applied is ventilated as required by the manufacturer's written instructions during and after application; periodic.

E. Thickness: Verify that no more than 10 percent of thickness measurements taken from sprayed fire resistant material are less than thickness required by fire resistance design in approved Contract Documents. In no case shall the thickness of the sprayed fire resistant material be less than the minimum below.

F. Density: Verify density of sprayed fire resistant material is no less than density required by the fire resistance design in the approved Contract Documents.

G. Bond Strength: Verify adhesive and cohesive bond strength of sprayed fire resistant materials is no less than 150 pounds per square foot when in-place samples of the cured material are tested according to ASTM E736/E736M and as described below.

3.6 Special Inspections for Smoke Control

A. Test smoke control systems as follows:
1. Record device locations and test system for leakage after erection of ductwork but before starting construction that conceals or blocks access to system.
2. Test and record pressure difference, flow measurements, detection function and controls after system is complete and before structure is occupied.

3.7 Other Special Inspections

A. Provide for special inspection of work that, in the opinion of the AHJ, is unusual in nature.

3.8 Special Inspection Agency Duties and Responsibilities

A. Special Inspection Agency shall:

1. Verify samples submitted by Contractor comply with the referenced standards and the approved Contract Documents.
2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified reference standards.
4. Ascertain compliance of materials and products with requirements of Contract Documents.
5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
6. Perform additional tests and inspections required by Architect.
7. Attend preconstruction meetings and progress meetings.
8. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.9 Testing Agency Duties and Responsibilities

A. Testing Agency Duties:
1. Test samples submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
6. Perform additional tests and inspections required by Architect.
7. Attend preconstruction meetings and progress meetings.
8. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. On instructions by Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.

D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.10 Contractor Duties and Responsibilities

A. Contractor Responsibilities, General:
1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
3. Provide incidental labor and facilities:
a. To provide access to work to be tested or inspected.
b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
c. To facilitate tests or inspections.
d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Retain special inspection records.

3.11 Manufacturers' and Fabricators' Field Services

A. When specified in individual specification sections, require material suppliers, assembly fabricators, or product manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, to test, adjust, and balance equipment and _____ as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

END OF SECTION 014533

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NEWBURGH
ENLARGED CITY SCHOOL DISTRICT

Field Office Requisition

NFA – North Campus Auditorium Renovation

The CONTRACT: GENERAL CONTRACT (GC) shall provide Project Field Offices for principal use by the Construction Manager (Schoolhouse Construction Services LLC). The office services are to be completely set-up within ten (10) days receipt of the Notice-to-Proceed (NTP). The field office and associated contents remain the property of the CONTRACT NO. 01 – GENERAL CONTRACTOR (GC) throughout the duration of the project and shall be insured by the CONTRACT NO. 01 – GENERAL CONTRACTOR (GC) throughout the duration of the project for all perils and risks. At the conclusion of the project, the associated contents shall be retained by Schoolhouse Construction Services, LLC.

The CONTRACT: ELECTRICAL CONTRACT (EC) will provide electrical and internet connections for the Project Field Office as, directed by the Construction Manager. The EC shall also provide any necessary repair work that may be required to the electrical feeds throughout the Project Duration. The EC shall also be responsible for removing these temporary feeds, as directed just prior to the removal of the Project Field Office. Electrical Service to be connected within one (1) week of field trailer being set by the General Contractor (GC)

For the project duration: GENERAL CONTRACT (GC) will provide each of the items listed below: Include all costs associated with permits, fees, and the installation of this work, and regular service fees for necessary equipment and field office trailer resources.

Project Duration for Purposes of the Project Field Office: Starting from Notice to Proceed up Until Three (3) Months After Completing All Punchlist Items and Closeout Obligations and Deliverables.

Project Field Office Trailer (12' X 60'):

Provide Project Field Office Trailer as directed by the Schoolhouse Construction Services LLC and locate/set the trailer at a determined on-site location. Provide complete set-up including tie-down anchors, skirting, leveling, and two (2) sets of stairs. For the duration of the project the GC shall be responsible for maintaining all HVAC systems, filters, equipment, etc. Project Field Office Trailer shall be equipped with well-performing heating and air conditioning systems, half-size refrigerator, operable windows, floor mats and entrance areas. The GC shall also provide a service to clean the trailer on a bi-weekly basis, including sweeping and mopping of the floors, removal of garbage and replacement of garbage bags, wipe down and cleaning of desks and countertop surfaces, cleaning of windows (as needed), etc. Additionally, trailer shall be equipped with two working desk areas, conference table and chairs, and drawing table. Desk chairs to be (2) **New** black, 5-point blade wheels, high back, swivel chairs on rollers by Oline, Model: ErgoPro Ergonomic Office Chair

Site shall be prepared with removal of topsoil, placement of geotextile fabric, #2 stone or crusher run base (as requested by CM or Owner) beneath the trailer and including an approximate 8' perimeter around the trailer and also for pathways leading to the two (2) set of stairs. At the conclusion of the project, the GC shall remove these temporary site measures, import new topsoil, and seed and mulch to re-establish the lawn area. GC will also be responsible for lawn mowing and maintenance, until the re-establishment of lawn has been accepted by the Owner. During winter periods, GC shall be responsible for all snow removal, plowing, shoveling, and salting of areas around and leading to the field office trailer.

WiFi Services with StarLink High Speed Internet Services:

Provide constant internet service to the Field Office Trailer via an independent StarLink services, while the trailer is on-site servicing the project. Internet service shall not be provided by a feed from the Owner. Provide the following StarLink package:

- "Local Priority – 1TB" service plan.
- "Standard" hardware set.
- Provide "Wall Mount" accessory and provide mounting / installation of StarLink system

Rental Equipment Services:

Provide a new (1) Sharp BP-70C45 Color Digital Imager, BP-DE15 Stand (550-sheet & 2100-sheet trays) & BP-FN11 Inner Finisher / Stapler + Annual Maintenance Contract Including Monthly maintenance of this machine, as required, shall be included (including all necessary toner cartridges, paper 8 ½ X 11 and 11 X 17, and staples) for the life of the contract. Include all charges for quantity of copies, such as toner/ink, all paper, any necessary repair and/or connectivity work, etc.

Note #1: This copy machine must have the capability to connect to Wi-Fi (StarLink System)

Note #2: Used copy machines will not be accepted as an alternative.

All items listed below are to be provided by the General Contract (GC):

1. (1) **New** Lenovo – ThinkPad P1 Intel Ultra 7 (16") Mobile Workstation with ThinkPad Thunderbolt 4 Workstation Dock
    - Intel® Core™ Ultra 7 165H vPro® Processor (E-cores up to 3.80 GHz P-cores up to 5.00 GHz)
    - Windows 11 Pro 64
    - NVIDIA® GeForce RTX™ 4070 Laptop GPU 8GB GDDR6
    - 32 GB LPDDR5X-7500MT/s (CAMM2)
    - 1 TB SSD M.2 2280 PCIe Gen4 Performance TLC Opal
    - 16" WQXGA (2560 x 1600), IPS, Anti-Glare, Non-Touch, 100%sRGB, 500 nits, 165Hz
    - 5MP RGB+IR with Dual Microphone and Privacy Shutter
    - 170W
    - Fingerprint Reader
    - Backlit, Black - English (US)
    - Intel® Wi-Fi 7 BE200 2x2 BE vPro® & Bluetooth® 5.4
    - 1 Year Courier or Carry-in
    - Black

2. Productivity Computer Software
    - (1) Computer software license perpetual package for the latest version of Microsoft Project, or another version as requested by Schoolhouse.
    - (1) Computer software license perpetual package for the latest version of Blue Beam, or another version as requested by Schoolhouse.

3. Project Management Software
    - CONTRACT NO. 01 – GENERAL CONTRACT (GC) shall provide project specific independent license for Primavera Submittal Exchange, for usage by the Project Team and All Other Prime Contractors, for the Duration of the Project.
        - Project Duration: From Notice to Proceed (NTP) up Until Final Closeout of the Project with NYSED
        - All Schoolhouse Personnel will have "Admin" Level Permissions. All trades will upload their required project information to this program.
        - Primavera Submittal Exchange to be "Project Management" level software including but not limited to the following services: Directory, Reports, Transmittals, Document Management, Specifications, Schedule, Tasks, Submittals, Meetings, RFI Tracking, Drawings, Photo/Video Documentation, Logs, Emails, Punchlist, Time Cards, Correspondence, Connectability and Maps.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Project identification sign.

1.2 RELATED REQUIREMENTS

A. Section 013553 - Security Procedures

B. Section 015100 - Temporary Utilities.

C. Section 015213 - Field Offices and Sheds.

D. Section 015500 - Vehicular Access and Parking.

E. Section 015813 - Temporary Project Signage.

1.3 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

1.4 TEMPORARY UTILITIES - See Section 015100

A. Owner will provide the following:
   1. Electrical power, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

B. Existing facilities may be used.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.5 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
2. Internet Connections: Minimum of one; DSL modem or faster.
3. Email: Account/address reserved for project use.
4. Project web site.

1.6 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.7 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.8 FENCING

A. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.9 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
   1. STC rating of 35 in accordance with ASTM E90.
   2. Maximum flame spread rating of 75 in accordance with ASTM E84.

C. Paint surfaces exposed to view from Owner-occupied areas.

1.10 SECURITY - See Section 013553

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

1.11 VEHICULAR ACCESS AND PARKING - See Section 015500

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Designated existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.12 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site weekly.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.14 FIELD OFFICES - See Section 015213

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet from existing and new structures.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Procedures for Owner-supplied products.

1.2 REFERENCE STANDARDS

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
   2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor through Construction Manager of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
      b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
   1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
   2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
   1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
1. See Section 011000 for list of items required to be salvaged for reuse and relocation.

2.2 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. See Section 014000 - Quality Requirements, for additional source quality control requirements.

C. Use of products having any of the following characteristics is not permitted:
1. Containing lead or asbestos.

D. Where other criteria are met, Contractor shall give preference to products that:
1. If used on interior, have lower emissions, as defined in Section 016116.
2. If wet-applied, have lower VOC content, as defined in Section 016116.
3. Have longer documented life span under normal use.

2.3 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures: Refer to Section 002113 Instructions to Bidders regarding Equivalents. Substitutions may be considered and must comply with Substitutions Section 012500.
   1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements.
   2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
   3. Products:
      a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements.
      b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
   4. Manufacturers:
      a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
      b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
   1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.4 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
   1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
   2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   3. Evidence that proposed product provides specified warranty.
   4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
   5. Samples, if requested.

2.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.6 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION LIMITATIONS

A. See Section 012500 "Substitution Procedures"

3.2 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
2. Arrange and pay for product delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
1. Review Owner reviewed shop drawings, product data, and samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.3 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.4 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 017419.
   1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.

F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

G. For exterior storage of fabricated products, place on sloped supports above ground.

H. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
   1. Execute a formal supplemental agreement between Owner and Contractor allowing off-site storage, for each occurrence.

I. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

J. Comply with manufacturer's warranty conditions, if any.

K. Do not store products directly on the ground.

L. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

M. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

N. Prevent contact with material that may cause corrosion, discoloration, or staining.

O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

P. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. Installation of the Work.
   4. Cutting and patching.
   5. Coordination of Owner-installed products.
   6. Progress cleaning.
   7. Starting and adjusting.
   8. Protection of installed construction.

B. Related Requirements:
   1. Section 013300 "Submittal Procedures" for submitting surveys.
   2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
   3. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
   4. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
   1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
   2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
   3. Products: List products to be used for patching and firms or entities that will perform patching work.
   4. Dates: Indicate when cutting and patching will be performed.
   5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
      a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.5 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
      a. Primary operational systems and equipment.
      b. Fire separation assemblies.
      c. Air or smoke barriers.
      d. Fire-suppression systems.
      e. Mechanical systems piping and ducts.
      f. Control systems.
      g. Communication systems.
      h. Fire-detection and -alarm systems.
      i. Conveying systems.
      j. Electrical wiring systems.

k. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.[Other construction elements include but are not limited to the following:]
   a. Water, moisture, or vapor barriers.
   b. Membranes and flashings.
   c. Exterior curtain-wall construction.
   d. Sprayed fire-resistive material.
   e. Equipment supports.
   f. Piping, ductwork, vessels, and equipment.
   g. Noise- and vibration-control elements and systems.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

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. General: Comply with requirements specified in other Sections.

B. 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 sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
   1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
   2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   1. Description of the Work.
   2. List of detrimental conditions, including substrates.
   3. List of unacceptable installation tolerances.
   4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Construction Manager that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated, Unless existing conditions don't allow for specified clearances..
   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.
   4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces, 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: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [minimize] [prevent] interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. [Concrete] [and] [Masonry]: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. 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.
5. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
   1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
   2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 241 for removal of combustible waste materials and debris.
   2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
      a. Use containers intended for holding waste materials of type to be stored.
   4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.8 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

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SECTION 017310 - CUTTING AND PATCHING

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 procedural requirements for cutting and patching.
   1. Execute cutting (including excavating), fitting or patching or work, required to:
      a. Make several parts fit properly.
      b. Uncover work to provide for installation of ill-timed work.
      c. Remove and correct defective work.
      d. Remove and correct work not confirming to requirements of Contract Documents.
      e. Remove samples of installed work as specified for testing.
      f. Install specified work in existing construction.
      g. Remove existing construction.
      h. Provide equipment, labor and incidentals necessary for cutting and patching as required for the installation of work in existing walls, floors and ceilings. Patching must match adjacent material and finish.
      i. Provide lintels, capable of supporting wall construction above openings that are cut in existing walls, unless noted elsewhere.
      j. Removal of materials to be reused and relocated as indicated.
   2. Coordination
      a. Coordinate the installation of Work with other Contractors to minimize cutting and patching in new and existing construction.
   3. In addition to contract requirements, upon written instructions of the Construction Manager and/or Architect:
      a. Uncover work to provide for Construction Manager's and Architect's observation of covered work.
      b. Remove samples of installed materials for testing.
      c. Remove work to provide for alterations of existing work.
   4. Do not endanger work by cutting or altering work or any part of it.
   5. Do not cut or alter work of another Contractor without written consent of the Contractor and Construction ManagerArchitect.

1.3 DEFINITIONS

A. Cutting and patching covers adjustments to, and necessary reworking of, elements of construction in both new and existing work. The following definitions for cutting and patching apply.
   1. Cutting: Physical modification of construction work, both new and existing, or removal of existing or installed materials, including excavating and earthwork.
   2. Patching: Restoration or replacement and installation of construction material, both new and existing, including finishing, patching, excavations and compaction of backfilling, as to match surrounding surfaces.

1.4 INFORMATIONAL SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
   1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
   2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
   3. Products: List products to be used for patching and firms or entities that will perform patching work.
   4. Dates: Indicate when cutting and patching will be performed.
   5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
      a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Verify cutting of structural elements in question with Construction ManagerArchitect.
   1. Prior to cutting, which affects structural safety of project, submit written notice, to Construction ManagerArchitect, requesting consent to proceed with cutting, including:
      a. Identification of Contract.
      b. Types of structural elements:
         1) Bearing and retaining walls.
         2) Structural concrete.
         3) Structural steel.
         4) Lintels.
         5) Structural decking.

6) Stair systems.
7) Miscellaneous structural metals.
8) Equipment supports.
9) Piping, ductwork, vessels and equipment.

c. Description of affected work.
d. Necessity for cutting.
e. Affect on other work, on structural integrity of project.
f. Description of proposed work. Designate:
1) Scope of cutting and patching.
2) Contractor and trades to execute work.
3) Shoring design & procedure.
4) Products proposed to be used.
5) Extent of refinishing.
g. Alternatives to cutting and patching.
h. Designation of party responsible for cost of cutting and patching.

2. Should conditions of work, or schedule, indicate change of materials or methods, submit written recommendation to the Construction ManagerArchitect, including:
a. Conditions indicating change.
b. Recommendations for alternative materials or methods.
c. Submittals as required for substitutions.
d. Work with visual requirements exposed on the exterior or in interior spaces that would in the architect's opinion reduce the building's aesthetic qualities and requiring prior approval include:
1) Processed concrete finishes.
2) Stonework and stone masonry.
3) Ornamental metals.
4) Preformed metal panels.
5) Firestopping.
6) Window wall systems.
7) Acoustical ceilings.
8) Terrazzo.
9) Finished wood flooring.
10) Fluid applied flooring.
11) Carpeting.
12) Aggregate wall coating.
13) Wall coverings.
14) HVAC enclosures, cabinets, or covers.
15) Roofing.

3. Submit written notice to Architect designating time work will be uncovered, to allow for observation by Architect.

B. Operational Elements: Do not cut and/or patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety of the following:
   1. Primary operational systems and equipment.
   2. Air or smoke barriers.
   3. Water, moisture or vapor barriers.
   4. Membranes and flashings.
   5. Fire-protection systems.
   6. Noise and vibration control systems.
   7. Control systems.
   8. Communication systems.
   9. Conveying systems.
   10. Electrical wiring systems.

C. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
   a. Water, moisture, or vapor barriers.
   b. Membranes and flashings.
   c. Exterior curtain-wall construction.
   d. Sprayed fire-resistive material.
   e. Equipment supports.
   f. Piping, ductwork, vessels, and equipment.
   g. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and/or patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and/or patch construction exposed on the exterior or in occupied spaces 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. Contractor assumes all cost to remove and replace construction not acceptable to the Owner or Architect due to poor quality of cut and/or patch work.

E. 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.

F. All patching shall be done by tradespersons who are skilled in the required work. All patchwork will be done to the highest quality standards. The contractor shall include the cost of all cutting and patching required in connection with performance of their work. Include supports, protection from elements, protection of surroundings, and immediate clean up.

G. If necessary for the contractor to remove a minimal amount of spray on fireproofing after initial installation, it will be their responsibility to replace or pay for the necessary patching.

H. All contractors affected by temporary utilities/openings shall include necessary comeback to infill, patch, fireproofing, etc.

I. The Contractor shall not damage or endanger any portion of the work of other Contractors or property of the Owner. The Contractor shall not alter the Owner's or other Contractor's work without written consent of the Owner or other Contractor. All such requests shall be made through the Construction ManagerArchitect. Said consent shall not be unreasonably withheld.

J. Do not cut and patch structural elements in a manner that would reduce their load carrying capacity or load-deflection ratio. Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety. If possible retain the original installer or fabricator to cut and patch exposed Work or, if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm.

K. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect, consult with the Owner's representative prior to placement.

L. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding. Protect existing construction during cutting and patching to prevent damage. Until provisions have been made to bypass them, take all precautions necessary to avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated.

M. Where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required to minimum disturbance of adjacent surface. Temporarily cover openings when not in use. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

N. Where removal of walls or partitions extends one finished area into another: Patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.

O. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch. After the patched area has received primer and second coat - patch, repair, or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

P. The Contractor will follow all applicable regulatory hot and safe work procedures when performing welding, cutting, torching, grinding, brazing, or tacking, including protecting personnel and the adjacent work area from fire hazards. Store paints, varnishes, volatile oils, and similar combustible materials in properly labeled storage containers and in storage area as required by law. Store gasoline and other volatile flammable liquids in properly labeled storage containers and in storage area as required by law.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

B. Roof Warranties: Identify locations where cutting and patching of existing roof systems to remain is required and review during roof pre-construction meeting. Make arrangements so that all work performed fully complies with existing warranties in place and at the completion of work, warranties remain in effect and unaltered.

1.7 PAYMENT FOR COSTS

A. Any costs associated with ill-timed work, defective work, rejected work, or work not conforming to the Contract Documents, shall be borne by the Contractor creating such work, including all costs for additional services provided by the Architect.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible as approved by Architect.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed, including elements subject to movement or damage during removal of adjacent materials.

B. After uncovering Work, visually inspect conditions affecting installation of new products.

C. Notify Construction ManagerArchitect of any existing conditions which may be suspicious of containing hazardous materials.

3.2 PREPARATION

A. Temporary Support: Provide shoring, bracing and temporary support of Work to be cut as required to maintain structural integrity of Project.

B. Protection: Protect and maintain protection, at all times, existing construction, Owner equipment, supplies, furniture and surrounding areas, during cutting and patching to prevent damage, dust migration, contamination, and excessive cleaning. Provide protection from adverse weather conditions, at all times, for portions of Project that might be exposed during cutting and patching operations. Protection must be approved and signed off by Construction ManagerOwner's rep prior to commencement of any demolitions, cutting and/or demolition patching. All cost associated with repairing and/or replacing and/or cleaning materials/installations/Owner equipment/school supplies due to poor temporary conditions shall be borne by the Contractor.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

A. General: Remove and store in Contractor provided protection/storage facility, material that is to be reused and relocated.
   1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Contractor shall cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.

1. It is the responsibility of the contractor providing the cutting of existing and new construction to coordinate each location with structural framing and load configurations. Avoid conflicts with load-bearing features of structural frames and load bearing zones and coordinate offsets of penetrations from these areas.
2. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use or exposed to weather.
3. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
4. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill; use water to limit dust exposure.
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.

C. Patching: Contractor shall patch existing construction and finishes damaged or left incomplete due to cutting and removals. 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
   1. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
      a. Continuous Surfaces: To nearest intersection.
      b. Assembly: Entire refinishing.
   2. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor, wall and ceiling surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing 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, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Extend the area of refinishing to corners, control or expansion joints or full height or length offsets in construction as conditions require and as approved by the Construction Manager and Architect. Provide additional coats until patch blends with adjacent surfaces.
   3. Fill and patch openings and holes in existing construction when bolts, piping, ducts, conduit and other penetrating items are removed.

4. Contractor shall cap, or otherwise terminate, existing utility services to remove equipment on all utilities that are to remain active.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.
6. Record any and all existing conditions encountered during cut and patch.
7. Immediately notify Construction Manager and/or Architect, and respective Prime Contract, of conditions, whether known or unknown, damaged during cut and patch.

END OF SECTION 017310

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SECTION 017400 - WARRANTIES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.
   1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
   2. General closeout requirements are included in Section "Project Closeout."
   3. Specific requirements for warranties for the Work and products and installation that are specified to be warranted are included in the individual Sections of Divisions-2 through -26.
   4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

B. Disclaimers and Limitations
   1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. Prime Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
   1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

A. Submit written warranties to the CM prior to the date certified for Substantial Completion. If the Architect Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
   1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Prime Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.

B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties.

C. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or Contractor and subcontractor, supplier or manufacturer.

D. Form of Submittal: At Final Completion compile two copies of each required warranty properly executed by the Contractor, or subcontractor, supplier, or manufacturer.

E. Bind warranties in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.
   1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a type description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
   2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES", the Project title or name, and the name of the Prime Contractor.

F. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 017400

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SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.
   5. Repair of the Work.

1.3 ACTION SUBMITTALS

A. 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.

C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of [10] days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
   1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
   3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Construction Manager. Label with manufacturer's name and model number where applicable.
      a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Construction Manager signature for receipt of submittals.
   5. Submit test/adjust/balance records.
   6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
   1. Advise Construction Manager of pending insurance changeover requirements.
   2. Make final changeover of permanent locks and deliver keys to Construction Manager. Advise Construction Manager of changeover in security provisions.
   3. Complete startup and testing of systems and equipment.
   4. Perform preventive maintenance on equipment used prior to Substantial Completion.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
   6. Advise Construction Manager of changeover in heat and other utilities.

7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 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. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 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, starting with exterior areas first and proceeding from lowest floor to highest floor.
   2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   3. Include the following information at the top of each page:
      a. Project name.
      b. Date.
      c. Name of Architect and Construction Manager.
      d. Name of Contractor.
      e. Page number.
   4. Submit list of incomplete items in the following format:
      a. PDF electronic file. Architect, through Construction Manager, will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. 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 (215-by-280-mm) 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. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
   1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
      a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
      b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
      c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
      d. Remove tools, construction equipment, machinery, and surplus material from Project site.
      e. Remove snow and ice to provide safe access to building.

f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
k. Remove labels that are not permanent.
l. Wipe surfaces of mechanical and electrical equipment[, elevator equipment,] and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
    1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
q. Leave Project clean and ready for occupancy.
r. Replace filters as required

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
   1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
   2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
      a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
   3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
   4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

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SECTION 017820 - 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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
   1. Operation and maintenance documentation directory.
   2. Operation manuals for systems, subsystems, and equipment.
   3. Maintenance manuals for the care and maintenance of products, materials, and finishes and systems and equipment.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

A. Initial Submittal: Submit one draft copy of manuals on the date that is required on the most current updated Master Project Construction Schedule or at least 15 working days before requesting inspection for Substantial Completion if not otherwise shown on the most current updated Master Project Construction Schedule, whichever date is earlier. Include a complete operation and maintenance directory.
   1. Submit draft direct to Construction Manager per Section “Submittal Procedures.”
   2. Draft copy will be returned and marked whether general scope and content of manual are acceptable.

B. Final Submittal: Submit 2 copies of each manual on the date that is required on the most current updated Master Project Construction Schedule or at least 15 working days before requesting inspection for Final Completion if not otherwise shown on the most current updated Master Project Construction Schedule, whichever date is earlier.
   1. Final Application for Payment will not be processed until final manuals have been received and are approved.

1.5 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include a Table of Contents in the directory for each of the following:
   1. List of documents.
   2. List of systems.
   3. List of equipment.
   4. List of company(ies) with phone number and contact person for operational or maintenance information for each system or sub-system.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

2.2 MANUALS, GENERAL

A. Manuals:
   1. Binders
   2. Electronic

B. Binders: When multiple binders are used, correlate the data into related consistent groupings.
   1. Commercial quality three-ring binders with durable and cleanable view type plastic/vinyl covers and spines, with pocket folders for folded sheet information.
   2. Minimum ring size: 2-inch.
   3. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system.
   4. Quantity: One set.

C. Electronic, bound as combined PDF, labeled per building with

D. Cover Page: Enclose cover page under binder transparent plastic cover. Include the following information:
   1. Name and address of Project.
   2. Date of submittal.

3. Name, address, and telephone number of Contractor and Construction Manager.

E. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
   1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

F. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
   1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (115-by-280-mm) paper; with clear plastic sleeve on cover and spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

G. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   1. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
   2. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
   3. Supplementary Text: Prepared on 8-1/2-by-11-inch (115-by-280-mm), 20-lb/sq. ft. (75-g/sq. m) white bond paper.
   4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

H. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

I. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Operating standards.
3. Operating procedures.
4. Operating logs.
5. Wiring diagrams.
6. Control diagrams.
7. Piped system diagrams.
8. Precautions against improper use.
9. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:
1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Maintenance Procedures: Include manufacturer's written recommendations and the following:
   1. Inspection procedures.
   2. Types of cleaning agents to be used and methods of cleaning.
   3. List of cleaning agents and methods of cleaning detrimental to product.
   4. Schedule for routine cleaning and maintenance.
   5. Repair instructions.

D. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

E. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
   1. Include procedures to follow and required notifications for warranty claims.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include operating procedures, 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. Operating Procedures:
   1. Start-up, break-in, routine and normal operating instructions.
   2. Regulation, control, stopping, shut-down and emergency instructions.
   3. Summer and winter operating instructions.
   4. Special operating instructions.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
   1. Standard printed maintenance instructions and bulletins.
   2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
      a. As-installed control diagrams by control manufacturer.
   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.
      a. Servicing and Lubrication Schedule: Provide list of lubricants required.

4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Each Prime Contractor’s coordination drawings with as installed color coded piping diagram.

H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

I. Charts of valve tag numbers, with location and function on each valve.

J. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

K. Content, for each electric and electronic system, as appropriate:
1. Circuit directories of panelboards:
a. Electrical service.
b. Controls.
c. Communications.
2. Operating procedures:
a. Routine and normal operating instructions.
b. Sequences required.
c. Special operating instructions.
3. Maintenance procedures:
a. Routine operations.
b. Guide to “trouble-shooting”.
c. Disassembly, repair and reassembly.

2.6 Adjustment and checking.
1. Manufacturer’s printed operating and maintenance instructions.

2. List of original manufacturer’s spare parts, manufacturer’s current prices, and recommended quantities to be maintained in storage.
3. Other data as required under pertinent sections of specifications.

PART 3 EXECUTION

3.1 MANUAL PREPARATION

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Operation and Systems Equipment Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
   1. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
   1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

END OF SECTION 017820

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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.

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 record digital data files and one set(s) of plots.
         2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
      b. Final Submittal:
         1) Submit one paper-copy set(s) of marked-up record prints.
         2) Submit PDF electronic files of scanned record prints and one set(s) of prints.
         3) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one paper copy set(s) and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one paper copy set(s) and annotated PDF electronic files of each submittal.
   1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy set(s) and annotated PDF electronic files of each submittal.

E. Reports: Submit written report indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 PRODUCTS

2.1 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. Depths of foundations below first floor.
    d. Locations and depths of underground utilities.
    e. Revisions to routing of piping and conduits.
    f. Revisions to electrical circuitry.
    g. Actual equipment locations.
    h. Duct size and routing.
    i. Locations of concealed internal utilities.
    j. Changes made by Change Order or Construction Change Directive.
    k. Changes made following Architect's written orders.
    l. Details not on the original Contract Drawings.
    m. Field records for variable and concealed conditions.

n. 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 multiple colorserasable, 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 and Construction Manager. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Annotated PDF electronic file with comment function enabled.
2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to Architect through Construction Manager for resolution.
4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
a. See Section 013300 "Submittal Procedures" for requirements related to use of Architect's digital data files.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult Architect and Construction Manager for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.

3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Architect[and Construction Manager].
    e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
    1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
    2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
    3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
    4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
    5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications an annotated PDF electronic file, scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 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, scanned PDF electronic file(s) of marked-up paper copy of Specifications.
    1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.4 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 annotated PDF electronic file, scanned PDF electronic file(s) of marked-up paper copy of Specifications.
   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 and Construction Manager's reference during normal working hours.

END OF SECTION 017839

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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 facilitator, instructor, and videographer.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
   1. Identification: On each copy, provide an applied label with the following information:
      a. Name of Project.
      b. Name and address of videographer.
      c. Name of Architect.
      d. Name of Construction Manager.
      e. Name of Contractor.

f. Date of video recording.

2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
3. 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 and in PDF electronic file format on compact disc.

1.5 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

B. 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. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
   1. Owner will furnish Contractor with names and positions of participants.

B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
   1. Schedule training with Owner, through Construction Manager, with at least seven days' advance notice.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.3 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.
   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. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.

F. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.

END OF SECTION 017900

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.

1.2 SUMMARY

A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

B. Commissioning is a systematic process of verifying that building systems perform interactively according with the owner's operational needs, the design documents, manufacturer's recommendations, good engineering and workmanship practices.

C. The commissioning process shall encompass and coordinate the functions of system documentation, equipment startup, control system calibration, testing and balancing, performance testing and training.

D. Commissioning during the construction phase is intended to achieve the following specific objectives according to the Contract Documents:

1. Verify that applicable equipment and systems are installed according to the contract documents, manufacturer's recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installing contractors.
2. Verify and document proper performance of equipment and systems.
3. Verify that O&M documentation provided for the project is complete, accurate and represents the actual installed equipment.
4. Verify that the Owner's operating personnel are adequately trained.

1.3 ABBREVIATIONS:

A. The following are common abbreviations used in the Specifications.

1. A/E: Architect/Engineer.
2. CTR: Prime Contractor.
3. Cx: Commissioning .
4. CxA: Commissioning Authority .

5. Cx Plan: Commissioning Plan Document .
6. CM: Construction Manager.
7. EC: Electrical Contractor.
8. FT: Functional Performance Test.
9. MC: Mechanical Contractor.
10. PC: Plumbing Contractor.
11. PFC: Pre-Functional Check List
12. PFI: Pre-Functional Inspection.
13. TAB: Test and Balance Contractor.

1.4 DEFINITIONS

A. Acceptance Phase: Phase of construction after startup and initial checkout when functional performance tests, O&M documentation review and training occurs.

B. Acceptance Criteria: The criteria established by the Owner and design team which defines the specified requirements that a component or system must meet under all ranges of actual loads. The CxA's prefunctional inspections and functional testing determines if the acceptance criteria have been met.

C. Approval: Acceptance that a piece of equipment or system has been properly installed and is functioning in the tested modes according to the Contract Documents.

D. Architect/Engineer (A/E): The prime consultant (architect) and subconsultants who comprise the design team, generally the HVAC mechanical designer/engineer and the electrical designer/engineer.

E. Building Systems: The architectural, mechanical and electrical and control systems along with their respective subsystems, equipment and components.

F. Commissioning: A quality control process that is to verify that specified components and building systems have been installed and properly started up and then functionally tested to verify and document proper operation through all specified modes of operation and conditions, all of which shall perform in conformity with the owner's requirements. In addition, training of operations and maintenance personnel, identified by the owner, is verified, and final project operations and maintenance documents are reviewed for completeness.

G. Commissioning Authority: The owner's representative that verifies the commissioning process is properly carried out. The Commissioning Authority that is hired by the owner leads the commissioning process, carries out the detailed planning and implementation of the commissioning process and makes final recommendations to the owner regarding the performance of the commissioned building systems.

H. Commissioning Plan: An overall plan, which provides the structure, schedule and coordination planning for the commissioning process.

I. Construction Manager (CM): The contracting and managing authority for the owner over the design and/or construction of the project. The CM is responsible for working with the various parties involved in the project to plan and schedule work, facilitate communication, and coordinate activities between members of the construction and commissioning teams.

J. Contract Documents: The documents binding on parties involved in the construction of the project (drawings, specifications, change orders, amendments, contracts, Cx Plan, etc.) L. Control System – The central building energy management control system.

K. Datalogging: Monitoring flows, currents, status, pressures, etc., of equipment using stand along dataloggers separate from the control system.

L. Deferred Functional Tests: FTs that are performed later, after substantial completion, due to partial occupancy, equipment, season requirements, design or other site conditions that disallow the test from being performed.

M. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents (that is, does not perform properly or is not complying with the design intent).

N. Factory Testing: testing of equipment on site or at the factory by factory personnel with or without an Owner's representative present. The CTR furnishing the equipment is responsible for providing all testing documentation as per the contact documents.

O. Functional Performance Test (FT): Test of the dynamic function and operation of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operation. Systems are tested under various modes, such as during low cooing or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The systems are run through all the control system's sequences of operation and components are verified to be responding as the sequences state. Traditional air or water test and balancing (TAB) is not functional testing, in the commissioning sense of the word. TAB's primary work is setting up the system flows and pressures as specified, while functional testing is verifying that which has already been set up. The Commissioning Authority develops the functional test procedures in a sequential written form, coordinates, oversees and documents the actual testing, which is usually performed by the installing contractor or vendor. FTs are performed after prefunctional inspections and startup is complete.

P. Functional Testing Procedures: The step-by-step process that must be executed to fulfill the functional testing requirements. The test procedures are developed by the CxA.

Q. Indirect Indicators: Indicators of a response or condition, such as a reading from a controls system screen reporting a damper to be 100% closed.

R. Contractors (CTR): The company(s) engaged by the Owner to provide and/or install equipment and building systems in accordance with the contract specifications, drawings, manufacturer's recommendations and good engineering and workmanship practices. The term CTR may refer to one or more of the Mechanical Contractor, Electrical Contractor, or Plumbing Contractor responsible for all or part of the contract work for a given system or process.

S. Manual Test: Using hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the "observation.")

T. Monitoring: The recording of parameters (flow, current, status, pressure, etc.) of equipment operation using dataloggers or the trending capabilities of control systems.

U. Non-Compliance: See Deficiency.

V. Non-Conformance: See Deficiency.

W. Over-written Value: Writing over a sensor value in the control system to see the response of a system (e.g. changing the outside air temperature value from 50F to 75F to verify economizer operation.) See also Simulated Signal.

X. Operations and Maintenance (O&M) Manual: The document that records the information pertinent to the operations and maintenance of the components, equipment, subsystems, and systems for the building.

Y. Pre-functional Inspections (PFI): A list of the items to inspect and elementary component tests to conduct to verify proper installation of equipment. Lists are developed and provided by the CxA and are completed and returned by the appropriate CTRs. Pre-functional inspections are primarily static inspections and procedures to prepare the equipment or system for initial operation. However, some pre-functional inspection items entail simple testing of the functionality of a component, a piece of equipment or system. The word pre-functional refers to before functional testing. Pre-functional inspections augment and are combined with the manufacturer's startup checklists. Even without a commissioning process, installers typically perform some, if not many, of the pre-functional inspection items a Commissioning Authority will recommend. However, few installers document in writing the execution or results of these inspected items.

Z. Project Manager (PM): The contracting and managing authority for the owner over the design and/or construction of the project. See Construction Manager.

AA. Sampling: Performing PFIs or functionally testing only a fraction of the total number of identical or near identical pieces of equipment.

BB. Seasonal Performance Tests: FTs that are deferred until the system(s) will experience conditions closer to their design conditions.

CC. Simulated Condition: Condition that is created for the purpose of testing the response of a system .

DD. Simulated Signal: Disconnecting a sensor and using a signal generator to send an amperage, resistance or pressure to the transducer and DDC system to simulate a sensor value.

EE. Specifications: The construction specifications of the Contract Documents.

FF. Staged Commissioning: Commissioning that is completed in phases in order to identify issues early and incorporate commissioning throughout the construction process. Generally, this applies to pre-functional inspection and it is phased in the following manner: Stage 1 - substantial installation completion (equipment substantially installed without power or controls complete; Stage 2 – power completed, equipment start-up completed and controls completed (Stage 2 will generally precede functional testing); Stage 3 – final inspection.

GG. Startup: The initial starting or activating of dynamic equipment, including executing prefunctional inspections. Startup of complex systems is typically performed by an authorized manufacturer's representative only after the installing contractor has completed all installation work and pre-functional inspections.

HH. Subs: The sub-contractors to the prime contractors who provide and install building components and systems.

II. Trending: Monitoring using the building control system.

JJ. Vendor: Supplier of equipment.

KK. Warranty Period: Warranty period for specific equipment and components. Warranties are defined in the appropriate sections of these specifications.

1.5 COORDINATION

A. Commissioning Team: The members of the commissioning team consist of the Owner, Design Architect/Engineer (A/E), Commissioning Authority (CxA), Construction Manager (CM), and the Installers (CTR), which includes: the Mechanical Contractor (MC), the Electrical Contractor (EC), the TAB Contractor, the Controls Contractor (CC), any other installers or suppliers of equipment.

B. Management: The CxA has been hired directly by the Owner. The CxA directs and coordinates the commissioning activities and reports to the Owner and the CM. All members work together to fulfill their contracted responsibilities and meet the objectives of the Contract Documents.

C. Scheduling: The CxA shall work with the CM and each Contractor according to established protocols to schedule the commissioning activities. The CM will integrate all commissioning activities into the master schedule based on review of the Cx Plan and input from the CxA. All parties will address scheduling problems and make necessary notifications in a timely manner to expedite the commissioning process.

1.6 COMPENSATION

A. If A/E, CM, CxA, or Owner's staff perform additional services or incur additional expenses due to actions of Contractor listed below, compensate Owner for such additional services and expenses.

1. Failure to provide timely notice of commissioning activities schedule changes.
2. Failure to meet acceptance criteria for re-testing of any FPT deficiencies.

B. Contractor shall compensate Owner for such additional services and expenses at the rate of $150 per labor hour, plus travel expenses.

1.7 COMMISSIONING PROCESS

A. Commissioning Plan: The Commissioning Plan will be provided by the CxA subsequent to contractor selection and will be binding on the Contractor. The Commissioning Plan is a dynamic document that will provide direction throughout the commissioning process. The plan puts a significant emphasis on defining roles and responsibilities and establishing communication protocols. The plan will be amended as the construction progresses to include updated schedules, pre-functional inspection items and functional testing procedures. The Specifications will take precedence over the Commissioning Plan.

B. Commissioning Process: The following narrative provides a brief overview of the typical commissioning tasks performed during construction and the general order in which they occur:

1. Commissioning during construction begins with a scoping meeting conducted by the CxA where the commissioning process is reviewed with the commissioning team members.
2. Additional meetings will be required throughout the construction, scheduled by the CxA with necessary parties attending, to plan, scope, coordinate, schedule future activities and resolve any problems.
3. Equipment documentation is submitted to the CxA during the normal submittals process and is performed concurrently with the A/E's submittal review process, including detailed start-up procedures.
4. The CxA works with the MC and the other installers in reviewing and incorporating their startup plans and startup documentation into the pre-functional inspections and functional testing procedures.
5. In general, the checkout and performance verification proceeds from simple to complex; from component level to equipment to system and intersystem levels with prefunctional inspections being completed before functional testing.
6. The CTRs, under their own direction, execute and document the initial checkout, equipment start-up and certification the equipment is ready for pre-functional inspections and functional testing. If required by the CxA, this certification will be accomplished in a phased approach under the direction of the CxA. The CxA may witness the start-up of selected equipment.
7. The prefunctional checklists prepared by the CxA shall be filled out by the MC, EC, PC, and CC and returned to the CM following the procedure agreed upon at the commissioning scoping meeting. Once all checklist items are documented to be complete for a given system the CM shall be notified and shall, in turn, notify the CxA that the system is ready for a final prefunctional inspection.
8. Prefunctional inspections and documentation shall be completed before proceeding with scheduled functional tests.
9. The CxA develops specific equipment and system functional performance test procedures. The CTRs review and, if necessary, recommend modifications to the procedures.
10. The procedures are executed by the CTRs, under the direction of, and documented by the CxA.
11. Items of non-compliance in material, installation or setup are corrected at the CTRs expense and the system retested.
12. The CxA records the deficiencies and maintains a log detailing and tracking the correction of deficiencies identified during the Cx process and distributes these reports to the CM, CTRs, Owner and A/E.
13. The CxA reviews the O&M documentation for completeness.

14. Commissioning is completed before acceptance.
15. The CxA reviews, pre-approves and observes training provided by the CTRs and the manufacturer's services representatives and verifies that it was completed.
16. The CxA performs a warranty phase review and conducts deferred testing as specified or required.

1.8 RESPONSIBILITIES

A. The responsibilities of various parties in the commissioning process are provided in this section. Further specific responsibilities, when required, of the Mechanical Contractor, TAB Contractor, Controls Contractor and Electrical Contractor are described in their particular contract documents.

B. All Parties:

1. Follow the Commissioning Plan.
2. Attend the commissioning scoping meeting and additional meetings as necessary.
3. Provide timely responses to requests made by other members of the commissioning team as they related to the requirements of this section.

C. Architect/Engineer (A/E):

1. Attend the commissioning scoping meeting and selected commissioning team meetings.
2. Understand and follow the Commissioning Plan.
3. Perform normal submittal review, construction observation, as-built drawing preparation, O&M manual preparation, etc., as contracted. On site observation should be completed just prior to system startup.
4. Coordinate and participate in resolution of design non-conformance and design deficiencies identified during commissioning and during the warranty period.
5. Participate in the resolution of system installation deficiencies identified during commissioning, as requested by the CxA.
6. Coordinate resolution of design non-conformance and design deficiencies identified during warranty-period commissioning.

D. Commissioning Authority (CxA)

1. The CxA is not responsible for design concept, design criteria, compliance with codes, design or construction scheduling, cost estimating, or construction management. The CxA may assist with problem solving non-conformance or deficiencies, but ultimately that responsibility resides with the A/E and CM according to their respective contracts with the Owner. The primary role of the CxA is to develop and coordinate the execution of the Commissioning Plan, observe and document system performance, and identify deficiencies requiring

correction. Specifically, the goal of commissioning is to ensure that systems are functioning in accordance with the documented design intent and in accordance with the Contract Documents. The CTR and/or vendor's representative will provide all tools or the use of tools to start, check-out and functionally test equipment and systems, except for specified testing with portable data-loggers, which shall be supplied and installed by the CxA.

2. Coordinate and direct the commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.
3. Coordinate the commissioning work and verify that commissioning activities are being incorporated into the master schedule.
4. Revise the Commissioning Plan as necessary.
5. Plan and conduct a commissioning scoping meeting.
6. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor start-up and checkout procedures.
7. Before startup, gather and review the current control sequences and interlocks and work with installers and design engineers until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.
8. Review equipment submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with the A/E reviews.
9. Write and distribute prefunctional inspection checklists. The CxA shall provide a list of the required information submittals.
10. Receive notice that prefunctional checklists have been completed and systems are ready for final prefunctional inspection. Complete inspections and verify that systems are ready for startup.
11. Perform site visits, as necessary, to observe component and system installations. Attend selected planning and job-site meetings to obtain information on construction progress. Review construction meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving any discrepancies.
12. Witness all or part of the HVAC piping test and flushing procedure, sufficient to be confident that proper procedures were followed. Document this testing and include the documentation in the commissioning record to be provided with the final Cx Report. Notify CM of any deficiencies in results or procedures.
13. Witness all or part of any ductwork testing and cleaning procedures, sufficient to be confident that proper procedures were followed. Document this testing and include the documentation in the commissioning record to be provided with the final Cx Report. Notify CM of any deficiencies in results or procedures.
14. With necessary assistance and review from the Contractor and installers, write the functional performance test procedures for equipment and systems. This may include energy management control system trending, stand-alone datalogger

monitoring or manual functional testing, as appropriate to document compliance with the specified sequences of operation.

15. Evaluate systems startup procedures by reviewing start-up reports and by selected site observation.
16. Review TAB execution plan.
17. Coordinate and observe functional testing of the control systems. Coordinate retesting as necessary until satisfactory performance is achieved.
18. Review air and water systems TAB by spot testing, by reviewing completed reports and by selected site observation after receiving the final TAB report.
19. Analyze any functional performance trend logs and monitoring data to verify system functional performance following completion of TAB.
20. Maintain a master deficiency and resolution log and a separate functional testing record. Provide written progress reports and test results with recommended actions.
21. Review equipment warranties to verify that the Owner's responsibilities are clearly defined.
22. Oversee and approve the training of the Owner's operating personnel.
23. Compile and maintain a commissioning record.
24. Review and approve the preparation of O&M manuals.
25. Provide draft and final commissioning reports.
26. Coordinate and supervise required seasonal or deferred testing and deficiency corrections. Seasonal tests will be identified in the Cx Plan.
27. Return to the site at approximately 10 months into the 12 month warranty period and review with facility staff the current building operation and the condition of outstanding issues related to the original and seasonal commissioning. Also interview facility staff and identify problems or concerns they have operating the building as originally intended. Make suggestions for improvements and for recording these changes in the systems manual. Identify areas that may come under warranty or under the original construction contract. Assist facility staff in developing reports, documents and requests for services to remedy outstanding problems.
28. Identify any warranty phase deficiencies and provide detailed documentation to the Owner and CM.

E. Construction Manager (CM)

1. Manage the contracts of each Prime Contractor.
2. Attend a commissioning scoping meeting and other commissioning team meetings.
3. Oversee completion of PFCs and organize completed checklists in a field binder for review by the CxA. Maintain the active checklist binder, ensuring all CTRs return

partially or fully completed checklists. Assist the CxA in reviewing checklist progress throughout construction.

4. Review commissioning progress and deficiency reports and facilitate the communication of formal responses from the CTRs to the CxA.
5. Coordinate the resolution of scheduling conflicts, including those identified by the CxA with respect to commissioning tasks. Where inadequate time allotments are provided for commissioning inspections or tests, work with the CxA to revise schedule dates accordingly.
6. Provide final approval for the completion of the commissioning work.
7. Address any seasonal or deferred testing and any deficiency issues.

F. Prime Contractors (CTRs)

1. Include the cost of supporting commissioning in the contract price.
2. Attend a commissioning scoping meeting and other commissioning team meetings.
3. Furnish a copy of all construction documents, addenda, change orders and submittals and shop drawings related to commissioned equipment to the CxA.
4. Provide the requisite readiness notification to the CxA for equipment prefunctional inspections, startup, and functional testing.
5. Participate in pre-functional inspections, startup and functional testing of all equipment, as directed by the CxA.
6. At least one qualified individual shall be available on-site, as requested by the CxA.
7. Oversee completion of PFCs and organize completed checklists in a field binder for review by the CM and CxA. Assist the CxA in reviewing checklist progress throughout construction.
8. Review the functional performance test procedures submitted by the CxA, prior to testing.
9. Provide the necessary passwords and system access to the control systems to allow the CxA to adjust set points and other systems parameters. The access level should be at the highest level possible with the exception of allowing the CxA to modify the programming sequences.
10. Review commissioning progress and deficiency reports and issue written responses to the CxA as needed.
11. Coordinate the resolution of deficiencies identified by the CxA.
12. Document the completion and/or action taken for the resolution of deficiencies as directed by the CxA and described in the Cx Plan.
13. Coordinate and perform the training of owner personnel as specified. Direct the scheduling of training by CTRs in accordance with their contract requirements.
14. Ensure that all installers execute their commissioning responsibilities according to the Contract Documents and schedule.

15. Prepare O&M manuals, according to the Contract documents, including clarifying and updating the original sequences of operation to as-built conditions. Provide copies to the CxA for review and comment.
16. Coordinate the resolution of scheduling conflicts, including those identified by the CxA with respect to commissioning tasks. Where inadequate time allotments are provided for commissioning inspections or tests, work with the CxA to revise schedule dates accordingly.
17. Assist the CxA as necessary in the seasonal or deferred testing and deficiency corrections required by the specifications and the Commissioning Plan.
18. Ensure that installers execute seasonal or deferred functional performance testing, witnessed by the CxA, according to the specifications and the Commissioning Plan.
19. Ensure that installers correct deficiencies and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

1.9 SYSTEMS TO BE COMMISSIONED

A. The following systems shall be commissioned:

1. HVAC systems and equipment.
2. Building automation and temperature control systems.
3. Lighting control systems.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 MEETINGS

A. Scoping Meeting: The CxA will schedule, plan and conduct a commissioning scoping meeting with the entire commissioning team in attendance. Meeting minutes will be distributed to all parties by the CxA. Information gathered from this meeting will allow the CxA to revise the Commissioning Plan, which will also be distributed to all parties.

B. Functional Performance Testing Meeting: The CxA will schedule, plan and conduct a functional performance test meeting with the entire commissioning team in attendance to kick-off the FT phase. Required attendees will be identified in advance of the meeting based on the scope of testing required.

C. Miscellaneous Meetings: Progress meetings will be scheduled and conducted by the CxA, as necessary. Other meetings will be planned and conducted by the CxA as the

construction progresses. These meetings will cover coordination, deficiency resolution and planning issues with particular CTRs. The CxA will plan these meetings and will minimize unnecessary time being spent by CTRs.

3.2 REPORTING

A. The CxA will provide regular reports with increasing frequency as construction and commissioning progresses. Reports will be developed and issued on an as-needed basis according to the activities being performed at any given point during the project.

B. The CxA will regularly communicate with all members of the commissioning team, keeping them apprised for commissioning progress, and scheduling changes through memos, progress reports, etc.

C. Two copies of a final summary report will be provided to the engineer of record and owner by the CxA and will include:

1. A brief summary report that includes a list of participants and roles, brief building description, overview of commissioning and testing scope, and a general description of testing and verification methods. For each commissioned system, the report should contain the opinion of the CxA on the adequacy of the following:

    a. Equipment installation in accordance with contract drawings & specifications
    b. Functional performance and efficiency
    c. Equipment documentation
    d. Operator Training

2. All outstanding non-compliance items shall be specifically listed. Recommendations for improvement to equipment and operations, future actions, recommended commissioning process changes, etc. shall also be listed. Each non-compliance issue shall be referenced to the specific functional test, inspection, trend log, etc., where the deficiency is documented.
3. Also included in the Commissioning Record shall be the issues log, commissioning plan, progress reports, submittal and O&M manual review comments, training record, and functional testing results. Copies of construction checklists and startup reports will typically be provided under separate cover.

D. The CxA will compile a Systems Manual that consists of the following:

1. Space and use descriptions
2. Single line drawings and schematics for major systems (to be provided by the design engineer and/or CTRs, as specified)
3. As-built control drawings and sequences of control (to be provided by the controls contractor).

4. Important schedules and setpoints.
5. Instructions for operation of each piece of equipment for emergencies, seasonal adjustment, startup and shutdown.
6. Instructions for energy savings operations and descriptions of the energy savings strategies in the facility.
7. Recommendation for re-commissioning and regular maintenance of the facility.

3.3 SUBMITTALS

A. The CxA will review submittals for commissioned equipment for conformance to the Contract Documents as they relate to the commissioning process, to the functional performance of the equipment and adequacy for developing test procedures. This review is intended primarily to aid in the development of functional testing procedures and only secondarily to verify compliance with equipment specifications. The CxA will notify the Owner, CM, or A/E as requested, of items missing or areas that are not in conformance with Contract Documents and which require resubmission.

B. The CxA may request additional design narratives depending on the completeness of the design intent documentation and sequences for control equipment provided with the Specifications.

C. These submittals to the CxA do not constitute compliance for O&M manual documentation.

3.4 SYSTEM START-UP AND TESTING

A. All systems and system components shall be tested by the CTRs and in the presence of the Owner and Design Consultants if desired by the Owner and Design Consultants to demonstrate compliance with specified requirements. To minimize the time of commissioning, contracting, and Design Consultant team members, testing shall be done in seasonal single blocks of time insofar as possible.

B. The Contractor shall notify the CxA fourteen (14) days prior to scheduled functional performance tests, of the scheduled completion date of the installation verification and prefunctional inspections.

C. All testing shall be conducted under specified design operating conditions as approved by the CxA and Design Consultants. Where project conditions do not allow for completing functional tests within the allotted schedule, the CxA may elect to defer certain performance tests for a later date. The need for deferred tests will be reviewed by the CxA, CM, A/E, and Owner.

D. All elements of systems shall be tested to demonstrate that total systems satisfy all requirements of these Specifications. Testing shall be accomplished on a hierarchical basis. Each piece of equipment shall be tested for proper operation, and functionality of safety devices, followed by each system's subsystem, followed by the entire system, followed by any interlocks to other major systems.

E. All special testing materials and equipment shall be provided by the CTR. This includes, but is not limited to, proprietary equipment, hand-held control parameter/setpoint adjustment tools, water/air flow balancing readout and adjustment tools.

F. One copy of all factory test reports and records as well as all start-up documentation shall be provided to the CxA promptly following the completion of the report. Reports shall be completed in a timely fashion and shall not be withheld from review by the CxA.

G. Test Procedure Development and Test Documentation:

1. At least fourteen (14) days prior to startup of the mechanical system, the CTR shall inform the CxA, the Owner's representative and Design Consultants of the intention to start up the systems.
2. Where phased startup of equipment is required based on project conditions, the proposed startup schedule for each sub-system shall be provided (14) days in advance of commencing startup activities.

H. Installation Verification Requirements:

1. All systems and system components shall be checked and verified by the CTR that they have been installed according to the drawings, specifications, and manufacturer's written instructions, and that all connections have been made correctly. Discrepancies shall be corrected and resolved to the satisfaction of the engineer and CxA prior to proceeding any further with pre-functional inspections.
2. Each system of interlocked system components shall be observed and verified by the CTR that it is ready to function as specified. This verification shall occur before formal startup is attempted.
3. Verification of complete and proper installation shall be completed prior to the CxA authorizing functional performance testing.
4. The installation verification shall be documented by the CTR in a written format for each system/piece of equipment as designated by the CxA. Each certificate of readiness shall be dated and initialed by the Contractor and clearly stating any items that are deficient or have not been completed. The protocols for this will be further clarified in the Commissioning Plan.

I. Pre-functional Inspection Requirements:

1. The CxA will provide the inspection forms for each system and equipment.

2. Completion of the pre-functional checklists is the responsibility of the CTR providing the system/equipment.
3. Where work by multiple different CTRs is required for a given system, each CTR will be required to complete the portion of the associated prefunctional checklists for which their contract is responsible. For example, verification that power wiring is complete for mechanical equipment provided by the MC shall be documented by the EC on the appropriate mechanical equipment checklist. Checks by multiple parties shall be documented within a single, comprehensive checklist record.
4. Following completion of prefunctional checklists, completed checklists shall be submitted to the CM for review with the CxA.
5. Prior to the CxA performing the final pre-functional inspection, the CTRs shall check the equipment for proper installation, adjustments, and shall be calibrate the equipment to verify that it is ready to perform as specified.
6. Verification of complete and proper installation shall be completed prior to performing functional performance tests.
7. Deficiencies identified by the CxA shall be corrected fully and completely before requests for re-inspection by the CxA are made. Functional performance testing shall not be scheduled until all non-conformance issues are satisfactorily resolved and documentation of resolution is complete. Refer to the section on Non-Conformance below for further discussion.

J. Functional Performance Testing Requirements:

1. A functional performance test shall be directed on each complete system. Each function shall be demonstrated to the satisfaction of the CxA based on the written test procedure developed by the CxA to demonstrate conformance to the requirements of the Contract Documents.
2. Each functional performance test shall be performed, witnessed and signed off by the CxA. The CxA and the CTRs will perform the functional testing together. Any exceptions to this will be made clear to the Owner as to the reason and justification.
3. The functional performance testing shall be conducted in accordance with prior approved procedures and documented as required.
4. The Contractor shall notify the contracting team, the CxA, and Design Consultants, at least two weeks prior to the date of schedule functional performance tests. The seasonal functional performance test periods shall be scheduled over a single block of days. The schedule of functional performance tests shall be based on the construction completion schedule.

3.5 DOCUMENTATION, NON-CONFORMANCE AND APPROVAL OF TESTS

A. Documentation: The CxA shall witness and document the results of all functional performance tests using the specific forms developed by the CxA for that purpose.

B. Non-Conformance:

1. The CxA will sign-off on the results of the PFIs and functional tests utilizing the appropriate documentation. All deficiencies or non-conformance issues shall be noted and reported to the Owner, CM, and CTRs.
2. Reports of the deficiencies identified will be provided to the project team by the CxA. A log identifying deficiencies for each trade will be provided and periodically updated by the CxA. This log and any accompanying reports or documentation are utilized for the contractor to inform the CxA of the action taken to address the deficiency items and these forms must be returned in a timely manner to the CxA.
3. Corrections of minor deficiencies identified may be made during the tests at the discretion of the CxA. In such cases, the deficiency and resolution will be documented by the CxA. The need for any retesting shall be at the discretion of the CxA.
4. Every effort will be made to expedite the testing process and minimize unnecessary delays, while not compromising the integrity of the procedures. However, the CxA will not be pressured into overlooking deficient work or compromising acceptance criteria to satisfy scheduling or cost issues, unless there is an overriding reason to do so at the request of the Owner.
5. Cost of Retesting
    a. The CTRs shall bear all costs to repeat a pre-functional inspection or functional test.
    b. There shall be no limit on the time required of the CTR to correct items of non-conformance so long as the intent of the contract documents has not been met.
    c. The time for the CxA to direct any retesting required because a specific prefunctional inspection of start-up test item, reported to have been successfully completed, but determined during functional testing to be faulty, will be back-charged to the appropriate CTR.
    d. The cost for the CxA to direct or execute a single round of retesting following identification of deficiencies during functional performance testing shall belong to the CxA. Following one round of re-testing, if it is found that the deficiencies previously identified have still not been successfully corrected by the CTR, the time for the CxA to direct any additional re-testing shall be back-charged to the appropriate CTR.
6. The CTR shall respond in writing to the CxA at least as often as commissioning meetings are scheduled concerning the status of each apparent outstanding discrepancy identified during commissioning. Discussion shall cover explanations of any disagreements and proposals for their resolution.

C. Failure Due to Manufacturer Defect or Improper Installation: If 10% of, or three, whichever is greater, of identical pieces of equipment (size alone does not constitute a

difference) fail to perform to the Contract Documents (either mechanically or substantively) due to manufacturing defect or improper installation, not allowing it to meet its submitted performance spec, all identical units may be considered unacceptable by the CxA, CM, A/E or Owner. In such case, the Contractor shall provide the Owner with the following:

1. Within one week of notification from the A/E (via the CxA), the installer or manufacturer's representative shall examine all other identical units making a record of the findings. The findings shall be provided to the CxA or CM within two weeks of the original notice.
2. Within two weeks of the original notification, the installer or manufacturer shall provide a signed and dated written explanation of the problem, cause of failures, etc., and all proposed solutions, which shall include full equipment submittals. The proposed solutions shall not significantly exceed the specification requirements of the original installation.
3. The CxA, CM and A/E will determine whether a replacement of all identical units or a repair is acceptable.
4. Two examples of the proposed solution will be installed by the Contractor and the CxA will be allowed to test the installations for up to one week, upon which the CxA or CM will decide whether to accept the solution.
5. Upon acceptance, the installer and/or manufacturer shall replace or repair all identical items, at their expense, and extend warranty accordingly, if the original equipment warranty had begun. The replacement/repair work shall proceed with reasonable speed beginning within one week from when parts can be obtained.

D. Approval: The CxA documents each satisfactorily demonstrated functional test.

3.6 OPERATION AND MAINTENANCE MANUALS

A. Standard O&M Manuals

1. The specific content and format requirements for the standard O&M manuals are detailed in the contract documents. Special requirements for the controls contractor and TAB contractor are detailed in the contract documents.
2. Prior to substantial completion, the CxA shall review the O&M manuals, documentation and as-builts for systems that were commissioned to verify compliance with the specifications. The CxA will communicate deficiencies in the manuals to the CTRs, CM, A/E or Owner as requested. Upon successful review of the corrections, the CxA recommends approval and acceptance of these sections of the O&M manuals to the CM, A/E and Owner. The CxA also reviews each commissioned equipment's warranty and verifies that all requirements to keep the warranty valid are clearly stated. This work does not supersede the A/E's review of the O&M manuals according to the A/E contract.

3.7 TRAINING OF OWNER PERSONNEL

A. The CTRs shall be responsible for training coordination, scheduling training sessions with the CM, and for ultimately ensuring that training is completed.

B. The CxA shall be responsible for overseeing and approving the content and adequacy of the training of the Owner personnel for commissioned equipment. Training sessions shall be attended by the CxA on an as-needed basis.

C. The CxA shall attend a meeting with the facility manager and lead design engineer to determine the special needs and areas where training would be most valuable. The Owner and CxA shall decide how rigorous the training should be for each piece of commissioned equipment.

D. In addition to these general requirements, the specific training requirements of Owner's personnel by CTRs, as detailed in the specifications, shall be provided.

E. Each CTR and vendor responsible for training will submit a written training plan to the CxA, for review and approval prior to training. The plan will cover the following elements:

1. Equipment (included in training).
2. Intended audience.
3. Location of training.
4. Objectives.
5. Subjects covered (description, duration of discussion, special methods, etc.).
6. Duration of training on each subject.
7. Instructor for each subject and qualifications.
8. Methods (classroom lecture, video, site walk thru, actual demonstrations, etc.).

F. The CxA will assist the CM, and CTRs in developing an overall training plan and coordinating the schedules with the CM and Owner. The CxA develops criteria for determining that the training was satisfactorily completed, including attending some of the training.

3.8 DEFERRED TESTING

A. Unforeseen Deferred Tests: If any inspection or test cannot be completed due to the building structure, required occupancy condition or other deficiency, execution of inspections and functional testing may be delayed upon approval of the CM or Owner. These tests will be conducted in the same manner as the seasonal test as soon as possible. Services of necessary parties shall be negotiated.

B. Seasonal Testing: During the warranty period, seasonal testing (tests delayed until weather conditions are closer to the system's design) shall be completed as part of this contract. The CxA shall coordinate this activity. Tests will be executed, documented and deficiencies corrected by the appropriate CTRs, with facilities staff and the CxA witnessing. Any final adjustments to the O&M manuals and as-builts due to the testing will be made. Systems for which seasonal testing is anticipated will be identified in the Commissioning Plan.

3.9 WRITTEN WORK PRODUCTS

A. The commissioning process generates a number of written work products described in various parts of the specifications. The Commissioning Plan lists all the formal written work products, describes briefly their contents, who is responsible to create them, their due dates, who receives and approves them and the location of the specification to create them. In summary the written products are:

	Product	Developed By
1.	Final Commissioning Plan	CxA
2.	Commissioning Schedules	CxA, CM and CTRs
3.	Equipment Documentation Submittals	CTRs
4.	Sequence Clarifications	A/E and CTRs as needed
5.	Pre-Functional Inspection Forms	CxA
6.	Pre-Functional Inspections	CxA and CTRs
7.	Startup and Initial Checkout Plans	CTRs
8.	Startup and Factory Test Reports	CTRs
9.	Final TAB Report	MC
10.	Commissioning Progress Record	CxA
11.	Deficiency Reports	CxA
12.	Functional Test Procedures	CxA
13.	O&M Manuals	CTRs
14.	Commissioning Record	CxA
15.	Overall Training Plans	CxA, CM and CTRs
16.	Final Commissioning Report	CxA

3.10 SUBSTANTIAL COMPLETION

A. CTRs shall prepare and submit a list of completed and open commissioning activities including schedules for completion of open items to CxA prior to requesting approval for Substantial Completion.

1. CxA shall review and provide comments to CM and A/E.

3.11 FINAL ACCEPTANCE

A. CTRs shall obtain and submit certification from CxA that commissioning process is complete.

B. When Contractor considers that construction-phase commissioning process, or a portion thereof which Owner agrees to accept separately, is complete, Contractor shall prepare and submit to Owner and Commissioning Authority through Architect a comprehensive list of items to be completed or corrected. Failure to include an item on such list does not alter Contractor's responsibility to compete commissioning process.

END OF SECTION 019113

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SECTION 024119 - SELECTIVE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolition and removal of selected portions of building or structure.
   2. Demolition and removal of selected site elements.
   3. Salvage of existing items to be reused or recycled.

RELATED WORK

SECTION 311000: SITE CLEARING.

3.1 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 Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

3.2 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.

3.3 PRE-DEMOLITION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.

3.4 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities:
   1. Indicate the following:
   2. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's and adjacent land Owners are uninterrupted.
   3. Interruption of utility services. Indicate how long utility services will be interrupted.
   4. Coordination for shutoff, capping, and continuation of utility services.

C. Submit a list of items to be removed, salvaged and reinstalled and deliver to Owner prior to demolition.

D. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Submit before Work begins.

E. Documentation indicated that existing warranties are still in effect after completion of selective demolition.

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.

3.5 CLOSEOUT SUBMITTALS

A. Inventory of items that have been removed and salvaged.

B. Landfill Records if hazardous wastes are encountered, provide receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

3.6 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

3.7 FIELD CONDITIONS

A. Notify Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

B. Owner will occupy portions of building immediately adjacent to selective demolition area. Arrange selective demolition schedule so as not to interfere with Owner's operations.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Storage or sale of removed items or materials on-site is not permitted.

E. 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.

3.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

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

4.1 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

5.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
   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. Requirement in subparagraph below is for treatment of historic facilities.
   3. 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.

D. 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.

E. Inventory and record the condition of items to be removed and salvaged.

F. PREPARATION

G. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

H. UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

I. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

J. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Arrange to shut off utilities with utility companies and Owner.
   2. 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.
   3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings 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 and leave in place.

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.

5.2 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Temporary Shoring: Design, 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.

C. Remove temporary barricades and protections where hazards no longer exist.

5.3 SELECTIVE DEMOLITION

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. 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. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
6. Dispose of demolished items and materials promptly. Comply with requirements in Contract Documents.

B. 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.

C. Removed and Salvaged Items:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.
   3. Store items in a secure area until delivery to Owner.
   4. Transport items to Owner's storage area designated by Owner.
   5. Protect items from damage during transport and storage.

D. 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.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner's Representative, items may be removed to a suitable, protected storage location during selective demolition, then cleaned and reinstalled in their original locations after selective demolition operations are complete.

5.4 CLEANING

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
   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.

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 028200 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes procedures for abatement of asbestos-containing materials (ACM) from the areas of scheduled work.

1. ACM and assumed ACM that are located within the areas of scheduled work will require abatement prior to, or in coordination with, the scheduled demolition and renovation activities. Reference the Contract Drawings for additional details pertaining to abatement of identified or assumed ACM.
2. Verify the locations and quantities of materials to be removed as the basis for the bid. Contract Drawings depict the areas in which the work will be conducted, and show the general location of identified or assumed ACM, as determined from the hazardous materials assessment performed for the site.
3. Suspect ACM that have not been tested must be assumed to contain asbestos, unless proved otherwise through sampling and analysis.

B. The Contractor is responsible for all work related to the abatement of identified ACM, including, but not limited to, the following:

1. Submission and approval of required notification prior to commencement of work.
2. Coordination with the Owner or Owner's designated representative for removal of movable furnishings and equipment, including miscellaneous small items such as tools, stored materials, files, and records, prior to asbestos abatement work commencing.
3. Protection of Work to Remain: Preserve and protect building materials and finishes, electrical equipment, and heating and ventilation equipment present within each work area that is not removed or abated. Perform work without damage to or contamination of adjacent areas. The Contractor and Owner shall agree in writing on the condition of the building and fixtures and background level, prior to commencement of the work.
4. Removal of all ACM within the areas of work, as designated on the Contract Drawings.
5. Inspection of areas of work to ensure that all ACM has been removed in accordance with the Contract Documents.
6. Furnish all labor, materials, services, insurance, and equipment necessary to complete the abatement work in accordance with applicable regulations and codes.
7. Obtain approval for a waste disposal site and transportation of waste to waste disposal facility. Waste disposal facility must have a valid NYSDEC or Regulatory Waste Authority permit. Waste transporter shall have a valid NYSDEC, Division of Solid & Hazardous Materials, Part 364 Waste Transporter Permit.
8. Post all applicable regulations at the project site.
9. Maintain the required log of all persons entering work area.
10. Provide Owner with close-out report and record drawings containing all information pertaining to the removal and disposal of ACM (quantity and location).
11. Provide Owner with record drawing of asbestos removal including location, quantity and type of asbestos removed.

C. Perform all work in such a manner as to minimize the risk of exposure to personnel, to prevent exposure to occupants, and to minimize the risk of release of asbestos or asbestos-containing debris to the environment.

D. Take notice, and make employees aware, of occupational safety hazards associated with the abatement work and other work being performed on-site.

E. Perform all work in strict accordance with the Contract Documents and all governing codes, rules, and regulations. Where conflicts occur between the Contract Documents and applicable codes, rules, and regulations, the more stringent procedure(s) shall apply. Interpretation of regulations or differences in interpretation of applicable regulations between any parties associated with the project shall be settled in a manner consistent with the administrative and contractual procedures specified in other applicable sections of the Contract Documents. If a resolution cannot be readily obtained, the applicable regulatory authority will be contacted for interpretation. The interpretation of the regulatory authority will be final.

1.2 REGULATIONS AND CODES

A. Comply with the codes and standards listed below, except where more stringent requirements are shown and/or specified. Specific regulations, standards, and guidance documents are listed for informational purposes due to relevance to the work described herein. Specific regulations, standards, and guidance documents that are not listed may also be applicable to the work.

1. Federal Regulations:
    a. American National Standard Institute (ANSI)
        1) ANSI Z88.2-80, Practices for Respiratory Protection
        2) ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
    b. Code of Federal Regulations (CFR)
        1) 29 CFR 1910.1001, “Asbestos” (OSHA)
        2) 29 CFR 1910.1200, “Hazard Communication” (OSHA)
        3) 29 CFR 1910.134, “Respiratory Protection” (OSHA)
        4) 29 CFR 1910.145, “Specification for Accident Prevention Signs and Tags” (OSHA)
        5) 29 CFR 1926, “Construction Industry” (OSHA)
        6) 29 CFR 1926.1101, “Asbestos” (OSHA)
        7) 29 CFR 1926.500, “Guardrails, Handrails and Covers” (OSHA)
        8) 40 CFR 61, Subpart A, “General Provisions” (EPA)
        9) 40 CFR 61, Subpart M, “National Emission Standard for Asbestos” (USEPA)
        10) 49 CFR 171-172, “Transportation Standards” (USDOT)
        11) 40 CFR 763, Subpart E, “Asbestos-Containing Materials in Schools” (USEPA)
    c. Occupational Safety and Health Administration (OSHA)
    d. United States Department of Transportation (USDOT)
    e. United States Environmental Protection Agency (USEPA)
        1) USEPA 560/585-024, Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book)
        2) USEPA 530-SW-85-007, Asbestos Waste Management Guidance

2. New York State:
    a. Compilation of the Rules and Regulations of the State of New York (NYCRR)
        1) 6 NYCRR, Parts 360 and 364, “Disposal and Transportation” (NYSDEC)

2) 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (NYSDOH)
3) 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (NYSDOL)
4) Guidance Document (AGD-v2.0) on 12 NYCRR, Part 56
5) Fire Code of New York, 2020 including Technical Bulletins issued by the New York State Department of State
6) Existing Building Code of New York State 2020, Including Technical Bulletins issued by New York State Department of State
7) New York State Department of Environmental Conservation (NYSDEC)
8) New York State Department of Health (NYSDOH)
9) New York State Department of Labor (NYSDOL)
10) New York State Department of State (NYSDOS)
11) New York State Department of Transportation (NYSDOT)

1.3 ENVIRONMENTAL CONSULTANT

A. An Environmental Consultant will be retained by the Owner under separate contract, to represent the Owner in matters pertaining to the work performed in accordance with these specifications and requirements.

B. The Environmental Consultant is authorized by the Owner to provide monitoring during removal work, to interpret procedures and to enforce provisions of the contract documents and NYS Code Rule 56 pertaining to the removal of ACM.

C. If, in the opinion of the Environmental Consultant, there is a substantial non-conformance with the contract documents and NYS Code Rule 56 and/or a situation presenting a health hazard to workers or to the Owner's employees, the Environmental Consultant will be authorized to stop work.

D. The Environmental Consultant's role in health and safety matters does not alleviate the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the local state or federal government.

E. The Environmental Consultant will provide Air Monitoring, Project Monitoring, and work area clearance pursuant to requirements of 12 NYCRR Part 56 and 40 CFR 763, Subpart E.

1. Should any visual clearance or clearance air sample(s) fail to meet clearance criteria, the Contractor will be directed to re-clean the work area and new clearance air samples will be collected. The Contractor will be responsible for any and all costs incurred due to clearance sample failures.

1.4 SUBMITTALS

A. Submit in accordance with applicable provisions of the Contract Documents.

B. Pre-Work Submittals: Submit a minimum of 10 days prior to the anticipated commencement of the asbestos abatement work and expedite any resubmissions.

1. Work Plan: Provide a Work Plan that describes the abatement methods to be used, schedule of removal, the type of decontamination units, worker protection plan, and Safety Data Sheets (SDS) for any chemicals or products to be used to facilitate the work. The Work Plan shall also show the limits of the work area(s), locations of decontamination units, entrance and exit to the work area(s), and exhaust locations.
2. Submit satisfactory proof to Asbestos Designer of Record and Environmental Consultant that all required permits, licenses and certifications have been obtained,

notifications have been issued, and arrangements made for transport and disposal of ACM, including:

a. Copy of project notifications for the asbestos abatement work, as applicable and required by federal and state regulatory agencies, together with proof of transmittal (i.e., certified mail return receipt).
b. Copy of building occupant notification, as applicable and as required by regulatory agencies.
c. Copy of each Contractor's asbestos handler's license and copy of each employee's asbestos handler' s certificate. In addition to the asbestos handler's licenses, the Contractor shall submit each employees "OSHA 10" card. Should Handlers' or Supervisor's documentation expire during the duration of the project, the Contractor shall submit replacement documents.
d. Copy of waste hauler's NYSDEC permit and one copy of NYSDEC Certificate of Approval for the ACM waste disposal site.
e. Submit documentation indicating that all employees have had instruction on the hazards of asbestos exposure, on use of fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures.
f. Submit documentation certifying that all workers employed in asbestos related aspects of the job have had medical examinations as prescribed by the OSHA regulations and have been found fit to perform work while wearing a respirator. This certification is to be signed by a physician indicating that he has reviewed the relevant medical records and that they support the certification. Medical records are not to be submitted and will not be accepted.
g. Submit manufacturer's certification that vacuums, ventilation equipment and other equipment required to contain airborne fibers, conform to ANSI Z9.2.
h. Establish a manifest system that accounts for all asbestos waste. The manifest system shall be described in writing and will be subject to the approval of the Environmental Consultant. Copies of the written description and any receipts generated during the handling and disposal process shall be provided to the Owner. The Contractor must be able to demonstrate custody over all asbestos waste from the time it is removed from the work area until it is deposited at the landfill.

C. Project Close-out Submittals: Within 30 days of project completion, and prior to final payment, submit a closeout package to include:

1. Copy of final project notifications.
2. Copy of Contractor asbestos license and certifications for employees involved in the project.
3. Copy of Haulers Permit.
4. Copy of daily work area entry logs.
5. Copy of laboratory reports for personal air monitoring.
6. Copy of asbestos disposal manifests completed by all parties, for each phase of work as applicable.
7. Copy of record drawing indicating locations type, and quantities of ACM removed.
8. As-built plans showing locations of ACM removals and locations of inaccessible ACM that remain in-place.

PART 2 - PRODUCTS

2.1 PROJECT LOG BOOK

A. Provide a permanently bound project log book. The log book shall contain, on the title page, the project name; name, address, and telephone number of Owner; name, address, and telephone number of Consultant; name, address, and telephone number of the Contractor; and emergency numbers, including, but not limited to, local Fire/Rescue Department .

B. Record all entries into the log with non-washable, permanent ink. Under no circumstances shall pencil entries be permitted.

C. Ensure that all persons entering and exiting the work area sign the log and include name, employer, NYSDOL certification number, and time of entrance and exiting.

D. Ensure that the Project Supervisor documents all work performed daily and notes all visual assessments required by 12 NYCRR Part 56 (e.g., testing and inspection of barriers and enclosure by smoke testing, negative air systems, and manometer readings).

2.2 PERSONAL PROTECTIVE EQUIPMENT

A. Comply with applicable OSHA regulations and procedures for selection and use of personal protective equipment (PPE).

B. The minimum PPE is Level D Modified (hard hat, safety glasses, and steel-toed boots), at all times at the project site both inside and outside the work areas. Additional PPE is required to reduce exposure to asbestos, including the following:

1. Respiratory Protection
    a. Select respirators from those approved by the NIOSH, Department of Health and Human Services.
    b. Ensure that respirators and filters are selected, used, maintained, and stored pursuant to an established respiratory protection program, pursuant to 29 CFR 1910.134.
    c. Provide for surveillance of working conditions to ensure the selected respirator provides adequate protection, as defined in 29 CFR 1926.1101.

2. Disposable Protective Clothing
    a. Provide disposable protective whole body clothing, head coverings, plastic or rubber gloves, and foot coverings to personnel utilized during the project. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Secure sleeves at the wrists, and foot coverings at the ankles, by the use of tape, or provide disposable coverings with elastic wrists or tops.

C. Provide workers and authorized visitors with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the work area.

2.3 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to the work area. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

B. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum size of 20 inches by 14 inches, and displaying the following legend:

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA

C. Provide 3-inch wide red barrier tape printed with black letters, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances, and across routes to each asbestos work area. Install tape 3 to 4 feet above finish floor.

D. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos. Labels shall state the following.

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

E. Provide the following asbestos label, of sufficient size to be clearly legible, for display on waste containers (bags or drums) that will be used to transport asbestos contaminated material in accordance with 49 CFR Parts 171 and 172. Labels shall state the following.

RQ HAZARDOUS SUBSTANCE
SOLID, NOS
FORM E, NA 9188
ASBESTOS

F. Generator identification information shall be affixed to each waste container, indicating the following and printed in indelible ink.

Generator Name: Newburgh Enlarged City School District
Building Name: Newburgh Free Academy
Facility Address: 301 Robinson Avenue, Newburgh, New York
Date: MM/DD/YYYY

2.4 POLYETHYLENE SHEETING

A. Unless otherwise indicated, utilize polyethylene sheeting that is at least 6 mil fire retardant sheeting.

B. Utilize at least 6 mil opaque fire retardant plastic sheeting for decontamination enclosure systems.

2.5 HEPA VACUUM EQUIPMENT

A. Conduct all vacuuming using HEPA-filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment, including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

2.6 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels, and imprinted with USDOT required markings.

B. Provide 30- or 55-gallon capacity fiber or metal drums capable of being sealed air- and water-tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.

C. Label containers and bags with the name of the waste generator and the location at which the waste was generated, in accordance with 40 CFR 61 – NESHAPS.

D. Label containers and bags with the date moved from the waste decontamination enclosure to the waste transport container, in accordance with 12 NYCRR 56, Subpart 8.9(C)(3).

E. Do not use labeled ACM waste containers or bags for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not, will need to be handled and disposed of as ACM waste.

2.7 SURFACTANT (AMENDED WATER)

A. Wet all ACM prior to removal with surfactant mix, and apply in accordance with manufacturer's printed instructions.

2.8 POWER TOOLS

A. Ensure that any power tools used to drill, cut into, or otherwise disturb asbestos material is manufacturer equipped with HEPA filtered local exhaust ventilation.

2.9 WATER AND ELECTRICAL

A. Coordinate water and electrical service with the Owner prior to initiation of abatement activities. Verify suitability and location of all connections.

2.10 OTHER PRODUCTS OR MATERIALS

A. Ensure that other products or materials required for use during abatement activities are in compliance with local, state, and federal codes and regulations, if applicable. Furnish and utilize industry standard equipment and materials. Do not furnish equipment or materials that have been modified or altered in such a manner to violate local, state, and/or federal codes and regulations, or presents unnecessary health and safety risks.

PART 3 - EXECUTION

3.1 NOTICES

A. Provide notification of intent to commence asbestos abatement activities as indicated below.

1. At least 10 working days prior to beginning abatement activities, send written notification to:

United States Environmental Protection Agency
National Emissions Standards for Hazardous Air Pollutants Coordinator
26 Federal Plaza
New York, New York 10007

2. At least 10 calendar days prior to beginning abatement activities, send written notification to:

New York State Department of Labor
Division of Safety and Health, Asbestos Control Program
State Office Campus
Building 12 – Room 454
Albany, New York 12240

B. Send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

C. Post and/or provide Building Occupant Notification at least 10 calendar days prior to beginning abatement activities, as required by 12 NYCRR Part 56. The posting must include the following information.

1. The locations of the abatement project.
2. The amounts and types of ACM being abated.
3. The commencement and completion dates of the project.
4. The name, address, and asbestos license number of the Asbestos Abatement Contractor.
5. The name, address, and license number of the Asbestos Abatement Project Monitor.
6. The name, address, and NYSDOH ELAP number of the laboratory providing analytical services.

3.2 PERSONAL PROTECTIVE EQUIPMENT

A. Refer to Article 2.2 for applicable PPE requirements.

B. Ensure that respirators are worn until outside the decontamination room.

C. Ensure that disposable protective clothing is donned upon entering the decontamination room and before entering the work area, and street clothes are placed in a storable locker or bin. Ensure that workers exiting the work area immediately remove protective clothing and place the waste into sealable containers.

3.3 PERSONAL AIR MONITORING

A. Conduct requisite personal air monitoring pursuant to the requirements of 29 CFR 1926.1101, at a minimum. Verify compliance with applicable personal exposure and excursion limits.

3.4 PROJECT SUPERVISOR

A. Designate a full-time Project Supervisor, who meets the following qualifications.

1. The Project Supervisor must hold a current New York State certification as an Asbestos Contractor Supervisor.
2. The Project Supervisor Project Supervisor must meet the requirements of a "Competent Person", as defined by OSHA 1926.1101, and have a minimum of 2 years experience as a Supervisor.
3. The Project Supervisor must be able to speak, read, and write English fluently, as well as communicate in the primary language of the Workers.

B. Ensure the Project Supervisor is on-site at all times during abatement work, until the Project is complete. Work will be stopped if the Project Supervisor is not present on-site. The Project Supervisor is responsible for the performance of the work and will be required to represent the Contractor in all respects at the Project site. The Supervisor will be the primary point of contact for the Asbestos Abatement Project Monitor. The Project Supervisor cannot be removed from the Project without the written consent of the Owner. The Project Supervisor will be removed from the Project, if so requested, by the Owner.

C. Ensure the Project Supervisor maintains the Project Log Book in accordance with 12 NYCRR 56, Subpart 7.3, and as described in Article 2.1.

3.5 MEDICAL REQUIREMENTS

A. Comply with medical examination and recordkeeping requirements, and maintain a medical surveillance program, pursuant to requirements of 29 CFR 1910.1001 and 29 CFR 1926.1101.

3.6 TRAINING

A. As required by applicable regulations, prior to assignment to asbestos work, instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Maintain an established respirator program, as required by ANSI Z88.2, 29 CFR 1910.134, and 29 CFR 1926.1101. Comply with requirements for respirator training and fit testing.

C. Ensure that all Workers and Supervisors have successfully completed training and received appropriate certifications, in accordance with NYSDOL and NYSDOH requirements.

3.7 PERSONAL AIR MONITORING

A. Personal air monitoring required by the OSHA is the responsibility of the Contractor, not the Owner or Owner’s representative.

3.8 ON-SITE DOCUMENTATION

A. Maintain the following submittals, documentation, and postings on-site during abatement activities, at a location approved by the Asbestos Abatement Project Monitor.

1. Valid Contractor license issued by the NYSDOL.
2. Worker certification, training, and medical surveillance records
    a. Current New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
    b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
    c. Documentation that Workers have been fit tested specifically for respirators used on the project.
    d. Workers Acknowledgment Statements signed by each employee stating that the employee has received training in the proper handling of ACM; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.
3. Daily OSHA personal air monitoring results
4. NYSDOH ELAP certification for the laboratory that will be analyzing the OSHA personal air samples
5. NYSDEC Waste Transporter Permit
6. Contract Documents (Project Manual and Contract Drawings)
7. Notifications and variances (site-specific) – ensure the most up-to-date notifications and variances are on-site
8. Applicable regulations
9. Safety Data Sheets (SDS) of supplies/chemicals used on the project
10. Approved Abatement Work Plan
11. List of emergency telephone numbers
12. Waste disposal log
13. Project log book

3.9 TEMPORARY UTILITIES

A. Shut down and lock out all electrical power to the asbestos abatement work area.

B. Provide temporary 120-240 volt, single phase, three-wire, 100 amp electric service with ground fault circuit interrupters (GFCI) for all electric requirements within the asbestos abatement work area.

1. Where available, obtain a power supply from the Owner's existing system. Otherwise, provide power from other sources (i.e., generator).
2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
3. Provide wiring and receptacles, as required by the Asbestos Abatement Project Monitor, for air sampling equipment.
4. Supply all power to the work area from outside the area through GFCI at the source.

C. Provide temporary lighting with "weatherproof" fixtures for the work area, including decontamination chambers.

1. Maintain the work area in an illuminated condition at all times during work.
2. Provide lighting, as required by the Asbestos Abatement Project Monitor, for performance of required visual assessments.

D. All temporary devices and wiring used in the work area must be capable of withstanding decontamination procedures, including HEPA vacuuming and wet wiping.

E. Utilize domestic water services, if available, from the Owner's existing system. Provide hot water heaters with sufficient capacity to meet project demands.

3.10 DECONTAMINATION ENCLOSURES AND WORK AREA PREPARATION

A. The work area must be vacated by building occupants prior to decontamination enclosure construction and work area preparation.

B. All demolition necessary to access ACM for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris must be disposed of as asbestos waste.

C. Provide a personal decontamination enclosure contiguous to each work area. The following conditions apply for the construction of a personal decontamination enclosure.

1. Utilize a decontamination enclosure that is attached to the work area and fully framed and sheathed to prevent unauthorized entry.
2. For large asbestos projects, provide access to the work area from the clean room through an airlock to the shower, followed by an airlock to the equipment room to the work area. For small asbestos projects, provide access to the work area from the clean room, to the shower, and through the equipment room to the work area. Each airlock must be a minimum of 3 feet from door to door.
3. Cover the decontamination enclosure ceiling and walls with one layer of polyethylene sheeting. Utilize two layers of reinforced polyethylene sheeting to cover the floor.
4. Establish a triple layer of polyethylene sheeting at the decontamination chamber doorways, weighted to ensure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the work area.
5. Provide a lockable door for the entrance to the clean room. The clean room must be sized to accommodate all full-shift Workers and the Asbestos Project Monitor. The minimum dimensions of the clean room must be 32 square feet for every 6 full-shift Workers, and 6 feet in height. Provide suitable lockers for storage of Workers' street clothes. Provide for storage of respirators, along with replacement filters and disposable towels.
6. Provide a temporary shower, with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There must be at least 1 shower for every 6 full-shift abatement Workers. Construct the shower room in such a way so that travel through the shower chamber will be through the shower. The shower must not be able to be bypassed.
7. Drain, collect, and filter shower water through a system with at least a 5.0 micron particle size collection capability, containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. Discharge the filtered wastewater in accordance with applicable codes, and dispose of the contaminated filters as asbestos waste.
8. The equipment room is to be used for the storage of tools and equipment. Place a walk-off pan filled with water in the work area outside the equipment room for workers to clean foot coverings when leaving the work area. Place a labeled 6 mil plastic ACM waste bag, for collection of contaminated clothing, in this room.
9. At a minimum, clean and disinfect the personal decontamination enclosure at the end of each work shift and as otherwise directed by the Asbestos Project Monitor.

D. Provide a waste decontamination enclosure contiguous to each work area. The following conditions apply for the construction of a waste decontamination enclosure.

1. The decontamination enclosure must be attached to the work area and not located within it. The decontamination enclosure must be fully framed and sheathed to prevent unauthorized entry.
2. Construct the waste decontamination enclosure system to include a washroom/cleanup room to the work area and an airlock doorway to the holding area. The airlock must be a minimum of 3 feet from door to door. Provide a lockable door for the entrance to the holding area.
3. Cover the decontamination enclosure ceiling and walls with one layer of polyethylene sheeting. Utilize two layers of reinforced polyethylene sheeting to cover the floor.
4. Establish a triple layer of polyethylene sheeting at the decontamination chamber doorways, weighted to ensure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the work area.
5. Where there is only one egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the personal decontamination enclosure equipment room, which may then serve as the waste wash room.

E. The following conditions apply to work area preparation procedures.

1. Post asbestos danger signs at all approaches to the asbestos abatement work area. Post all emergency exit signs only on the work area side at the containment, and post with asbestos caution signs on the non-work area side. Provide all non-work area stairs and corridors accessible to the asbestos abatement work area with warning tapes at the base of stairs and beginning of corridors. Utilize warning tape in addition to caution signs.
2. Shut down and lock out the building heating, ventilation, and air conditioning (HVAC) and electrical systems. Provide temporary electric power and lighting, as specified in Article 3.8.
3. Pre-clean all surfaces and objects within the work area, using HEPA vacuuming and/or wet wiping methods. Dry sweeping and any other methods that raise dust are prohibited. ACM must not be disturbed during pre-cleaning.
4. For movable objects within the work area, clean via HEPA vacuum and/or wet wipe and remove from the work area.
5. For all non-movable equipment in the work area, completely cover with 2 layers of polyethylene sheeting, that is secured in place with duct tape and/or spray adhesive.
6. Provide enclosure of the asbestos abatement work area necessary to isolate it from unsealed areas of the building, in accordance with the approved Asbestos Abatement Work Plan, and as specified herein.
7. Seal off all openings, including, but not limited to, windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the work area enclosure, using 2 layers of polyethylene sheeting to form a critical barrier.
8. Provide temporary framing and sheathing at openings larger than 32 square feet that form the limits of the asbestos abatement work area. Sheathing thickness must be a minimum of 3/8-inch, and all sheathing shall be caulked and the work area side sealed with 2 layers of polyethylene sheeting to form an isolation barrier.
9. Secure sheeting with spray adhesive and then sealed with duct tape. Ensure all joints in polyethylene sheeting overlap a minimum of 12 inches.
10. Frame out emergency exits. Provide double-layered polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the work area, mark the locations

and directions of emergency exits throughout the work area, using exit signs and/or duct tape.

11. Remove all items attached to, or in contact with, ACM only after the work area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to removal from the work area and before the start of asbestos removal operations.

3.11 WORK AREA ENTRY AND EXIT PROCEDURES

A. Access to and from the asbestos abatement work area is permitted only through the personal decontamination enclosure, unless otherwise stipulated in 12 NYCRR and/or a site-specific or applicable variance.

B. Workers must sign the entry/exit log upon every entry and exit.

C. The following procedures must be followed when entering the work area.

1. Before entering the work area, Workers must proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
2. Workers must proceed from the clean room, through the shower room and the equipment room, and into the work area.

D. The following procedures must be followed when exiting the work area.

E. Before leaving the work area, remove gross asbestos contamination by brushing, wet cleaning, and/or HEPA vacuuming.

1. In the equipment room, Workers are to remove disposable clothing, but not respirators, and place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
2. Workers are to shower thoroughly while wearing respirators, and then wash respirator with soap and water prior to removal.

F. Upon exiting the shower, Workers are to don new disposable clothing if the work shift is to continue or street clothes to exit the area. Under no circumstances shall Workers enter public, non-work areas in disposable protective clothing.

3.12 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.02 inches of water column within all full enclosure areas relative to adjacent unsealed areas, and that provides a minimum of 4 air changes per hour in the work area during abatement.

B. Such filtration systems must be operated 24 hours per day during the entire Project, until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. Ensure the system includes a series of pre-filters and filters to provide HEPA filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.97% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) must be installed and fully functional to be used during primary unit(s) filter changing and in case of primary failure. Install at least one back-up unit for every five primary units.

E. Upon electric power failure or shut-down of any filtration unit, all abatement activities must stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the work area, including the decontamination enclosures, must be sealed.

F. Provide a manometer with a chart recorder to measure and record negative pressure differential across the work area barriers without interruption 24 hours per day for all OSHA Class I friable asbestos projects.

3.13 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. Remove ACM in accordance with the Contract Documents and the approved Asbestos Abatement Work Plan.

B. Should the area beyond the work area become contaminated with ACM or elevated fiber levels, immediately stop work and institute emergency procedures. Contaminated non-work areas must be isolated and subsequently decontaminated in accordance with procedures established for asbestos removal. All costs incurred from decontaminating such non-work areas and the contents thereof will be borne solely by the Contractor, at no additional cost to the Owner.

C. Perform all asbestos removal work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer's written instructions. Dry removal procedures are not permitted.

D. Sufficiently wet asbestos materials with a low pressure, airless fine spray of amended water to ensure full penetration prior to ACM removal. Re-wet materials that do not display evidence of saturation.

E. Employ a sufficient number of Workers to continuously apply amended water while ACM is being removed. Contain excess water within the work area at all times, and continuously containerize through the use of a HEPA equipped wet/dry vacuum or other adequate methods.

F. Perform cutting, drilling, abrading, or any penetration or disturbance of ACM in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power-operated tools used must be provided with HEPA equipped filtered local exhaust ventilation.

G. Place all removed material into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain work area surfaces free of accumulation of asbestos debris.

H. Power or pressure washers are not permitted for asbestos removal or clean-up procedures.

I. Encapsulate all open ends of pipe and duct insulation not scheduled for removal, using lag cloth.

J. All construction and demolition debris determined by the Asbestos Abatement Project Monitor to be contaminated with asbestos must be handled and disposed of as asbestos waste.

K. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.14 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

A. Clean external surfaces of contaminated containers and equipment 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. The work area personnel are not to enter the airlock.

B. Remove the containers and equipment from the airlock by personnel stationed in the wash room during waste removal operations. Clean the external surfaces of containers and equipment a second time by wet cleaning.

C. 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, dependent upon the physical characteristics of the item, and sealed airtight.

D. Transfer the clean re-containerized items into the airlock that leads to the holding area. Workers in the wash room are not to enter this airlock or the work area until waste removal is finished for that period.

E. Transfer containers and equipment from the airlock and into the holding area by personnel dressed in clean personal protective equipment, and who have entered from uncontaminated areas.

F. Place the cleaned containers of asbestos material and equipment in water tight carts with doors or tops that are to be closed and secured. Maintain these carts in the holding area pending removal. Ensure the carts are wet cleaned and/or HEPA vacuumed at least once each day.

G. Secure the exit from the decontamination enclosure system to prevent unauthorized entry.

H. Where the waste removal enclosure is part of the personal decontamination enclosure, ensure waste removal does not occur during shift changes or when otherwise occupied. Implement precautions to prevent short circuiting and cycling of air outward through the shower and clean room.

3.15 WORK AREA DECONTAMINATION

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, perform decontamination procedures, as specified in 12 NYCRR 56, Subpart 9.1, unless modified by a site-specific or applicable variance.

B. Secure the exit from the decontamination enclosure system to prevent unauthorized entry.

C. Where the waste removal enclosure is part of the personnel decontamination enclosure, ensure waste removal does not occur during shift changes or when otherwise occupied. Implement precautions to prevent short circuiting and cycling of air outward through the shower and clean room.

D. After isolation and critical barriers are removed, the Asbestos Abatement Project Monitor

will inspect the work area for cleanliness. If necessary, perform additional cleaning, as directed by the Asbestos Abatement Project Monitor.

E. As a result of any unsatisfactory visual assessment by the Asbestos Abatement Project Monitor, or should final clearance air sampling results indicate high fiber levels, the affected areas will be required to be cleaned or re-cleaned at no additional expense to the Owner.

3.16 TENT ENCLOSURES (IF APPLICABLE)

A. Tent enclosures may only be used in areas specifically permitted by 12 NYCRR Part 56 or a project site-specific variance issued by the NYSDOL.

B. Restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers, and post caution signs.

C. Remote personal and waste decontamination enclosure systems are not to be constructed or utilized. The personal and waste decontamination enclosure systems must be connected to the work area.

D. Pre-clean the work area. For all objects and equipment that will remain in the restricted area during abatement, seal with 2 layers polyethylene sheeting and tape.

E. For the tent, utilize a single-use barrier constructed with a rigid frame and at least 2 layers of polyethylene sheeting, unless 1 layer of polyethylene sheeting is otherwise permitted by 12 NYCRR 56 and/or a site-specific variance. Ensure all seams are sealed airtight using duct tape and/or spray adhesive.

F. During removals, utilize negative pressure filtration units to maintain negative air pressure inside the tent.

G. Perform ACM removal following procedures described in Article 3.13.

H. Place waste material in properly labeled 6 mil plastic bags or other appropriate containers. Ensure the outside of the bags or containers are wet wiped and/or HEPA vacuumed before being passed into the waste decontamination enclosure system for double-bagging. Utilize watertight carts for transportation of waste bags and containers outside the work area.

I. Subsequent to completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, implement the following decontamination procedures.

1. All bagged asbestos waste and unnecessary equipment must be decontaminated and removed from the work area.
2. All surfaces in the work area must be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and must be decontaminated prior to removal from the work area.
3. The Asbestos Abatement Project Monitor will conduct a visual assessment of the work area for cleanliness and completion of abatement.
4. Apply a thin coat of encapsulant to all surfaces in the work area that were not the subject of removal. In no event is encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
5. After the encapsulant has dried, aggressive final clearance air sampling will be conducted by the Asbestos Abatement Project Monitor.
6. Upon receipt of satisfactory final clearance air sampling results, collapse the tent into

itself, place in suitable disposal bags, and transport to the waste decontamination enclosure. Remove isolation and critical barriers.

3.17 GLOVEBAG REMOVAL (IF APPLICABLE)

A. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications. Conduct removal and disposal in conformance with all regulatory conditions.

B. Restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers, and post caution signs.

C. Pre-clean the work area. Seal all objects and equipment that will remain in the restricted area during abatement, utilizing 2 layers of polyethylene sheeting and tape.

D. Utilize commercially available glovebags of at least 6 mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements.

1. Cut the sides of the glovebag to fit the size of pipe being removed. Insert tools into the attached tool pocket.
2. Place the glovebag around the pipe, and fold and seal the open edges with staples and duct tape. Ensure the glovebag is also sealed at the pipe to form a tight seal.
3. Install openings in the glovebag for the wetting tube and HEPA vacuum hose. Seal the opening to form a tight seal.
4. Conduct smoke testing for all glovebags, with verification by the Asbestos Abatement Project Monitor before removal operations commence. Glovebags that do not pass the smoke test will be required to be resealed and retested.
5. Commence removal after first wetting the materials to be removed. Ensure ACM is continuously wetted. After removal of the ACM, scrub or brush the piping so that no visible ACM remains. Encapsulate any open ends of pipe insulation to remain.
6. After the piping is cleaned, wash down the inside of the glovebag and remove the wetting tube. Collapse the glovebag using the HEPA vacuum. With the ACM at the bottom of the bag, twist and seal with the tape.
7. Place a disposal bag around the glovebag, and detach from the pipe. Seal the disposal bag and transport to the decontamination enclosure.

3.18 RESTORATION OF FACILITIES

A. Remove temporary utilities upon completion of abatement activities and notification of compliance with clearance criteria. Disconnect all temporary power, remove power lockouts, and restore power. Remove all temporary plumbing. Restore area designated for these facilities to its original condition or better.

3.19 DISPOSAL OF ASBESTOS WASTE

A. Store, transport, and dispose of all asbestos waste in accordance with the following regulations, at a minimum.

1. 6 NYCRR Parts 360 and 364
2. 40 CFR 61 – NESHAPS
3. USEPA Asbestos Waste Management Guidance EPA/530-SW85
4. 12 NYCRR 56, Section 10

B. The following conditions apply for transportation of waste and the selected disposal site.

1. Hauler and disposal site are subject to pre-approval by the Owner or Owner's designated representative.
2. Provide 24-hour notification prior to removing any waste from the site. Remove waste from the site only during normal working hours, unless otherwise specified. No waste is to be taken from the site, unless the Asbestos Abatement Contractor and Asbestos Abatement Project Monitor authorizes the release of the waste, as described herein.
3. Coordinate with the Hauler to provide the estimated date and time of arrival at the disposal site.
4. Upon arrival at the project site, the hauler must possess and present to the Asbestos Abatement Project Monitor a valid NYSDEC Part 364 Asbestos Hauler's Permit.
5. Coordinate with the Hauler to inspect material in the transport container prior to the Hauler taking possession and signing the asbestos waste manifests.
6. Unless specifically approved by the Owner or Owner's designated representative, do not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The hauler must travel directly to the disposal site, as identified on the notifications, with no unauthorized stops.

C. The following conditions apply to waste storage containers:

1. Ensure that all waste containers are fully enclosed and lockable (i.e, enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e., open dumpster with canvas cover, etc.), unless specifically permitted by an applicable or site-specific variance.
2. Verify that the truck tags (license plates) match that listed on the 6 NYCRR Part 364 permit.
3. Plasticize and seal the container with a minimum of 2 layers of polyethylene sheeting on the sides and floor. Once on site, keep the waste container locked at all times, except during load out. Do not use the waste container for storage of equipment or supplies.
4. While on-site, label the container with USEPA danger signage in accordance with Paragraph 2.3(D).
5. Stencil the NYSDEC Asbestos Hauler's Permit number on both sides and the back of the container.
6. Do not permit the container to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

D. The following conditions apply to the Owner's and Hauler's asbestos waste manifests:

1. Utilize an asbestos waste manifest in conjunction with the asbestos hauler's manifest.
2. Verify the manifests have the appropriate signatures prior to any waste being removed from the site.
3. Retain copies of the completed hauler's manifest.
4. Coordinate with the disposal facility to ensure return of the original hauler's manifest after waste is disposed of.
5. Forward copies of hauler's manifest to the Abatement Project Monitor within 14 calendar days of the waste container being removed from the site.
6. Utilize waste disposal logs. Maintain this log on-site at all times. Submit originals of all waste disposal manifests, seals, and disposal logs to the Owner with the final close-out documentation.

END OF SECTION 028200

SECTION 028300 – LEAD HAZARD CONTROL ACTIVITIES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes requirements for work activities affecting building materials in proposed renovation areas that are impacted with lead-based paint (LBP) or lead-containing materials (LCM).

1. LBP is defined as paint or other surface coating that has a lead content greater than 5,000 parts per million (or 0.5 percent by weight or 1 milligram per square centimeter). LCM is herein defined as paint or other surface coating that contains a detectable concentration of lead, and can include LBP and non-LBP. For purposes of this project, defined LBP or LCM may include ceramic tiles, and/or porcelain surfaces in addition to "paint" coatings.
2. The project includes demolition and renovation of building materials that are impacted with LCM. LBP has not been identified in areas of work based on prior testing; however, any untested painted surfaces encountered during the work shall be assumed LBP unless otherwise confirmed.
3. Based on site usages, certain areas of the facility would be considered a "child-occupied facility" per United States Environmental Protection Agency (EPA) requirements for LBP abatement. EPA requirements for LBP abatement would be applicable for any disturbance of known or assumed LBP in child-occupied areas. OSHA 1926.62 requirements would apply to non-child-occupied areas of the facility or child-occupied areas where affected LCM does not exceed the threshold for LBP. All areas of work must be cleaned of lead-containing paint debris and dust.
4. The Contractor will be responsible to furnish all labor, materials, facilities, equipment, installation services, employee training, notifications, permits, licenses, certifications, and agreements necessary to perform the specified work. Perform work in accordance with the Contract Documents, the latest regulations from the Occupational Safety and Health Administration (OSHA), the U.S. Environmental Protection Agency (EPA), the State of New York, and all other applicable federal, state and local agencies. Whenever the requirements of the above references conflict or overlap, the most stringent provision shall apply.
5. Work that will impact LBP or LCM must be identified and coordinated relative to the full scope of work for the project.
6. Verify the quantities of materials to be removed and extent of LBP or LCM to be mitigated/remediated, relative to the requirements described herein and the full scope of work for the project, as the basis for the bid. Drawings depict the areas in which the work will be conducted. Selected surfaces have been tested and determined to be LCM, and are identified in the hazardous materials survey report for the project. Painted surfaces that have not been tested must be assumed to contain lead, unless proven otherwise through sampling and analysis or testing with a x-ray fluorescence (XRF) analyzer.
7. At a minimum, workers shall have Lead Awareness training prior to commencement of the work, and be trained in accordance with OSHA Regulations 29 CFR 1926.62 and 1919.120. Additional training and certification shall be provided for LBP abatement work, as required.

B. Coordinate with the Owner or the Owner's designated representative for the removal of

movable furnishings and equipment, including miscellaneous small items such as tools, stored materials, files, and records, prior to commencing work in each established work area.

C. Perform all work in such a manner as to minimize the risk of exposure to personnel, to prevent exposure to occupants, and to minimize the risk of release of lead or lead-containing debris to the environment. Heating these materials may produce fumes that are highly toxic to Workers and harmful to the environment. Removal of these materials from the structure may produce dust and chips that must be collected and contained for subsequent management and disposal.

D. Perform all work in strict accordance with the Contract Documents and all governing codes, rules, and regulations. The information contained herein will be considered part of the Contract Documents. Where conflicts occur between the Contract Documents and applicable codes, rules, and regulations, the more stringent procedure(s) will apply.

E. Take notice, and make employees aware, of occupational safety hazards associated with the LBP or LCM work and other work being performed on-site. Comply with any site-specific policies or safety training that may be required by the Owner.

F. Protection of Work to Remain: Preserve and protect building materials and finishes, electrical equipment, heating and ventilation equipment, and other components and items present within each work area that is not removed or remediated. Perform work without damage to or contamination of adjacent areas. Where such areas are contaminated, specified procedures for containment must be followed, and contamination must be cleaned up. Where adjacent areas are damaged, restoration must be to original condition.

G. Title to Materials: Waste with lead-containing materials resulting from the work, except as otherwise indicated, will remain the property of the Owner. Disposal and maintaining records of disposal will be the responsibility of the Contractor.

1.2 REGULATIONS AND CODES

A. Comply with the codes and standards listed below, except where more stringent requirements are shown and/or specified. Specific regulations, standards, and guidance documents are listed for informational purposes due to relevance to the work described herein. Specific regulations, standards, and guidance documents that are not listed may also be applicable to the work.

1. Federal:
    a. American National Standard Institute (ANSI)
        1) ANSI Z88.2-80, Practices for Respiratory Protection
    b. Code of Federal Regulations (CFR)
        1) 29 CFR 1910.1200, “Hazard Communication”
        2) 29 CFR 1910.134, “Respiratory Protection”
        3) 29 CFR 1926, “Construction Industry”
        4) 29 CFR 1926.62, “Lead Exposure in Construction”
        5) 40 CFR 260, “Hazardous Waste Management System: General”
        6) 40 CFR 261, “Identification and Listing of Hazardous Waste”
        7) 40 CFR 262, “Standards Applicable to Generators of Hazardous Waste”
        8) 40 CFR 263, “Standards Applicable to Transporters of Hazardous Waste”
        9) 40 CFR 265, “Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities”
        10) 40 CFR 268, “Land Disposal Restrictions”
        11) 49 CFR 171-172, “Transportation Standards”

c. Occupational Safety and Health Administration (OSHA)
d. United States Department of Transportation (USDOT)
e. United States Environmental Protection Agency (USEPA)
    1) Toxic Substance Control Act (TSCA)
    2) Renovation, Repair, and Painting (RRP) Rule
f. United States Department of Housing and Urban Development (HUD)
    1) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards"

2. New York State:
    a. Compilation of the Rules and Regulations of the State of New York (NYCRR)
        1) 6 NYCRR, Part 360, "Solid Waste Management Facilities"
        2) 6 NYCRR, Part 364, "Waste Transporter Permits"
        3) 6 NYCRR, Part 370, "Hazardous Waste Management System – General"
        4) 6 NYCRR, Part 371, "Identification and Listing of Hazardous Wastes"
        5) 6 NYCRR, Part 372, "Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities"
        6) 6 NYCRR, Part 373, "Hazardous Waste Management Facilities"
    b. New York State Department of Environmental Conservation (NYSDEC)
    c. New York State Department of Health (NYSDOH)
    d. New York State Department of Transportation (NYSDOT)

1.3 ENVIRONMENTAL CONSULTANT

A. An Environmental Consultant will be retained by the Owner under separate contract, to represent the Owner in matters pertaining to lead hazard control or lead abatement work performed in accordance with these specifications and requirements.

B. If lead abatement is required, the Environmental Consultant is authorized by the Owner to provide monitoring during work activities, to interpret procedures and to enforce provisions of the contract documents and USEPA regulations pertaining to abatement of LBP.

C. If, in the opinion of the Environmental Consultant, there is a substantial non-conformance with the contract documents and/or a situation presenting a health hazard to workers or to the Owner's employees, the Environmental Consultant will be authorized to stop work.

D. The Environmental Consultant's role in health and safety matters does not alleviate the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the local, state, or federal government.

E. Where applicable, the Environmental Consultant will provide work area clearance pursuant to requirements of 40 CFR 745.227(e)(8).

    1. Should any visual clearance or clearance wipe sample(s) fail to meet clearance criteria, the Contractor will be directed to re-clean the work area and new clearance wipe samples will be collected. The Contractor will be responsible for any and all costs incurred due to clearance sample failures.

1.4 SUBMITTALS

A. Submit in accordance with applicable provisions of the Contract Documents.

B. Pre-Work Submittals: Submit a Lead Hazard Control Work Plan a minimum of 10 days prior to the anticipated commencement of work activities affecting LCM and expedite any

resubmissions. Provide the following information, at a minimum, in the Lead Hazard Control Work Plan:

1. Description of work procedures (lead safe work practices), cleaning procedures, and procedures for collection and disposal of waste materials.
2. Safety Data Sheets (SDS) for any chemicals to be used
3. Copies of training documentation and certification for workers handling LCM. At a minimum, workers shall have Lead Awareness training prior to commencement of the work, and be trained in accordance with OSHA Regulations 29 CFR 1926.62 and 1919.120.
4. Disposal site/landfill permit

C. If LBP is encountered during work and requires abatement, submit the following additional information, prior to commencement of LBP abatement activities:

1. Training documentation and certification for the company, supervisors, and workers pursuant to 40 CR 745.
2. Provide an Occupant Protection Plan that describes the work practices and precautionary measures that will be utilized at the facility to protect building occupants from lead exposure during LBP abatement activities.
3. SDS for proposed detergents or cleaning products, chemical strippers, and/or other products proposed for use during work with LBP.

D. Close-out Submittals: Within 30 days of project completion, and prior to final payment, submit a closeout package to include:

1. Copy of laboratory analysis report for waste characterization sampling and analysis, as described in Article 3.9.
2. Submit originals of all waste disposal manifests, as applicable, and waste disposal receipts within 30 days of transport
3. Certification of Lead Hazard Control Work: The Contractor's Supervisor shall certify in writing that all lead hazard control work and waste disposal has been completed in accordance with this specification and all applicable federal and state regulations.

PART 2 – PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT

A. The minimum personal protective equipment (PPE) is Level D Modified (hard hat, safety glasses, and steel-toed boots), at all times at the project site both inside and outside the work areas. Select and use additional requisite PPE, including respiratory protection and disposable protective clothing, pursuant to project conditions and requirements and OSHA regulations and procedures.

B. For use of respiratory protection, ensure that respirators and filters are selected, used, maintained, and stored pursuant to an established respiratory protection program that is compliant with OSHA 29 CFR 1910.134 requirements. Provide for surveillance of working conditions to ensure the selected respirator provides adequate protection, as defined in OSHA 29 CFR 1926.1101.

C. Provide workers and authorized visitors with suitable PPE whenever they enter the work area.

2.2 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to each work area where LBP or LCM will be disturbed. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

B. Provide danger signs in vertical format conforming to 29 CFR 1926.62, minimum size of 20 inches by 14 inches, and displaying the following legend:

DANGER
LEAD WORK AREA
MAY DAMAGE FERTILITY OR THE UNBORN CHILD
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM
DO NOT EAT, DRINK, OR SMOKE IN THIS AREA

C. Provide labels for waste containers in accordance with applicable USEPA, USDOT, and NYSDOT regulations.

2.3 POLYETHYLENE SHEETING

A. Unless otherwise indicated, use polyethylene sheeting that is at least 6 mil fire retardant sheeting.

2.4 HEPA VACUUM EQUIPMENT

A. Conduct all vacuuming of surfaces within work area using HEPA filter equipped industrial vacuums conforming to ANSI Z9.2.

B. For removal activities that may generate dust, provide tools and specialized equipment with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

2.5 CLEANING OR PAINT REMOVAL PRODUCTS

A. Provide products that are considered suitable for the types of surfaces being cleaned or treated. Do not utilize products that could produce noxious fumes, contain methylene chloride, or may result in staining, discoloration, or other damage to the substrate materials.

2.6 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide disposal drums and/or containers, and appropriate labels that comply with applicable USEPA, USDOT, and NYSDOT regulations.

2.7 WATER AND ELECTRICAL

A. Coordinate water and electrical service with the Owner prior to initiation of work. Verify suitability and location of all connections.

2.8 OTHER PRODUCTS AND MATERIALS

A. For other products or materials that are required for use during work activities, ensure compliance with local, state, and federal codes and regulations, if applicable. Furnish and utilize industry standard equipment and materials. Do not furnish equipment or materials

that have been altered in such a manner that violates local, state, and/or federal codes and regulations, or presents unnecessary health and safety risks.

PART 3 – EXECUTION

3.1 NOTIFICATION

A. Notify the Owner or Owner's designated representative a minimum of 5 business days prior to initiating work that will affect LBP or LCM.

B. For any work that is considered to be LBP abatement requiring USEPA notification, ensure that such notification is provided a minimum of 5 business days prior to initiating work.

3.2 EMPLOYEE PROTECTION

A. Comply with all applicable OSHA requirements. Refer to Article 2.1 for details pertaining to PPE.

3.3 PERSONAL AIR MONITORING

A. Personal air monitoring required by the OSHA is the responsibility of the Contractor, not the Owner or Owner's representative.

3.4 PROJECT SUPERVISOR

A. Designate a full-time Project Supervisor, with the following minimum qualifications.

1. The Project Supervisor must have a minimum of 3 years experience with lead safe work practices and performing work per requirements of the OSHA 29 CFR 1926.62 standard.
2. The Project Supervisor must be able to read and write English fluently, and be able to communicate in the primary language of the workers.

B. Ensure the Project Supervisor is on-site at all times during work activities that affect LBP or LCM and is responsible for the performance of the work. The designated Project Supervisor will be the primary point of contact relative to the work activities associated with LBP or LCM.

3.5 WORK AFFECTING LBP OR LCM

A. Remove, contain, collect, and dispose of LBP or LCM that are disturbed during the project, in addition to dust and debris that are generated during the work activities affecting the LBP or LCM. Perform work using lead safe work practices and in compliance with applicable federal, state, and local regulations.

B. Disturbance methods must be performed in a manner that will control lead hazards and limit worker exposure to lead hazards. Ensure that provisions are implemented to minimize the generation of dust during the demolition and removal operations. Wherever possible, remove existing building components without cutting, heating, abrading, or otherwise significantly disturbing the LBP or LCM.

C. Prohibited Methods: The following methods must not be used for work affecting surfaces with LBP or LCM.

1. Open flame burning or torching.
2. Machine sanding or grinding without a HEPA local exhaust control.
3. Abrasive blasting or sandblasting without HEPA local exhaust control.
4. Heat guns operating above 1,100 degrees Fahrenheit or charring the paint.
5. Dry sanding or dry scraping, except dry scraping in conjunction with heat guns or within 1 foot of electrical outlets.
6. Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance per 16 CFR 1500.3, and/or a hazardous chemical per 29 CFR 1910.1200 or 29 CFR 1926.59, as applicable to the work.

D. Utilize work area containment, signage and barriers, lead safe removal and cleaning methods, change areas, showers/wash facilities, employee monitoring, recordkeeping, and other applicable work practices, as necessary to complete the work in compliance with OSHA 29 CFR 1926.62.

E. Isolate heating, ventilation, and air conditioning (HVAC) equipment within and adjacent to work areas where LBP or LCM will be disturbed. If possible, shut down and lock out the building HVAC systems servicing the work area. For contained work areas, seal off all openings, including, but not limited to, windows, diffusers, grills, electrical outlets and boxes, doors, and any other penetrations of the work area enclosure, using 2 layers of at least 6 mil fire retardant polyethylene sheeting.

F. Ensure that waste with lead is properly handled during each project phase, and packaged and maintained in appropriate containers. Implement provisions to prevent lead contamination of the surrounding environment. Provide for sampling and analysis and disposal of waste with lead, as described in Article 3.9.

3.6 WORK AREA CLEANING

A. The following conditions apply to cleaning activities for interior work areas.

1. Clean all surfaces within the established work area using HEPA vacuuming and wet washing/wiping methods.
2. At a minimum, perform an initial clean with HEPA vacuum, followed by wet washing/wiping, followed by a final pass with HEPA vacuum.
3. Commence each cleaning phase at the ceiling level and finish at the floor level.
4. For work areas with multiple rooms or distinct functional spaces, sequence cleaning from areas that are generally considered to be in the cleanest condition to dirtier conditions and avoid passing through rooms or spaces already cleaned.
5. Perform wet washing/wiping using a detergent or cleaning agent that is suitable for cleaning of dust from surfaces. Submit information for proposed detergents or cleaning products pursuant to requirements of Paragraph 1.4(B). Select detergents or cleaning agents in consideration of the types of surfaces to be cleaned, such that the surface finishes will not be damaged. Mix and use cleaning agents pursuant to the manufacturer's instructions.
6. Collect all residual waste material by HEPA vacuum. Sweeping of materials is prohibited. Cleaning with compressed air and/or other methods that could unnecessarily spread and disperse dust to other areas are also not permitted.
7. Perform clean-up operations as the work progresses and on a daily basis at a minimum. Waste debris must be properly containerized at all times.

3.7 WORK AREA CLEARANCE

A. Minimum work area clearance requirements include a visual inspection by the Project Supervisor to verify that no visible accumulations of debris or dust remain. At the option of the Owner, an Environmental Consultant may be retained to perform an additional visual inspection and/or provide for wipe sampling and analysis. If work activities are determined to be classified as LBP for a child-occupied area, visual inspection and wipe sampling and analysis must be completed by the Environmental Consultant.

B. If applicable, clearance wipe samples will be collected from representative locations of floor surfaces and submitted to a NYSDOH ELAP certified laboratory for analysis of total lead. Clearance wipe samples will be considered satisfactory provided analytical results are at or below the EPA clearance standard for floors.

C. It will be the responsibility of the Contractor to re-clean work areas, in the event that visual clearance or wipe sample clearance criteria are not satisfied.

3.8 RESTORATION OF FACILITIES

A. Remove any installed temporary utilities upon completion of abatement activities and notification of compliance with clearance criteria. Disconnect all temporary power, remove power lockouts, and restore power if applicable. Remove all temporary plumbing.

3.9 DISPOSAL OF WASTE WITH LEAD

A. Prior to disposal of waste with lead, provide for the collection and laboratory analysis of a waste characterization sample(s). Provide for laboratory analysis for toxicity in accordance with USEPA methods (i.e., Toxicity Characteristic Leaching Procedure (TCLP) lead). Laboratory analysis must be performed by a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory.

   1. Waste materials with a TCLP lead concentration equal to or greater than the TCLP limit for lead of 5 parts per million must be classified as hazardous waste. Package, transport, and dispose of hazardous waste in accordance with all requirements of the agencies listed in Article 1.2. Ensure that the time periods for on-site storage of hazardous wastes do not exceed maximum timeframes permitted by federal, state, and local regulations.
   2. Waste materials with a TCLP lead concentration less than the TCLP limit for lead of 5 parts per million can be processed and disposed of as non-hazardous waste, provided there are no other characteristics that would render the waste as hazardous. Package, transport, and dispose of non-hazardous waste in accordance with all requirements of the agencies listed in Article 1.2.

B. Provide waste disposal documentation as specified in Article 1.4.

END OF SECTION 028300

SECTION 040100 - MAINTENANCE OF MASONRY

PART 1 GENERAL

1.1 Section Includes

A. Water cleaning of Brick surfaces.

B. Replacement of Brick units.

C. Repointing mortar joints.

D. Repair of damaged masonry.

1.2 Related Requirements

A. Section 040511 - Masonry Mortaring and Grouting.

B. Section 042000 - Unit Masonry: Brick masonry units.

1.3 Reference Standards

A. ACI SPEC-548.14 - Specification for Repairing Concrete with Epoxy Mortar; 2014.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

C. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.4 Administrative Requirements

A. Preinstallation Meeting: Convene one week prior to commencing work of this section.
   1. Require attendance of parties directly affecting work of this section.
   2. Review conditions of installation, installation procedures, and coordination with related work.

1.5 Submittals

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on cleaning compounds.

C. Product Data: Provide manufacturer's product data and MSDS sheets on CFRP systems, including physical and chemical characteristics, material specifications for each component, limitations on use of system, construction or application instructions, maintenance instructions, and general manufacturer's recommendations regarding each system.

D. Shop Drawings: For CFRP, indicate details of fiber architecture, fiber type, dimensions, number and thickness of layers, direction of fiber layers, sequence of layer applications, lap splices, joint and end details, anchorage of CFRP composite system, proposed connections to diaphragms and adjacent walls, and locations of CFRP. Provide shop drawings signed and sealed by Professional Engineer.

E. Samples: Submit four samples of decorative block, face brick, and stone units to illustrate matching color, texture and extremes of color range.

F. Manufacturer's Instructions: For cleaning materials, indicate special procedures, conditions requiring special attention.

1.6 Quality Assurance - Masonry Work

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
   1. Maintain one copy of each document on project site.

B. Restorer: Company specializing in masonry restoration with minimum three years of documented experience.

1.7 Delivery, Storage, and Handling

A. Deliver masonry neatly stacked and tied on pallets. Store clear of ground with adequate waterproof covering.

B. Store restoration cleaner materials in manufacturer's packaging.

C. Deliver polymer resin materials in original factory-sealed containers with manufacturer's labels intact and legible with verification of product nomenclature, manufacturer's name, product identification and batch number, date of manufacture, and shelf life or expiration date. Do not use polymer resin materials that have exceeded shelf life.

D. Store materials in covered, well-ventilated area protected from exposure to detrimental conditions, including airborne contaminants, dirt, dust, sunlight, temperatures lower than 40 degrees F or greater than 100 degrees F, rainfall, sparks, or flame, and in accordance with the manufacturer's requirements. Store polymer resins and hardeners in separate area from construction materials that can absorb odors.

1.8 Field Conditions - Masonry Work

A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.

B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 Manufacturers

A. Restoration and Cleaning Chemicals:
1. Diedrich Technologies, Inc: www.diedrichtechnologies.com/#sle.
2. PROSOCO; Sure Klean: www.prosoco.com/#sle.

2.2 Cleaning Materials

A. Cleaning Agent: Detergent type.

B. Cleaning Agent: 0.5 lb of sodium hydrosulphite mixture to one gallon of water.

C. Acid Solution: Clean, stain free, commercial hydrochloric (muriatic) acid, mixed one part to 10 parts of potable water.

2.3 Mortar Materials

A. Comply with requirements of Section 040511.

2.4 Masonry Materials

A. Brick: Section 042000.

PART 3 EXECUTION

3.1 Examination

A. Verify that surfaces to be cleaned are ready for work of this section.

3.2 Preparation

A. Protect surrounding elements from damage due to restoration procedures.

B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.

C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

E. Close off adjacent occupied areas with dust proof and weatherproof partitions.

F. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.

G. Do not allow cleaning runoff to drain into sanitary or storm sewers.

3.3 Preparation - Retrofit Accessories

A. Demolition:

B. Removal:

C. Replacement:
1. Replace structural components as needed.

3.4 Rebuilding

A. Cut out damaged and deteriorated masonry with care in a manner to prevent damage to any adjacent remaining materials.

B. Support structure as necessary in advance of cutting out units.

C. Cut away loose or unsound adjoining masonry as directed.

D. Build in new units following procedures for new work specified in other section(s).

E. Mortar Mix: Colored and proportioned to match existing work.

F. Ensure that anchors are correctly located and built in.

G. Install built in masonry work to match and align with existing, with joints and coursing true and level, faces plumb and in line. Build in all openings, accessories and fittings.

3.5 Repointing

A. Perform repointing prior to cleaning masonry surfaces.

B. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch depth or until sound mortar is reached.

C. Use power tools only after test cuts determine no damage to masonry units will result.

D. Do not damage masonry units.

E. When cutting is complete, remove dust and loose material by brushing.

F. Premoisten joint and apply mortar. Pack tightly in maximum 1/4 inch layers. Form a smooth, compact concave joint to match existing.

G. Moist cure for 72 hours.

3.6 Cleaning Existing Masonry

A. Cleaning Detergent: Brush clean masonry surfaces at CMU locations with cleaning agent in accordance with the manufacturer's instructions. Saturate masonry with clean water and flush loose mortar and dirt.

3.7 Restoration Cleaning

A. Clean surfaces and remove large particles with wood scrapers or non-ferrous wire brush.

B. Spray coat masonry with restoration cleaner, mixed into solution in accordance with manufacturer's instructions.

C. Provide a second application if required to match mock-up area.

D. Allow sufficient time for solution to remain on masonry and agitate with soft fiber brush or sponge.

E. Rinse from the bottom up with potable water applied at 400 psi and at a rate of 4 gal/min.

3.8 Aging

A. Rub in new masonry work to match, as close as possible, adjacent original work.
1. Use carbon black in small amounts, rubbing in well with burlap rags.

B. After each application, dust off surplus and wash down with low pressure hose. Allow surface to dry before proceeding with succeeding applications.

C. Continue process until acceptance.

3.9 Cleaning

A. Immediately remove stains, efflorescence, or other excess resulting from the work of this section.

B. Remove excess mortar, smears, and droppings as work proceeds and upon completion.

C. Clean surrounding surfaces.

END OF SECTION 040100

SECTION 040511 - MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Mortar for masonry.

B. Grout for masonry.

1.2 RELATED REQUIREMENTS

A. Section 042000 - Unit Masonry: Installation of mortar and grout.

1.3 REFERENCE STANDARDS

A. ASTM C5 - Standard Specification for Quicklime for Structural Purposes; 2024.

B. ASTM C91/C91M - Standard Specification for Masonry Cement; 2018.

C. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2024.

D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2018.

E. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.

F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2018.

G. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.

H. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2018.

I. ASTM C476 - Standard Specification for Grout for Masonry; 2020.

J. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2020.

K. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2016.

L. ASTM C1019 - Standard Test Method for Sampling and Testing Grout for Masonry; 2025.

M. ASTM C1072 - Standard Test Methods for Measurement of Masonry Flexural Bond Strength; 2019.

N. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms; 2022.

O. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.

P. ASTM E514/E514M - Standard Test Method for Water Penetration and Leakage Through Masonry; 2020.

Q. ASTM E518/E518M - Standard Test Methods for Flexural Bond Strength of Masonry; 2022.

R. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.

C. Samples: Submit two samples of mortar, illustrating mortar color and color range.

D. Reports: Submit reports on mortar indicating compliance of mortar to property requirements of ASTM C270 and test and evaluation reports per ASTM C780.

E. Reports: Submit reports on grout indicating compliance of component grout materials to requirements of ASTM C476 and test and evaluation reports to requirements of ASTM C1019.

F. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

G. Manufacturer's Installation Instructions: Submit packaged dry mortar manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
   1. Maintain one copy of each document on project site.

1.6 PRECONSTRUCTION TESTING

A. Mortar Mixes: Test mortars prebatched by weight in accordance with ASTM C780 recommendations for preconstruction testing.

1. Test results will be used to establish optimum mortar proportions and establish quality control values for construction testing.

B. Grout Mixes: Test grout batches in accordance with ASTM C1019 procedures.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.8 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

B. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MORTAR AND GROUT APPLICATIONS

A. At Contractor's option, mortar and grout may be field-mixed from packaged dry materials, made from factory premixed dry materials with addition of water only, or ready-mixed.

B. Mortar Mix Designs: ASTM C270, Property Specification.
1. Historic Exterior Masonry Pointing Mortar: Type O; color to match existing.
2. Exterior, Loadbearing Masonry: Type N.
3. Exterior, Non-loadbearing Masonry: Type N.

C. Grout Mix Designs:
1. Bond Beams and Lintels: 3,000 psi strength at 28 days; 8-10 inches slump; provide premixed type in accordance with ASTM C 94/C 94M.
a. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

2.2 MATERIALS

A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
1. Color: _____.

B. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
   1. Type: Type N.
   2. Color: _____.

C. Packaged Dry Material for Mortar for Repointing: Premixed Portland cement, graded sand, and chemical admixtures complying with ASTM C91/C91M with the addition of water only.
   1. Color: To match adjacent mortar color.

D. Packaged Dry Material for Mortar for Repointing: Premixed Portland cement, hydrated lime, and graded sand; capable of producing Type O mortar in accordance with ASTM C270 with the addition of water only.
   1. Color: _____.

E. Packaged Dry Material for Grout for Masonry: Premixed cementitious materials and dried aggregates; capable of producing grout of the specified strength in accordance with ASTM C476 with the addition of water only.

F. Portland Cement: ASTM C150/C150M.
   1. Type: Type I - Normal; ASTM C150/C150M.
   2. Color: Color as required to produce approved color sample.

G. Masonry Cement: ASTM C91/C91M.
   1. Type: Type N; ASTM C91/C91M.

H. Hydrated Lime: ASTM C207, Type S.

I. Quicklime: ASTM C5, non-hydraulic type.

J. Mortar Aggregate: ASTM C144.

K. Grout Aggregate: ASTM C404.

L. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M.

M. Water: Clean and potable.

N. Bonding Agent: Latex type.

2.3 MORTAR MIXING

A. Thoroughly mix mortar ingredients using mechanical batch mixer, in accordance with ASTM C270 and in quantities needed for immediate use.

B. Maintain sand uniformly damp immediately before the mixing process.

C. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio; mix in accordance with manufacturer's instructions, uniform in coloration.

D. Do not use anti-freeze compounds to lower the freezing point of mortar.

E. If water is lost by evaporation, re-temper only within two hours of mixing.

2.4 GROUT MIXING

A. Mix grout in accordance with ASTM C94/C94M.

B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

C. Add admixtures in accordance with manufacturer's instructions; mix uniformly.

D. Do not use anti-freeze compounds to lower the freezing point of grout.

PART 3 EXECUTION

3.1 PREPARATION

A. Apply bonding agent to existing concrete surfaces.

B. Plug clean-out holes for grouted masonry with brick masonry units. Brace masonry to resist wet grout pressure.

3.2 INSTALLATION

A. Install mortar and grout to requirements of section(s) in which masonry is specified.

B. Work grout into masonry cores and cavities to eliminate voids.

C. Do not install grout in lifts greater than 16 inches without consolidating grout by rodding.

D. Do not displace reinforcement while placing grout.

E. Remove excess mortar from grout spaces.

3.3 GROUTING

A. Perform all grouting by means of low-lift technique. Do not employ high-lift grouting.

B. Low-Lift Grouting:

1. Limit height of pours to 12 inches.
2. Limit height of masonry to 16 inches above each pour.
3. Pour grout only after vertical reinforcing is in place; place horizontal reinforcing as grout is poured. Prevent displacement of bars as grout is poured.
4. Place grout for each pour continuously and consolidate immediately; do not interrupt pours for more than 1-1/2 hours.

END OF SECTION 040511

SECTION 05 12 00 - STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Structural steel framing members.

B. Base plates, shear stud connectors and expansion joint plates.

C. Grouting under base plates.

1.2 RELATED REQUIREMENTS

A. Section 05 50 00 - Metal Fabrications: Steel fabrications affecting structural steel work.

1.3 REFERENCE STANDARDS

A. AISC (MAN) - Steel Construction Manual; 2023, with Errata (2024).

B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2022.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

D. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.

E. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished; 2018.

F. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

G. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

H. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts; 2021a.

I. ASTM A563M - Standard Specification for Carbon and Alloy Steel Nuts (Metric); 2021a.

J. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.

K. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.

L. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

M. ASTM F436/F436M - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions; 2019.

N. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2020.

O. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

P. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).

Q. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).

R. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172; 2019.

S. RCSC (HSBOLT) - Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections; 2020.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:

1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.

2. Connections not detailed.

3. Indicate cambers and loads.

4. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.

C. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.

D. Mill Test Reports: Indicate structural strength, destructive test analysis and non-destructive test analysis.

E. Fabricator Test Reports: Comply with ASTM A1011/A1011M.

F. Materials Test Reports: Submit independent test results or engineered performance analysis of structural thermal-break pad performance in bearing or slip-critical connections where shear and moment loads are applied.

G. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

H. Designer's Qualification Statement.

I. Fabricator's Qualification Statement.

1.5 QUALITY ASSURANCE

A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."

B. Fabricator: Company specializing in performing the work of this section with minimum 10 years of documented experience.

C. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and no more than 12 months before start of scheduled welding work.

D. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

E. Design connections not detailed on drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.1 MATERIALS

A. Steel Angles and Plates: ASTM A36/A36M.

B. Steel W Shapes and Tees: ASTM A992/A992M.

C. Rolled Steel Structural Shapes: ASTM A992/A992M.

D. Cold-Formed Structural Tubing: ASTM A500/A500M, Grade C.

E. Pipe: ASTM A53/A53M, Grade B, Finish black.

F. Shear Stud Connectors: Made from ASTM A108 Grade 1015 bars.

G. High-Strength Structural Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, with matching compatible ASTM A563 or ASTM A563M nuts and ASTM F436/F436M washers.

H. Unheaded Anchor Rods: ASTM F1554, Grade 36, plain, with matching ASTM A563 or ASTM A563M nuts and ASTM F436/F436M Type 1 washers.

I. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

J. Grout: ASTM C1107/C1107M; Non-shrink; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.

1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch.

2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.

K. Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

L. Touch-Up Primer for Galvanized Surfaces: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

2.2 FABRICATION

A. Shop fabricate to greatest extent possible.

B. Continuously seal joined members by continuous welds. Grind exposed welds smooth.

C. Fabricate connections for bolt, nut, and washer connectors.

2.3 FINISH

A. Prepare structural component surfaces in accordance with SSPC-SP 3.

B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, or in contact with concrete.

C. Galvanize structural steel members to comply with ASTM A123/A123M. Provide minimum 1.7 oz/sq ft galvanized coating.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.2 ERECTION

A. Erect structural steel in compliance with AISC 303.

B. Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.

C. Field weld components indicated on shop drawings.

D. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".

E. Do not field cut or alter structural members without approval of Architect.

F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

G. Grout solidly between column plates and bearing surfaces, complying with manufacturer's instructions for nonshrink grout. Trowel grouted surfaces smooth, splaying neatly to 45 degrees.

3.3 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

3.4 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.

END OF SECTION

SECTION 057300 - DECORATIVE METAL RAILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Railing and guardrail assemblies.

B. Wall-mounted handrails and guardrails.

C. Free-standing railings at steps.

D. Floor-mounted railing and guardrail assemblies.

1.2 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2017.

C. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.

D. ASTM A554 - Standard Specification for Welded Stainless Steel Mechanical Tubing; 2021.

E. ASTM A555/A555M - Standard Specification for General Requirements for Stainless Steel Wire and Wire Rods; 2022.

F. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

G. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings; 2020.

H. ASTM B135/B135M - Standard Specification for Seamless Brass Tube; 2017.

I. ASTM B248 - Standard Specification for General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar; 2022.

J. ASTM B248M - Standard Specification for General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar (Metric); 2022.

K. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2020.

L. ASTM E488/E488M - Standard Test Methods for Strength of Anchors in Concrete Elements; 2022.

M. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2021.

N. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

O. AWS C3.4M/C3.4 - Specification for Torch Brazing; 2016.

P. AWS C3.5M/C3.5 - Specification for Induction Brazing; 2016, with Amendment (2017).

Q. AWS C3.9M/C3.9 - Specification for Resistance Brazing; 2020.

R. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2022).

S. AWS D1.6/D1.6M - Structural Welding Code - Stainless Steel; 2017, with Amendment (2021).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Meeting: Schedule and conduct a preinstallation meeting one week before starting work of this section. Attendees shall include, but not be limited to:
   1. Contractor.
   2. Architect.
   3. Owner's representative.
   4. Other subcontractors of adjacent work.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturer's product data, including description of materials, components, finishes, fabrication details, glass, anchors, and accessories.

C. Shop Drawings: Indicate railing system elevations and sections, details of profile, dimensions, sizes, connection attachments, anchorage, size and type of fasteners, and accessories. Indicate anchor and joint locations, brazed connections, transitions, and terminations.

D. Samples: Submit one (1) of each item below for each type and condition shown.
   1. Railing: 12 inch long section of handrail illustrating color, finish and connection detail.

E. Test Reports: Submit test reports from an independent testing agency showing compliance with specified design and performance requirements.

F. Manufacturer's/Fabricator's Installation Instructions.

G. Maintenance Data: Manufacturer's instructions for care and cleaning.

H. Manufacturer's qualification statement.

I. Installer's qualification statement.

J. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than five years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.
   1. Provide company, field supervisors, and installers that hold active ANSI accredited certifications in appropriate categories for work specified.

C. Templates: Supply installation templates, reinforcing, and required anchorage devices.

1.6 MOCK-UPS

A. Provide mock-up of railing system and guardrail, 2 feet long by 3 feet wide, illustrating each type of material and finish.

B. Locate where directed on plans and interior elevations.

C. Mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in factory-provided protective coverings and packaging.

B. Protect materials against damage during transit, delivery, storage, and installation at site.

C. Inspect materials upon delivery for damage. Repair damage to be indistinguishable from undamaged areas; if damage cannot be repaired to be indistinguishable from undamaged parts and finishes, replace damaged items.

D. Prior to installation, store materials and components under cover in a dry location.

1.8 FIELD CONDITIONS

A. Do not install railings until project is enclosed and ambient temperature of space is minimum 65 degrees F and maximum 95 degrees F.

B. Maintain ambient temperature of space at minimum 65 degrees F and maximum 95 degrees F for 24 hours before, during, and after railing installation.

1.9 WARRANTY

A. Warranty: Manufacturer's standard one year warranty against defects in materials, fabrication, finishes, and installation commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Decorative Metal Railing Components:
1. C. R. Laurence: www.crlaurence.com
2. Lavi Industries: www.lavi.com
3. Indoff: www.indoff.com
4. Substitutions: See Section 016000 - Product Requirements.

2.2 RAILING SYSTEMS

A. Railing and Guardrail Assembly Systems - Factory or shop-fabricated, design intent to match existing, to suit historic/architectural project conditions, and for proper connection to building elements, and in largest practical sizes for delivery to site.
1. Performance Requirements: Design and fabricate railings and anchorages to resist the following loads without failure, damage, or permanent set; loads do not need to be applied simultaneously.
a. Lateral Force: 75 lb minimum, at any point, when tested in accordance with ASTM E935.
b. Distributed Load: 50 lb/ft minimum, applied in any direction at the top of the handrail, when tested in accordance with ASTM E935.
c. Concentrated Loads on Intermediate Rails: 50 psf, minimum.
d. Concentrated Load: 200 lbs minimum, applied in any direction at any point along the handrail system, when tested in accordance with ASTM E935.
e. Handrails: Comply with applicable accessibility requirements of ADA Standards.
2. Assembly: Join lengths, seal open ends, and conceal exposed mounting bolts and nuts using slip-on non-weld mechanical fittings, flanges and escutcheons.
3. Joints: Tightly fitted and secured, machined smooth with hairline seams.
4. Field Connections: Provide sleeves to accommodate site assembly and installation.

5. Welded and Brazed Joints: Make visible joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.
    a. Ease exposed edges to a small uniform radius.
    b. Welded Joints:
        1) Carbon Steel: Perform welding in accordance with AWS D1.1/D1.1M.
        2) Stainless Steel: Perform welding in accordance with AWS D1.6/D1.6M.
    c. Brass/Bronze Brazed Joints:
        1) Perform torch brazing in accordance with AWS C3.4M/C3.4.
        2) Perform induction brazing in accordance with AWS C3.5M/C 3.5.
        3) Perform resistance brazing in accordance with AWS C3.9M/C3.9.

2.3 MATERIALS

A. Brass Components:
1. Tubing: ASTM B135/B135M, CDA 260.
2. Sheet: ASTM B248 or ASTM B248M, No. 26 Yellow Brass.
3. Brass Finish: To match existing.
4. Protective Coating: Lemon oil seal.

B. Horizontal Rail Components:
1. Material: Seamless solid brass pipe or heavy-wall brass tubing
2. 1.5 inches outside diameter
3. 0.065" min wall thickness or manufacturer's standard providing equivalent rigidity
4. Securely fastened to post using setscrews, concealed fittings, or soldered joints
5. Finish: To match existing

C. Posts/Supports
1. Material: Brass
2. Style: Straight cylindrical post with decorative collar rings similar to existing.
3. 1.5 inches outside diameter
4. Post Height: As required to achieve installed height noted on drawings
5. Post Spacing: As indicated on drawings, or maximum 4'-0" on center.
6. Post Mounting: surface mounted using cast-brass flanges with exposed fasteners, sized to support loads per section 2.2

D. End Cap
1. Material: Solid or cast-brass as a single piece
2. Style: Decorative scroll/volute end cap, to match existing.
3. Finish: to match existing

E. Fittings
   1. All elbows, collars, connectors, and flanges shall be brass.
   2. Joints shall be mechanically fastened and/or silver-soldered/brazed for structural integrity.

F. Fasteners and Anchors
   1. Made of same materials as railing component, Brass, stainless steel, or other corrosion-resistant materials
   2. Where exposed fasteners are unavoidable provide flush countersunk fasteners to match finish.
   3. For anchorage to concrete, provide inserts to be cast into concrete for bolt anchors.
   4. For anchorage to stud walls, provide backing plates for bolt anchors.

2.4 FABRICATION

A. Fabricate railing to dimensions indicated on drawings.

B. Rails shall be continuous between posts unless otherwise required.

C. Mitered joints shall be tight-fitting; welds ground smooth.

D. Scroll end shall be integrated with minimal visible seam.

2.5 FINISHING

A. Brass surfaces shall be polished to uniform finish.

B. Optional clear lacquer: factory-applied, non-yellowing, abrasion-resistant.

C. Remove scratches, burrs, and tool marks prior to final polish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate, site conditions, and reinforcement are acceptable and ready prior to installation.

B. Verify field dimensions of locations and areas to receive work.

C. Notify Architect immediately of conditions that would prevent satisfactory installation.

D. Do not proceed with work until detrimental conditions have been corrected.

E. Furnish components required for railings and guardrails installation, including but not limited to blocking, sleeves, inserts, anchor bolts, embedded plates, and supports for attachment of anchors.

3.2 PREPARATION

A. Protect existing work.

B. Review installation drawings before beginning installation. Coordinate diagrams, templates, instructions, and directions for installation of anchorages and fasteners.

C. Clean surfaces to receive units. Remove materials and substances detrimental to the installation.

3.3 INSTALLATION

A. Comply with manufacturer's drawings and written instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, and with tight joints, except where necessary for expansion.

C. Anchor securely to structure.

D. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

E. Weld connections that cannot be shop welded due to size limitations.
1. Weld in accordance with AWS D1.1/D1.1M.
2. Match shop welding and bolting.
3. Clean welds, bolted connections, and abraded areas.
4. Touch up shop primer and factory-applied finishes.
5. Repair galvanizing with galvanizing repair paint per ASTM A780/A780M.

F. Isolate dissimilar materials with bituminous coating, bushings, grommets, or washers to prevent electrolytic corrosion.

3.4 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

3.5 CLEANING

A. Remove protective film from exposed metal surfaces.

B. Metal: Clean exposed metal finishes in accordance with manufacturer recommendations; do not use abrasive materials or chemicals, detergents, or other substances that may damage the material or finish.

3.6 PROTECTION

A. Protect installed components and finishes from damage after installation.

B. Repair damage to exposed finishes to be indistinguishable from undamaged areas.
   1. If damage to finishes and components cannot be repaired to be indistinguishable from undamaged finishes and components, replace damaged items.

END OF SECTION 057300

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SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preservative treated wood materials.

B. Fire retardant treated wood materials.

C. Concealed wood blocking, nailers, and supports.

D. Miscellaneous wood nailers, furring, and grounds.

1.2 RELATED REQUIREMENTS

A. Section 092116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

B. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).

C. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2017).

D. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing; 2019a.

E. ASTM E518/E518M - Standard Test Methods for Flexural Bond Strength of Masonry; 2022.

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

G. AWPA U1 - Use Category System: User Specification for Treated Wood; 2023.

H. PS 1 - Structural Plywood; 2023.

I. PS 20 - American Softwood Lumber Standard; 2021.

J. SPIB (GR) - Standard Grading Rules; 2021.

1.4 SUBMITTALS

A. Product Data: Provide technical data on wood preservative materials and application instructions.

1.5 QUALITY ASSURANCE

A. Steel Source: All steel specified in the Section shall be produced or made in North America, for the following items:
   1. All types of Bolts.
   2. All types of Anchors.

B. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

1.7 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. Factory mark each piece of lumber with grade stamp of grading agency.
   3. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.

4. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
5. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
6. Provide dressed lumber, S4S, unless otherwise indicated.
7. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.2 DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Stud Framing for sizes 2 by 2 through 2 by 10:
   1. Grade: No.3 or Stud.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No.2 or Standard Grade.
   2. Boards: Standard or No.3.

2.3 CONSTRUCTION PANELS

A. Other Applications:
   1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
   2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
   3. Other Locations: PS 1, C-D Plugged or better.

2.4 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Anchors: Toggle bolt type for anchorage to hollow masonry.
   3. Nails, Brads, and Staples: ASTM F 1667.
   4. Power-Driven Fasteners: NES NER-272.
   5. Wood Screws: ASME B18.6.1.
   6. Screws for Fastening to Metal Framing: ASTM C 1002, length as recommended by screw manufacturer for material being fastened.
   7. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).

8. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
9. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
    a. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

B. METAL FRAMING ANCHORS
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. KC Metals Products, Inc.
    b. Simpson Strong-Tie Co., Inc.
    c. USP Structural Connectors.
2. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.
    a. Use for interior locations unless otherwise indicated.
3. Hot-Dip Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
    a. Use for wood-preservative-treated lumber and where indicated.
4. Stainless-Steel Sheet: ASTM A 666, Type 304.
    a. Use for exterior locations and where indicated.

2.5 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Fire Retardant Treatment:

1. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature, low hygroscopic type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
    a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
    b. Interior rough carpentry items are to be fire retardant treated.
    c. Treat rough carpentry items as indicated.
    d. Do not use treated wood in applications exposed to weather or where the wood may become wet.

C. Preservative Treatment:
1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
    a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
    b. Treat lumber in contact with roofing, flashing, or waterproofing.
    c. Treat lumber in contact with masonry or concrete.
2. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F to 0.25 lb/cu ft retention.
    a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
    b. Treat plywood in contact with roofing, flashing, or waterproofing.
    c. Treat plywood in contact with masonry or concrete.

PART 3 EXECUTION

3.1 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.

B. Install sill gasket under sill plate bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

C. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.3 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

F. Provide the following specific nonstructural framing and blocking:
   1. Wall brackets.
   2. Handrails.
   3. Wall-mounted door stops.
   4. Wall paneling and trim.
   5. Joints of rigid wall coverings that occur between studs.

3.4 INSTALLATION OF CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

3.5 CLEANING

A. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

B. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 061053

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SECTION 061600 - SHEATHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Roof sheathing.
   2. Sheathing joint-and-penetration treatment materials.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
   1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
   2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
   3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5516.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: From sheathing manufacturer, certifying compatibility of sheathing accessory materials with Project materials that connect to or that come in contact with the sheathing.

B. Product Test Reports: For sheathing assembly, indicating compliance with specified requirements, for tests performed by a qualified testing agency.

C. Evaluation Reports: For the following, from ICC-ES:
   1. Wood-preservative-treated plywood.
   2. Fire-retardant-treated plywood.

D. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications:

1. For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Ratings: As tested in accordance with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

B. Sheathing Performance: sheathing assembly, and seals with adjacent construction, are to be capable of performing as a continuous air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air-barrier assemblies are to be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, tie-ins to installed waterproofing, tie-ins to other installed air barriers, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

2.2 WOOD PANEL PRODUCTS

A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

B. Factory mark panels to indicate compliance with applicable standard.

2.3 PRESERVATIVE-TREATED PLYWOOD

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction items not in contact with ground and Use Category UC4a for exterior construction items in contact with ground.
   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Application: Treat all plywood unless otherwise indicated.

2.4 ROOF SHEATHING

A. Plywood Sheathing: Either DOC PS 1 or DOC PS 2 sheathing.
   1. Span Rating: Not less than 16/0.
   2. Nominal Thickness: Not less than 15/32 inch.

B. Oriented-Strand-Board Sheathing: DOC PS 2 sheathing.
   1. Span Rating: Not less than 16/0.
   2. Nominal Thickness: Not less than 7/16 inch.

2.5 SPECIALTY SHEATHING

A. Exterior Insulated Sheathing with Moisture and Air Protection:
   1. Basis of Design Product: Where indicated, subject to compliance with requirements, provide Zip System Insulated R-Sheathing manufactured by Huber Engineered Woods, or a comparable product by one of the following:
      a. Kingspan Group
      b. LP Building Solutions
      c. Owens Corning
      d. Ox Engineered Products
   2. Size: 48 inch by 96 inch minimum boards.
   3. R-Value: Varies per application.
      a. Exterior Walls: Single layer, R-7.5 minimum, 2 inch thick minimum.
      b. Roofs: Triple layer, stagged assembly, R-30 minimum, 6 1/2 inch thick minimum.
   4. Air Barrier Rating: ASTM E 2178 <0.02 L/S*m2 @ 75 Pa or ASTM E 2357 <0.2 L/S*m2 @ 75 Pa

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
   1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
   2. For roof and wall sheathing, provide fasteners with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours in accordance with ASTM B117.

B. Nails, Brads, and Staples: ASTM F1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Screws for Fastening Sheathing to Wood Framing: ASTM C1002.

E. Screws for Fastening Composite Nail Base Insulated Roof Sheathing to Metal Roof Deck: Steel drill screws, in type and length recommended by sheathing manufacturer for thickness of sheathing to be attached, with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours in accordance with ASTM B117. Provide washers or plates if recommended by sheathing manufacturer.

2.7 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

A. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.
   1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches wide, 10 by 10 or 10 by 20 threads/inch of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:
   1. Table 2304.10.1, "Fastening Schedule," in the ICC's International Building Code.
   2. ICC-ES evaluation report for fastener.

D. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

END OF SECTION 061600

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SECTION 062000 - FINISH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Finish carpentry items.

B. Wood casings and moldings.

C. Hardware and attachment accessories.

1.2 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 081416 - Flush Wood Doors.

C. Section 099300 - Staining and Transparent Finishing: Staining and transparent finishing of finish carpentry items.

1.3 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

B. ANSI A208.1 - American National Standard for Particleboard; 2022.

C. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

E. AWI (QCP) - Quality Certification Program; Current Edition.

F. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

G. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

H. AWPA U1 - Use Category System: User Specification for Treated Wood; 2023.

I. GSA CID A-A-1936 - Adhesives, Contact, Neoprene Rubber; 1996a (Validated 2013).

J. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2024.

K. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

L. NHLA G-101 - Rules for the Measurement and Inspection of Hardwood and Cypress; 2019.

M. PS 20 - American Softwood Lumber Standard; 2021.

N. WDMA I.S. 4 - Industry Specification for Preservative Treatment for Millwork; 2019.

O. WI (CCP) - Certified Compliance Program (CCP); Current Edition.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with electrical rough-in and installation of associated and adjacent components.

B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

1.5 SUBMITTALS

A. Product Data:
   1. Provide manufacturer's product data, storage and handling instructions for factory-fabricated units.
   2. Provide data on fire retardant treatment materials and application instructions.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
   2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
   3. Include certification program label.

C. Samples: Submit two samples of wood trim 4 inch long.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Company with at least one project within the past 5 years with value of woodwork within 20 percent of cost of woodwork for this project.
   2. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.
   3. Single Source Responsibility: Provide and install this work from single fabricator.

B. Quality Certification:

1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.
2. Provide labels or certificates indicating that work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
3. Provide designated labels on shop drawings as required by certification program.
4. Provide designated labels on installed products as required by certification program.
5. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated units to project site in original packages, containers or bundles bearing brand name and identification.

B. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.

C. Protect from moisture damage.

D. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.1 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

C. Interior Woodwork Items:
1. Moldings, Bases, Casings, and Miscellaneous Trim: Clear white maple; prepare for transparent finish.
2. Stairs, Balustrades, and Handrails: Clear fir; prepare for stained finish.
3. Match existing wood species, grade and finish..

2.2 LUMBER MATERIALS

A. Hardwood Lumber: match existing species, plain sawn, maximum moisture content of 6 percent ; with flat grain , of quality suitable for transparent finish.
1. Grading: In accordance with NHLA G-101 Grading Rules; www.nhla.org.

2.3 PLASTIC LAMINATE MATERIALS

A. Plastic Laminate: NEMA LD 3; color as selected by Architect; textured, low gloss finish.

B. Laminate Backing Sheet: NEMA LD 3, BKL; undecorated plastic laminate.

C. Laminate Adhesive: Type recommended by laminate manufacturer to suit application; not containing formaldehyde or other volatile organic compounds.

2.4 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

B. Fasteners: Of size and type to suit application; _____ finish in concealed locations and _____ finish in exposed locations.

C. Concealed Joint Fasteners: Threaded steel.

2.5 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Lumber for Shimming and Blocking: Softwood lumber of indicated species.

C. Primer: Alkyd primer sealer.

D. Wood Filler: Solvent base, tinted to match surface finish color.

2.6 HARDWARE

A. Countertop Support Brackets: Fixed, L-shaped, corner reinforced, face-of-wall mounting.
   1. Material: Steel.
      a. Finish: Manufacturer's standard, factory-applied, powder coat.
   2. Products:
      a. A&M Hardware, Inc; Standard Brackets: www.aandmhardware.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

2.7 WOOD TREATMENT

A. Factory-Treated Lumber: Comply with requirements of AWPA U1 - Use Category System for pressure impregnated wood treatments determined by use categories, expected service conditions, and specific applications.

B. Fire Retardant Treatment (FR-S Type): Chemically treated and pressure impregnated; capable of providing flame spread index of 25, maximum, and smoke developed index of 450, maximum, when tested in accordance with ASTM E84.

C. Wood Preservative by Pressure Treatment (PT Type): Provide AWPA U1 treatment using waterborne preservative with 0.25 percent retainage.

D. Water Repellent Preservative Treatment by Dipping Method: WDMA I.S. 4, with 0.25 percent retainage.

E. Wood Preservative (Surface Application): Clear, _____ type, _____.

F. Shop pressure treat wood materials requiring fire rating to concealed wood blocking.

G. Provide identification on fire retardant treated material.

H. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

I. Redry wood after pressure treatment to maximum ____ percent moisture content.

2.8 SITE FINISHING MATERIALS

A. Stain, Shellac, Varnish, and Finishing Materials: Comply with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Field Finishing: See Section 099300.

2.9 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. Cap exposed plastic laminate finish edges with material of same finish and pattern.

C. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

D. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises.

E. Apply laminate backing sheet to reverse face of plastic laminate finished surfaces.

2.10 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.

D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 1, Lacquer, Nitrocellulose.
      b. Stain: As selected by Architect.
      c. Sheen: Satin.

E. Stain, seal, and varnish exposed to view surfaces. Brush apply only.

F. Back prime woodwork items to be field finished, prior to installation.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.3 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment in accordance with manufacturer's instructions.

B. Brush apply one coats of preservative treatment on wood in contact with cementitious materials. Treat site-sawn cuts.

C. Allow preservative to dry prior to erecting members.

3.4 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.5 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION 062000

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SECTION 072100 - THERMAL INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Foam-plastic board insulation.
   2. Mineral-wool blanket insulation.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Foam-plastic board insulation.
   2. Mineral-wool blanket insulation.

1.4 INFORMATIONAL SUBMITTALS

A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.
   1. For blown-in or sprayed fiberglass and cellulosic-fiber loose-fill insulation, indicate initial installed thickness, settled thickness, settled R-value, installed density, coverage area, and number of bags installed.
   2. Sign, date, and post the certification in a conspicuous location on Project site.

B. Product Test Reports: For each product, for tests performed by a qualified testing agency.

C. Research Reports: For foam-plastic insulation, from ICC-ES.

1.5 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 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION

A. Extruded Polystyrene Board Insulation, Type IV for Exterior Wall Assemblies.
ASTM C578, Type IV, 30-psi minimum compressive strength; unfaced.
1. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by Owens Corning, or comparable product by one of the following:
    a. BASF Corporation
    b. DiversiFoam Products.
    c. Gaco Western, Inc.
    d. Johns Manville.
    e. Kingspan Products.
    f. Knauf Insulation.
    g. Resisto, a Division of Soprema.
    h. Rockwool Products.
    i. The Dow Chemical Company.
2. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
3. Smoke-Developed Index: Not more than 450 when tested in accordance with ASTM E84.
4. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

B. Extruded Polystyrene Board Insulation, Type V for Below-Grade Applications.
ASTM C578, Type V, 100-psi minimum compressive strength.
1. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by Owens Corning, or comparable product by one of the following:
    a. BASF Corporation
    b. DiversiFoam Products.
    c. Gaco Western, Inc.
    d. Johns Manville.
    e. Kingspan Products.
    f. Knauf Insulation.

g. Resisto, a Division of Soprema.
h. Rockwool Products.
i. The Dow Chemical Company.

2. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
3. Smoke-Developed Index: Not more than 450 when tested in accordance with ASTM E84.

2.2 MINERAL-WOOL BLANKET INSULATION

A. Mineral-Wool Blanket Insulation, Unfaced for Cavities in Interior and Exterior Walls and Partitions. ASTM C665, Type I (blankets without membrane facing); consisting of fibers; passing ASTM E136 for combustion characteristics.

1. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by Rockwool Products, or comparable product by one of the following:
   a. BASF Corporation
   b. DiversiFoam Products.
   c. Gaco Western, Inc.
   d. Johns Manville.
   e. Kingspan Products.
   f. Knauf Insulation.
   g. Owens Corning.
   h. Resisto, a Division of Soprema.
   i. The Dow Chemical Company.
2. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
3. Smoke-Developed Index: Not more than 50 when tested in accordance with ASTM E84.

2.3 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.

1. Plate: Perforated, galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
2. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch in diameter; length to suit depth of insulation.

B. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch thick galvanized-steel sheet, with beveled edge for increased stiffness, sized as required to hold insulation securely in place, but not less than 1-1/2 inches square or in diameter.

C. Insulation Standoff: Spacer fabricated from galvanized mild-steel sheet for fitting over spindle of insulation anchor to maintain air space of 1 inch minimum between face of insulation and substrate to which anchor is attached.

D. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates without damaging insulation, fasteners, or substrates.

2.4 ACCESSORIES

A. Insulation for Miscellaneous Voids:
   1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.
   2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.
   3. Polyurethane Pour-In-Place Insulation: Closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84, specifically formulated for pour-in-place applications.

B. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

C. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide ventilation between insulated attic spaces and vented eaves.

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 SLAB INSULATION

A. On vertical slab edge and foundation surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
   1. Extend insulation full depth of vertical face of slab edge and interior foundation wall surface, where indicated in drawings.

B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.
   1. Extend insulation beneath entire surface of slab on grade assemblies, including but not limited to slabs and aprons containing radiant heating.

3.4 INSTALLATION OF FOUNDATION WALL INSULATION

A. Butt panels together for tight fit.

B. Anchor Installation: Install board insulation on concrete substrates by adhesively attached, spindle-type insulation anchors as follows:
   1. Fasten insulation anchors to concrete 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. Apply insulation standoffs to each spindle to create cavity width indicated on Drawings between concrete substrate and insulation.
   4. After adhesive has dried, install board insulation by pressing insulation into position over spindles and securing it tightly in place with insulation-retaining washers, taking care not to compress insulation.
   5. Where insulation will not be covered by other building materials, apply capped washers to tips of spindles.

C. Adhesive Installation: Install with adhesive or press into tacky waterproofing or dampproofing according to manufacturer's written instructions.

3.5 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

C. Spray-Applied Cellulosic Insulation: Apply spray-applied insulation according to manufacturer's written instructions.
1. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked.
2. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.

3.6 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 076200 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured sheet metal items, including flashings and counterflashings.

B. Sealants for joints within sheet metal fabrications.

1.2 RELATED REQUIREMENTS

A. Section 042000 - Unit Masonry: Metal flashings embedded in masonry.

B. Section 061000 - Rough Carpentry: Wood nailers for sheet metal work.

C. Section 077100 - Roof Specialties: Manufactured copings, flashings, and expansion joint covers.

D. Section 077123 - Manufactured Gutters and Downspouts.

E. Section 077200 - Roof Accessories: Manufactured metal roof curbs.

F. Section 079200 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.3 REFERENCE STANDARDS

A. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.

B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

F. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

G. ASTM B32 - Standard Specification for Solder Metal; 2020.

H. ASTM B101 - Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction; 2022.

I. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

J. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2022.

K. ASTM B749 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products; 2020.

L. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

M. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).

N. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2015a (Reapproved 2021).

O. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2024).

P. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).

Q. CDA A4050 - Copper in Architecture - Handbook; Current Edition.

R. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.4 SUBMITTALS

A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

B. Samples: Submit samples, illustrating metal finish color.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Maintain one copy of each document on site.

C. Sample Warranty: For special warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

1.7 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sheet Metal Flashing and Trim Manufacturers:
   1. ALUCOBOND USA: www.alucobondusa.com/#sle.
   2. Fairview Architectural LLC: www.fairview-na.com/#sle.
   3. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
   4. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
   5. Fry Reglet Corporation; 2 piece counterflashing.
   6. MetalEra; 2 piece counterflashing

2.2 SHEET MATERIALS

A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch thick base metal, shop pre-coated with PVDF coating.
   1. Silicone Modified Polyester Coating: Pigmented organic powder coating, AAMA 2603; baked enamel finish system.
   2. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
   3. Color: As selected by Architect from manufacturer's standard colors.

2.3 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

F. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

G. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.4 GUTTER AND DOWNSPOUT FABRICATION

A. Gutters: SMACNA (ASMM) Rectangular profile.

B. Downspouts: Rectangular profile.

C. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 10 years in accordance with SMACNA (ASMM).

D. Accessories: Profiled to suit gutters and downspouts.
   1. Anchorage Devices: In accordance with SMACNA (ASMM) requirements.
   2. Gutter Supports: Brackets.
   3. Downspout Supports: Brackets.

E. Downspout Boots: Steel.

F. Downspout Extenders: Same material and finish as downspouts.

G. Seal metal joints.

2.5 EXTERIOR PENETRATION FLASHING PANELS

A. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

2.6 ACCESSORIES

A. Fasteners: Stainless steel, with soft neoprene washers.

B. Concealed Sealants: Non-curing butyl sealant.

C. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

D. Asphalt Roof Cement: ASTM D4586/D4586M, Type I, asbestos-free.

E. Reglets: Surface-mounted type, galvanized steel; face and ends covered with plastic tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.3 INSTALLATION

A. Per 2020 Building Code of New York State Section 1504.5, low-slope built-up, modified bitumen, and single-ply roof system metal edge securement, except gutters, shall be designed and installed for wind loads in accordance with Chapter 16 of the 2020 Building Code of New York State and tested for resistance in accordance with Test Methods RE-1, RE-2, and RE-3 of ANSI/SPRI ES-1.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

1. Coat concealed side of uncoated-aluminum sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..
1. Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

E. Apply plastic cement compound between metal flashings and felt flashings.

F. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

G. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction, and as follows:
1. Secure receiver at perimeter of wall opening with adhesives or fasteners.
2. Place flashing into receiver channel.
3. Secure flashing with receiver clip.

H. Seal metal joints watertight.

I. Secure gutters and downspouts in place with concealed fasteners.

J. Connect downspouts to downspout boots, and grout connection watertight.

3.4 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200

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SECTION 077100 - ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured roof specialties, including copings, fascias, and gravel stops.

1.2 REFERENCE STANDARDS

A. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.

B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

E. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2017.

F. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

G. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

H. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.

I. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).

J. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

K. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

L. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

M. NRCA (RM) - The NRCA Roofing Manual; 2025.

N. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Meet with Owner, Architect, Owner's insurer if applicable, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
   2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
   3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.4 SUBMITTALS

A. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.

B. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

C. Samples: Submit appropriately sized samples of coping, gravel stop, and fascia.

D. Product Certificates: For each type of roof specialty.

E. Product Test Reports: For copings and roof-edge flashings, for tests performed by a qualified testing agency.

F. Sample Warranty: For manufacturer's special warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are SPRI ES-1 tested to specified design pressure.

B. Retain "Source Limitations" Paragraph below if required for Project. Coordinate with "Warranty" Article of this Section and requirements of Project roofing-membrane Section.

C. Source Limitations: Obtain roof specialties approved by manufacturer providing roofing-system warranty specified in Section 075300.

1.6 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 075300.

B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Roof Edge Flashings and Copings:
   1. Architectural Products Co: www.archprod.com/#sle.
   2. ATAS International, Inc: www.atas.com/#sle.
   3. Drexel Metals Inc: www.drexmet.com/#sle.
   4. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
   5. Metal-Era Inc: www.metalera.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Pipe and Penetration Flashings:

C. Counterflashings:

D. Pipe Penetration Wall Seal:

E. Pipe Penetration Wall Seal and Insulation Protection System:

2.2 COMPONENTS

A. Roof Edge Flashings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
   1. Configuration: Fascia, cant, and edge securement for roof membrane.

2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test methods RE-1 and RE-2 to positive and negative design wind pressure as defined by applicable local building code.
   a. Design Pressure: Extended peak gust wind speed 90 MPH.
3. Exposed Face Height: As required to conceal wood blocking/nailers.
4. Material: Formed aluminum sheet, 0.040 inch thick, minimum.
5. Surface: Smooth, flat finish.
6. Corners: Factory mitered and continuously welded.
7. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.
8. Receiver: Extruded aluminum, 0.080 inch thick.
9. Finish: Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
10. Finish: Anodized bronze and natural (clear) .
11. Color: As selected by Architect from manufacturer's standard range.

B. Copings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
3. Outside Face Height: As required to conceal wood blocking/nailers.
4. Inside Face Height: As required to conceal wood blocking/nailers.
5. Material: Formed aluminum sheet, 0.040 inch thick, minimum.
6. Finish: 70 percent polyvinylidene fluoride.
7. Finish: Anodized natural (clear).
8. Color: As selected by Architect from manufacturer's standard range.

C. Pipe and Penetration Flashing: Base of rounded aluminum, compatible with _____ roof systems, and capable of accomodating pipes sized between 3/8 inch and 12 inches.
1. Caps: EPDM.
2. Color: _____.

D. Roof Penetration Sealing Systems: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

E. Counterflashings: Factory fabricated and finished sheet metal that overlaps top edges of base flashing by at least 4 inches, and designed to snap into through-wall flashing or reglets with lapped joints.

F. Pipe Penetration Wall Seal: Seal for HVAC piping wall penetrations with wall mounted rigid plastic outlet cover and elastomeric wall seal gasket.
   1. Outlet Cover Color: Gray.

G. Pipe Penetration Wall Seal and Insulated Piping Protection System: Seal for HVAC piping wall penetrations with wall mounted rigid plastic outlet cover and elastomeric wall seal gasket and having mechanical line insulation with PVC protective cover.
   1. Outlet Cover Color: Gray.
   2. PVC Insulation Cover Color: Black with full-length velcro fastener.

2.3 FINISHES

A. Clear Anodized Finish: AAMA 611 AA-M12C22A41 Class I clear anodic coating not less than 0.7 mil, 0.0007 inch thick.

B. Color Anodized Finish: AAMA 611 AA-M12C22A42/44 Class I integrally or electrolytically colored anodic coating not less than 0.7 mil, 0.0007 inch thick.

C. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as indicated.

2.4 ACCESSORIES

A. Sealant for Joints in Linear Components: As recommended by component manufacturer.

B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.

3.2 INSTALLATION

A. Install components in accordance with manufacturer's instructions.

B. Seal joints within components when required by component manufacturer.

C. Anchor components securely.

D. Coordinate installation of components of this section with installation of roofing membrane and base flashings.

E. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

3.3 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

D. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

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 Conditions of the Contract for Construction and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Penetrations in fire-resistance-rated walls.
   2. Penetrations in horizontal assemblies.
   3. Penetrations in smoke barriers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule: For each penetration firestopping system. Include location and design designation of each type of firestopping system.
   1. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping condition, submit illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for penetration firestopping.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A firm experienced in installing penetration firestopping similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its penetration firestopping products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.

B. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:
   1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.
   2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
      a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
      b. Classification markings on penetration firestopping correspond to designations listed by the following:
         1) UL in its "Fire Resistance Directory."
         2) Intertek ETL SEMKO in its "Directory of Listed Building Products."

C. Pre-installation Conference: Conduct conference at Project site.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

B. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.7 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping is installed according to specified requirements.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Grace Construction Products.
   2. Hilti, Inc.
   3. Johns Manville.
   4. Nelson Firestop Products.
   5. Specified Technologies Inc.
   6. 3M Fire Protection Products.
   7. Tremco, Inc.; Tremco Fire Protection Systems Group.
   8. USG Corporation.

2.2 PENETRATION FIRESTOPPING

A. Provide penetration firestopping that is 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 construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01 inch wg (2.49 Pa).
   1. Fire-resistance-rated walls include fire walls fire-barrier walls smoke-barrier walls and fire partitions.
   2. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01 inch wg (2.49 Pa).
   1. Horizontal assemblies include floors and floor/ceiling assemblies.
   2. F-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated.
   3. T-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.

D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.
   1. L-Rating: Not exceeding 5.0 cfm/sq. ft. (0.025 cu. m/s per sq. m) of penetration opening at 0.30 inch wg (74.7 Pa) at both ambient and elevated temperatures.

E. W-Rating: Provide penetration firestopping showing no evidence of water leakage when tested according to UL 1479.

F. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

G. VOC Content: Penetration firestopping sealants and sealant primers shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

H. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency for firestopping indicated.
1. Permanent forming/damming/backing materials, including the following:
   a. Slag-wool-fiber or 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. 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.

B. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

C. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

D. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced elastomeric sheet bonded to galvanized-steel sheet.

E. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.

F. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.

G. 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 non-shrinking, homogeneous mortar.

H. 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. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.

I. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, non-shrinking foam.

J. Silicone Sealants: 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 sloped surfaces, unless indicated firestopping limits use of nonsag grade for both opening conditions.

2.4 MIXING

A. For those products requiring mixing before application, comply with penetration firestopping 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 of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:
   1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.

2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. 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 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 penetration firestopping from contacting adjoining surfaces that will remain exposed on completion of the Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove stains. Remove tape as soon as possible without disturbing firestopping seal with substrates.

3.3 INSTALLATION

A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

B. Install forming 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 and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.

C. Install fill materials for firestopping 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 the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

A. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.
5. Manufacturer's name.
6. Installer's name.

3.5 FIELD QUALITY CONTROL

A. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements.

B. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.7 PENETRATION FIRESTOPPING SCHEDULE

A. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHEZ.

B. Firestopping with No Penetrating Items FS-1.1 (1hr rated penetration):
1. UL-Classified Systems:
    a. C-AJ-(0001-0999) or F-A-(0001-0999): Concrete Floors 5" thick and less.
    b. C-BJ-(0001-0999) or F-B-(0001-0999): Concrete Floors thicker than 5".
    c. F-C-(0001-0999): Framed Floors.
    d. C-AJ-(0001-0999) C-BJ-(0001-0999),or W-J-(0001-0999): Concrete/Masonry walls 8" thick or less.
    e. W-L-(0001-0999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).

5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

C. Firestopping for Metallic Pipes, Conduit, or Tubing FS-2.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(1001-1999) or F-A-(1001-1999): Concrete Floors 5" thick and less.
   b. C-BJ-(1001-1999), C-BK-(1001-1999), or F-B-(1001-1999): Concrete Floors thicker than 5".
   c. F-C-(1001-1999): Framed Floors.
   d. C-AJ-(1001-1999), C-BJ-(1001-1999) or W-J (1001-1999): Concrete/Masonry walls 8" thick or less.
   e. C-BK-(1001-1999) or W-K-(1001-1999): Concrete/Masonry walls thicker than 8".
   f. W-L-(1001-1999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

D. Firestopping for Nonmetallic Pipe, Conduit, or Tubing FS-3.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(2001-2999) or F-A (2001-2999): Concrete Floors 5" thick and less.
   b. C-BJ-(2001-2999), C-BK (2001-2999) or F-B (2001-2999): Concrete Floors thicker than 5".
   c. F-C (2001-2999): Framed Floors.
   d. C-AJ (2001-2999), C-BJ (2001-1999) or W-J (2001-2999): Concrete/Masonry walls 8" thick or less.
   e. C-BK (2001-2999) or W-K (2001-2999): Concrete/Masonry walls thicker than 8".
   f. W-L (2001-2999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

E. Firestopping for Electrical Cables FS-4.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(3001-3999) or F-A-(3001-3999): Concrete Floors 5" thick and less.

b. C-BJ-(3001-3999), C-BK-(3001-3999) or F-B-(3001-3999): Concrete Floors thicker than 5".
c. F-C-(3001-3999): Framed Floors.
d. C-AJ-(3001-3999) C-BJ-(3001-3999) or W-J-(3001-3999): Concrete/Masonry walls 8" thick or less.
e. C-BK-(3001-3999) or W-K-(3001-3999): Concrete/Masonry walls thicker than 8".
f. W-L-(3001-2999): Framed Walls.

2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 4.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

F. Firestopping for Cable Trays with Electric Cables FS-5.1 (1hr rated penetration):
1. UL-Classified Systems:
a. C-AJ-(4001-4999) or F-A-(4001-4999): Concrete Floors 5" thick and less.
b. C-BJ-(4001-4999), C-BK-(4001-4999) or F-B-(4001-4999): Concrete Floors thicker than 5."
c. C-AJ-(4001-4999) C-BJ-(4001-4999) or W-J-(4001-4999): Concrete/Masonry walls 8" thick or less.
d. C-BK-(4001-4999) or W-K-(4001-4999): Concrete/Masonry walls thicker than 8".
e. W-L-(4001-4999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 5.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 2.0 cfm/sq. ft. (cu. m/s per sq. m).
6. Type of Fill Materials: As required to achieve rating.

G. Firestopping for Insulated Pipes FS-6.1 (1hr rated penetration):
1. UL-Classified Systems:
a. C-AJ-(5001-5999) or F-A-(5001-5999): Concrete Floors 5" thick and less.
b. C-BJ-(5001-5999) C-BK-(5001-5999) or F-B-(5001-5999): Concrete Floors thicker than 5."
c. F-C-(5001-5999): Framed Floors.
d. C-AJ-(5001-5999) C-BJ-(5001-5999) or W-J-(5001-5999): Concrete/Masonry walls 8" thick or less.
e. C-BK-(5001-5999): Concrete/Masonry walls thicker than 8".
f. W-L-(5001-5999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.

4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

H. Firestopping for Miscellaneous Electrical Penetrants FS-7.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(6001-6999) or F-A-(6001-6999): Concrete Floors 5″ thick and less.
   b. C-BJ-(6001-6999): Concrete Floors thicker than 5″.
   c. C-AJ-(6001-6999) C-BJ-(6001-6999) or W-J-(6001-6999): Concrete/Masonry walls 8″ thick or less.
   d. W-L-(6001-6999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

I. Firestopping for Miscellaneous Mechanical Penetrants FS-8.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(7001-7999) or F-A-(7001-7999): Concrete Floors 5″ thick and less.
   b. C-BJ-(7001-7999) or F-B-(7001-7999): Concrete Floors thicker than 5″.
   c. F-C-(7001-7999): Framed Floors.
   d. C-AJ-(7001-7999) C-BJ-(7001-7999) or W-J-(7001-7999): Concrete/Masonry walls 8″ thick or less.
   e. W-L-(7001-7999): Framed Walls.
2. F-Rating: 1 hour.
3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

J. Firestopping for Groupings of Penetrants FS-9.1 (1hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(8001-8999) or F-A-(8001-8999): Concrete Floors 5″ thick and less.
   b. C-BJ-(8001-8999) or F-B-(8001-8999): Concrete Floors thicker than 5″.
   c. F-C-(8001-8999): Framed Floors.
   d. C-AJ-(8001-8999) C-BJ-(8001-8999) or W-J-(8001-8999): Concrete/Masonry walls 8″ thick or less.
   e. W-L-(8001-8999): Framed Walls.
2. F-Rating: 1 hour.

3. T-Rating: 1 hour.
4. L-Rating at Ambient: Less than 14.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 14.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

K. Firestopping with No Penetrating Items FS-1.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(0001-0999) or F-A-(0001-0999): Concrete Floors 5″ thick and less.
   b. C-BJ-(0001-0999) or F-B-(0001-0999): Concrete Floors thicker than 5″.
   c. F-C-(0001-0999): Framed Floors.
   d. C-AJ-(0001-0999) C-BJ-(0001-0999) or W-J-(0001-0999): Concrete/Masonry walls 8″ thick or less.
   e. W-L-(0001-0999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

L. Firestopping for Metallic Pipes, Conduit, or Tubing FS-2.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(1001-1999) or F-A-(1001-1999): Concrete Floors 5″ thick and less.
   b. C-BJ-(1001-1999), C-BK-(1001-1999), or F-B-(1001-1999): Concrete Floors thicker than 5″.
   c. F-C-(1001-1999): Framed Floors.
   d. C-AJ-(1001-1999), C-BJ-(1001-1999) or W-J (1001-1999): Concrete/Masonry walls 8″ thick or less.
   e. C-BK-(1001-1999) or W-K-(1001-1999): Concrete/Masonry walls thicker than 8″.
   f. W-L-(1001-1999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

M. Firestopping for Nonmetallic Pipe, Conduit, or Tubing FS-3.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(2001-2999) or F-A (2001-2999): Concrete Floors 5″ thick and less.

b. C-BJ-(2001-2999), C-BK (2001-2999) or F-B (2001-2999): Concrete Floors thicker than 5″.
c. F-C (2001-2999): Framed Floors.
d. C-AJ (2001-2999), C-BJ (2001-1999) or W-J (2001-2999): Concrete/Masonry walls 8″ thick or less.
e. C-BK (2001-2999) or W-K (2001-2999): Concrete/Masonry walls thicker than 8″.
f. W-L (2001-2999): Framed Walls.

2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

N. Firestopping for Electrical Cables FS-4.2 (2hr rated penetration):
1. UL-Classified Systems:
a. C-AJ-(3001-3999) or F-A-(3001-3999): Concrete Floors 5″ thick and less.
b. C-BJ-(3001-3999) C-BK-(3001-3999) or F-B-(3001-3999): Concrete Floors thicker than 5″.
c. F-C-(3001-3999): Framed Floors.
d. C-AJ-(3001-3999) C-BJ-(3001-3999) or W-J-(3001-3999): Concrete/Masonry walls 8″ thick or less.
e. C-BK-(3001-3999) or W-K-(3001-3999): Concrete/Masonry walls thicker than 8″.
f. W-L-(3001-2999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 4.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

O. Firestopping for Cable Trays with Electric Cables FS-5.2 (2hr rated penetration):
1. UL-Classified Systems:
a. C-AJ-(4001-4999) or F-A-(4001-4999): Concrete Floors 5″ thick and less.
b. C-BJ-(4001-4999), C-BK-(4001-4999) or F-B-(4001-4999): Concrete Floors thicker than 5.″
c. C-AJ-(4001-4999) C-BJ-(4001-4999) or W-J-(4001-4999): Concrete/Masonry walls 8″ thick or less.
d. C-BK-(4001-4999) or W-K-(4001-4999): Concrete/Masonry walls thicker than 8″.
e. W-L-(4001-4999): Framed Walls.

2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 5.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 2.0 cfm/sq. ft. (cu. m/s per sq. m).
6. Type of Fill Materials: As required to achieve rating.

P. Firestopping for Insulated Pipes FS-6.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(5001-5999) or F-A-(5001-5999): Concrete Floors 5″ thick and less.
   b. C-BJ-(5001-5999) C-BK-(5001-5999) or F-B-(5001-5999): Concrete Floors thicker than 5″.
   c. F-C-(5001-5999): Framed Floors.
   d. C-AJ-(5001-5999) C-BJ-(5001-5999) or W-J-(5001-5999): Concrete/Masonry walls 8″ thick or less.
   e. C-BK-(5001-5999): Concrete/Masonry walls thicker than 8″.
   f. W-L-(5001-5999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

Q. Firestopping for Miscellaneous Electrical Penetrants FS-7.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(6001-6999) or F-A-(6001-6999): Concrete Floors 5″ thick and less.
   b. C-BJ-(6001-6999) Concrete Floors thicker than 5″.
   c. C-AJ-(6001-6999) C-BJ-(6001-6999) or W-J-(6001-6999): Concrete/Masonry walls 8″ thick or less.
   d. W-L-(6001-6999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

R. Firestopping for Miscellaneous Mechanical Penetrants FS-8.2 (2hr rated penetration):
1. UL-Classified Systems:
   a. C-AJ-(7001-7999) or F-A-(7001-7999): Concrete Floors 5″ thick and less.
   b. C-BJ-(7001-7999) or F-B-(7001-7999): Concrete Floors thicker than 5″.
   c. F-C-(7001-7999): Framed Floors.

d. C-AJ-(7001-7999) C-BJ-(7001-7999) or W-J-(7001-7999): Concrete/Masonry walls 8″ thick or less.
e. W-L-(7001-7999): Framed Walls.

2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 1.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

S. Firestopping for Groupings of Penetrants FS-9.2 (2hr rated penetration):

1. UL-Classified Systems:
   a. C-AJ-(8001-8999) or F-A-(8001-8999): Concrete Floors 5″ thick and less.
   b. C-BJ-(8001-8999) or F-B-(8001-8999): Concrete Floors thicker than 5″.
   c. F-C-(8001-8999): Framed Floors.
   d. C-AJ-(8001-8999) C-BJ-(8001-8999) or W-J-(8001-8999): Concrete/Masonry walls 8″ thick or less.
   e. W-L-(8001-8999): Framed Walls.
2. F-Rating: 2 hour.
3. T-Rating: 2 hour.
4. L-Rating at Ambient: Less than 14.0 cfm/sq. ft. (cu. m/s per sq. m).
5. L-Rating at 400 deg F (204 deg C): Less than 14.0 cfm/sq. ft. (cu. m/s per sq. m).
6. W-Rating: No leakage of water at completion of water leakage testing.
7. Type of Fill Materials: As required to achieve rating.

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 Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Silicone joint sealants.
   2. Urethane joint sealants.
   3. Latex joint sealants.
   4. Preformed joint sealants.
   5. Acoustical joint sealants.

B. Related Sections:
   1. Division 04 Section "Unit Masonry" for masonry control and expansion joint fillers and gaskets.
   2. Division 07 Section "Fire-Resistive Joint Systems" for sealing joints in fire-resistance-rated construction.
   3. Division 08 Section "Glazing" for glazing sealants.
   4. Division 09 Section "Gypsum Board" for sealing perimeter joints.
   5. Division 09 Section "Acoustical Panel Ceilings" for sealing edge moldings at perimeters with acoustical sealant.

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
   1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
   2. Submit not fewer than eight pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
   3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each application indicated below:
   a. Each kind of sealant and joint substrate indicated.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
   a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
      1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

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. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2 inch (13 mm) wide joints formed between two 6 inch (150 mm) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

E. Qualification Data: For qualified Installer and testing agency.

F. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

H. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

I. Preconstruction Field-Adhesion Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

J. Field-Adhesion Test Reports: For each sealant application tested.

K. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

C. Product Testing: Test joint sealants using a qualified testing agency.
1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

D. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

E. Pre-installation Conference: Conduct conference at Project site.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.

B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
   1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
   2. Disintegration of joint substrates from natural causes exceeding design specifications.
   3. Mechanical damage caused by individuals, tools, or other outside agents.
   4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 PRODUCTS

2.1 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 joint-sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
   1. Architectural Sealants: 250 g/L.
   2. Sealant Primers for Nonporous Substrates: 250 g/L.
   3. Sealant Primers for Porous Substrates: 775 g/L.

C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
   1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Stain-Test-Response Characteristics: Where sealants are specified 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.

E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food; provide products that comply with 21 CFR 177.2600.

F. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
   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. Dow Corning Corporation; 790.
      b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
      c. Pecora Corporation; 890 NST.
      d. Sika Corporation, Construction Products Division; SikaSil-C990.
      e. Tremco Incorporated; Spectrem 1.

B. Single-Component, Nonsag, Traffic-Grade, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T.
   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. Dow Corning Corporation; 790.
      b. Pecora Corporation; 301 NS.
      c. Tremco Incorporated; Spectrem 800.

C. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
   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. BASF Building Systems; Omniplus.
      b. Dow Corning Corporation; 786 Mildew Resistant.

c. GE Advanced Materials - Silicones; Sanitary SCS1700.
d. May National Associates, Inc.; Bondaflex Sil 100 WF.
e. Tremco Incorporated; Tremsil 200 Sanitary.

2.3 URETHANE JOINT SEALANTS

A. Immersible, Single-Component, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses T and I.
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. BASF Building Systems; Sonolastic NP1.
b. Sika Corporation, Construction Products Division; Sikaflex - 1a.
c. Tremco Incorporated; Vulkem 116.

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
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. BASF Building Systems; Sonolac.
b. Bostik, Inc.; Chem-Calk 600.
c. Pecora Corporation; AC-20+.
d. Schnee-Morehead, Inc.; SM 8200.
e. Tremco Incorporated; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
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. Pecora Corporation; AIS-919.
b. USG Corporation; SHEETROCK Acoustical Sealant.

2.6 JOINT SEALANT BACKING

A. General: Provide sealant backings of material 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, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. 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. 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 to 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, 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 after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates 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 joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
   a. Metal.
   b. Glass.
   c. Porcelain enamel.
   d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by 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 or primer 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 in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind 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 backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs 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 sealant from surfaces adjacent to joints.
   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 profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
      a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control 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 with manufacturer's written recommendations.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Extent of Testing: Test completed and cured sealant joints as follows:
      a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
      b. Perform 1 test for each 1000 feet (300 m) of joint length thereafter or 1 test per each floor per elevation.
   2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
      a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   3. Inspect tested joints and report on the following:
      a. Whether sealants filled joint cavities and are free of voids.

b. Whether sealant dimensions and configurations comply with specified requirements.
c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.

4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant 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.

3.6 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 original work.

3.7 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
1. Joint Locations:
a. Isolation and contraction joints in cast-in-place concrete slabs.
b. Tile control and expansion joints.
c. Joints between different materials listed above.
d. Other joints as indicated.

2. Silicone Joint Sealant: Single component, nonsag, traffic grade, neutral curing.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast-in-place concrete.
      b. Control and expansion joints in unit masonry.
      c. Joints in glass unit masonry assemblies.
      d. Joints between metal panels.
      e. Joints between different materials listed above.
      f. Perimeter joints between materials listed above and frames of doors windows and louvers.
      g. Control and expansion joints in ceilings and other overhead surfaces.
      h. Other joints as indicated.
   2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 100/50.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
   1. Joint Locations:
      a. Isolation joints in cast-in-place concrete slabs.
      b. Control and expansion joints in tile flooring.
      c. Other joints as indicated.
   2. Silicone Joint Sealant: Single component, nonsag, traffic grade, neutral curing.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      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 joints on exposed surfaces of interior unit masonry concrete walls and partitions.
      e. Perimeter joints between interior wall surfaces and frames of interior doors windows.
      f. Other joints as indicated.
   2. Joint Sealant: Latex.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Sealant Location:
      a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
      b. Tile control and expansion joints where indicated.
      c. Other joints as indicated.
   2. Joint Sealant: [Single component, nonsag, mildew resistant, acid curing.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Location:
      a. Acoustical joints where indicated.
      b. Other joints as indicated.
   2. Joint Sealant: Acoustical.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

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 finishing flush wood doors.
   3. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Requirements:
   1. Section 087100 "Door Hardware" for hardware sets in flush wood doors.
   2. Section 088000 "Glazing" for glass view panels in flush wood doors.
   3. Section 088813 “Fire-Resistant Glazing” for glass view panels in flush wood doors.
   4. Section 099100 "Painting" for field finishing doors.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:
   1. Door core materials and construction.
   2. Door edge construction
   3. Door face type and characteristics.
   4. Factory finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:
   1. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
   2. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
   3. Dimensions and locations of blocking for hardware attachment.
   4. Dimensions and locations of mortises and holes for hardware.

5. Clearances and undercuts.
6. Requirements for veneer matching.
7. Doors to be factory finished and application requirements.
8. Fire-protection rating 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, for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.
2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
   a. Provide Samples for each species of veneer and solid lumber required.
   b. Finish veneer-faced door Samples with same materials proposed for factory-finished doors.
3. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.5 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.6 QUALITY ASSURANCE

A. Manufacturer's Certification: A certification that manufacturer that has been in continuous door manufacturing for the last 10 years.

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies shall comply with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:
1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

C. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:
1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in cardboard cartons, and wrap bundles of doors in plastic sheeting.

C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.8 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 temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

1.9 WARRANTY

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. Delamination of veneer.
      b. Warping (bow, cup, or twist) more than 1/4-inch in a 42-by-84-inch section.
      c. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch 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 MANUFACTURERS

A. Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Algoma Hardwoods, Inc.
   2. Eggers Industries.
   3. Marshfield Door Systems, Inc.
   4. Mohawk Flush Doors, Inc.; a Masonite company.
   5. VT Industries Inc.

B. Source Limitations: Obtain flush wood doors from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.

B. Fire-Rated Wood Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with UL 10C or NFPA 252.
   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.

C. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.

2.3 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 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.

2.4 SOLID-CORE FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Doors:
   1. Performance Grade: ANSI/WDMA I.S. 1A Extra Heavy Duty.
   2. Grade: Custom.
   3. Faces: Grade A.
      a. Species: Selected from manufacturer’s full range of species.
      b. Cut: Rift cut.
      c. Match between Veneer Leaves: Slip match.
      d. Assembly of Veneer Leaves on Door Faces: Running match.
   4. Exposed Vertical Edges: Applied wood edges of same species as faces and covering edges of crossbands - edge Type D.

B. Particleboard-Core Doors:
   1. Particleboard: ANSI A208.1, Grade LD-2, made with binder containing no urea-formaldehyde.

2. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
    a. 5-inch top-rail blocking, in doors indicated to have closers.
    b. 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
    c. 5-inch mid-rail blocking, in doors indicated to have exit devices.

C. 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.
    a. 5-inch top-rail blocking.
    b. 5-inch bottom-rail blocking, in doors indicated to have protection plates.
    c. 5-inch mid-rail blocking, in doors indicated to have armor plates.
3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.
4. Construction: Five (5) plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.5 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. Metal Frames for Light Openings in Fire-Rated Doors: Manufacturer's standard frame formed of 0.048-inch thick, cold-rolled steel sheet; factory primed for paint finish; and approved for use in doors of fire-protection rating indicated on Drawings.

2.6 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.
1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
2. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied.

1. Locate hardware to comply with DHI-WDHS-3.
2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.
5. 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."

2.7 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.
1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.
3. Stains and fillers may be omitted on bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Factory finish doors that are indicated on Drawings to receive transparent finish.

D. Factory finish doors where indicated in schedules or on Drawings as factory finished.

E. Transparent Finish:
1. Grade: Custom
2. Finish: ANSI/WDMA I.S. 1A TR-6 Catalyzed Polyurethane.
3. Staining: As selected by Architect from manufacturer's full range.
4. Effect: Semi-filled finish, produced by applying an additional finish coat to partially fill the wood pores.
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. Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
1. Install fire-rated doors and frames in accordance with NFPA 80.
2. Install smoke- and draft-control doors in accordance with NFPA 105.

C. Job-Fitted Doors:
1. Align and fit doors in frames with uniform clearances and bevels as indicated below.
a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.
2. Machine doors for hardware.
3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
4. Clearances:
a. Provide 1/8-inch at heads, jambs, and between pairs of doors.
b. Provide 1/8-inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
c. Where threshold is shown or scheduled, provide 1/4-inch from bottom of door to top of threshold unless otherwise indicated.
d. Comply with NFPA 80 for fire-rated doors.
5. Bevel non-fire-rated doors 1/8-inch in 2 inches at lock and hinge edges.
6. Bevel fire-rated doors 1/8-inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 FIELD QUALITY CONTROL

A. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:

1. Provide inspection of installed Work through AWI's Quality Certification Program, certifying that wood doors and frames, including installation, comply with requirements of AWI/AWMCA/WI's "Architectural Woodwork Standards" for the specified grade.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80.

3.4 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 084416 – INTERIOR FRAMED SLIDING TRANSACTION WINDOW

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior aluminum-framed transaction window assemblies.
B. Horizontal sliding service window panels.
C. Tempered safety glazing.
D. Locking hardware.
E. Perimeter trim and accessories.
F. Installation of complete window assembly.

1.2 RELATED REQUIREMENTS

A. Section 08 80 00 – Glazing.
B. Section 08 71 00 – Door Hardware.
C. Section 09 90 00 – Painting and Coating.

1.3 REFERENCE STANDARDS

A. ASTM B221 – Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
B. ASTM C1036 – Flat Glass.
C. ASTM C1048 – Heat-Treated Flat Glass.
D. ASTM E1300 – Determining Load Resistance of Glass.
E. AAMA 2605 – High Performance Organic Coatings on Aluminum.
F. ANSI Z97.1 – Safety Glazing Materials.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Include data on material descriptions, construction details, component dimensions and profiles, and finishes; and necessary accessories.

C. Shop Drawings: Include plans, elevations, sections, and attachment details; include equipment assembly details with dimensions, weights, loads, required clearances, components, size and location of anchors and required field connections, and methods for field assembly; provide diagrams indicating signal, power, and control wiring.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

F. Testing agency's qualification statement.

G. Executed warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.

C. Documents at Project Site: Maintain at project site one copy of manufacturer's installation instructions, erection drawings, shop drawings, and reference standard documents.

D. Provide products from a single manufacturer whenever possible.

1.6 FIELD CONDITIONS

A. Field verify all existing conditions prior to fabrication and installation

1.7 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Provide manufacturer's standard warranty covering defects in materials and workmanship for not less than one year from Date of Substantial Completion.

C. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver components in manufacturer's original packaging.

B. Store materials in a clean, dry location protected from damage and deformation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design

1. Ready Access.
2. Quikserv.
3. CRL-U.S. Aluminum.
4. Wenger Corporation.
5. Approved Equal.

2.2 INTERIOR TRANSACTION WINDOW ASSEMBLY

A. General

B. Factory-fabricated aluminum-framed interior transaction window assembly consisting of one fixed glazed panel and one horizontally sliding glazed panel.

C. Configuration

1. Interior office reception/service counter window.
2. Horizontal sliding operation.
3. One fixed lite.
4. One sliding glazed sash.
5. Counter-mounted service opening below window.
6. Sizes as indicated on Drawings.

D. Frame Material

1. Extruded aluminum.
2. Minimum wall thickness: 0.062 inch.
3. Factory fabricated and assembled.
4. Reinforced corners for rigidity.

E. Finish

1. Factory-applied fluoropolymer coating complying with AAMA 2605.
2. Color: **White**.
3. Satin finish unless otherwise indicated.
4. Exposed trim, stops, and accessories shall match window finish.

2.3 GLAZING

A. Glass

1. Clear tempered safety glass.
2. Minimum thickness: 1/4 inch.
3. Comply with ASTM C1048.
4. Comply with ANSI Z97.1 and CPSC 16 CFR 1201.

B. Glazing Gaskets

1. Manufacturer's standard glazing system.
2. Compatible with glazing and aluminum framing.

2.4 HARDWARE

A. Sliding Window Hardware.

1. Heavy-duty rollers.
2. Adjustable guides.
3. Anti-lift devices.
4. Smooth manual operation.

B. Lock

1. Manufacturer's standard cam lock.
2. Keyed cylinder lock.
3. Two keys per lock.

C. Pulls

1. Recessed finger pull.
2. Manufacturer's standard finish matching frame.

2.5 ACCESSORIES

A. Trim

1. Extruded aluminum trim.
2. Factory-finished white.
3. Provide closures required for a complete installation.

B. Fasteners

1. Concealed where possible.
2. Corrosion-resistant steel.

C. Sealants

1. Non-staining silicone sealant.
2. Compatible with aluminum, glass, and adjacent substrates.

2.6 FABRICATION

A. Fabricate units square, true, and rigid.

B. Shop assemble components to the maximum extent practical.

C. Provide complete assemblies ready for installation.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify dimensions of wall openings and supporting construction prior to installation.

B. Do not proceed with installation until unacceptable conditions have been corrected.

3.2 PREPARATION

A. Prepare surfaces of substrates using methods in accordance with manufacturer's installation instructions.

B. Clean surfaces thoroughly before starting installation.

3.3 INSTALLATION

A. Install transaction window in accordance with manufacturer's written instructions.

B. Set window assembly plumb, level, square, and properly aligned.

C. Install trim for a neat and finished appearance.

D. Seal perimeter joints continuously.

E. Leave installation free of defects and ready for occupancy.

F. Protect installed window assemblies from construction damage.

G. Replace damaged glazing, hardware, finishes, and framing at no additional cost to Owner.

3.4 ADJUSTING

A. Adjust sliding sash for smooth operation without binding, smoothly and safely.

B. Adjust locks and hardware for proper engagement.

C. After installation, repair damaged components..

3.5 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Remove protective coverings from finished surfaces.

C. Clean aluminum surfaces and glazing.

3.6 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals for closeout submittals.

B. See Section 017900 - Demonstration and Training for additional requirements.

END OF SECTION 084416

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SECTION 087100 - DOOR HARDWARE

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. Door hardware for:
      a. Swinging doors.

B. Related Sections:
   1. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
   2. Division 09 Sections for touchup finishing or refinishing of existing openings modified by this section.

1.3 REFERENCES

A. Fire/Life Safety
   1. NFPA - National Fire Protection Association.
      a. NFPA 70 – National Electric Code.
      b. NFPA 80 - Standard for Fire Doors and Fire Windows.
      c. NFPA 101 - Life Safety Code.
      d. NFPA 105 - Smoke and Draft Control Door Assemblies.
   2. State Fire Safety Code.

B. UL - Underwriters Laboratories
   1. UL 10B - Fire Test of Door Assemblies.
   2. UL 10C - Positive Pressure Test of Fire Door Assemblies.
   3. UL 1784 - Air Leakage Tests of Door Assemblies.
   4. UL 305 - Panic Hardware.

C. Accessibility
   1. ADA - Americans with Disabilities Act .
   2. ANSI A117.1 - Accessible and Usable Buildings and Facilities.

D. DHI - Door and Hardware Institute
   1. Sequence and Format for the Hardware Schedule.

2. Recommended Locations for Builders Hardware.
3. Key Systems and Nomenclature.

E. ANSI - American National Standards Institute
1. ANSI/BHMA A156.1 - A156.29, and ANSI A156.31 - Standards for Hardware and Specialties.

1.4 SUBMITTALS

A. General:
1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.

B. Action Submittals:
1. Product Data: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
a. Samples will be returned to supplier in like-new condition. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
3. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
a. Door Index; include door number, heading number, and Architects hardware set number.
b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
c. Type, style, function, size, and finish of each hardware item.
d. Name and manufacturer of each item.
e. Fastenings and other pertinent information.
f. Location of each hardware set cross-referenced to indications on Drawings.
g. Explanation of all abbreviations, symbols, and codes contained in schedule.
h. Mounting locations for hardware.

i. Door and frame sizes and materials.
j. Name and phone number for local manufacturer's representative for each product.

4. Key Schedule:
   a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
   b. Use ANSI A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
      1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
5. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.

C. Informational Submittals:
1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
2. Product Certificates for electrified door hardware, signed by manufacturer:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
3. Certificates of Compliance:
   a. Certificates of compliance for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
   b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in "QUALITY ASSURANCE" article, herein.
   c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.
4. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by qualified testing agency, for door hardware on doors located in accessible routes.

5. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:
   1. Operations and Maintenance Data : Provide in accordance with Division 01 and include:
      a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
      b. Catalog pages for each product.
      c. Name, address, and phone number of local representative for each manufacturer.
      d. Parts list for each product.
      e. Final approved hardware schedule, edited to reflect conditions as-installed.
      f. Final keying schedule
      g. Copies of floor plans with keying nomenclature
      h. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.5 QUALITY ASSURANCE

A. Product Substitutions: Comply with product requirements stated in Division 01 and as specified herein.
   1. Where specific manufacturer's product is named and accompanied by "No Substitute," including make or model number or other designation, provide product specified. (Note: Certain products have been selected for their unique characteristics and particular project suitability.)
      a. Where no additional products or manufacturers are listed in product category, requirements for "No Substitute" govern product selection.
   2. Where products indicate "acceptable substitute" or "acceptable manufacturer", provide product from specified manufacturers, subject to compliance with specified requirements and "Single Source Responsibility" requirements stated herein.

B. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
   1. Warehousing Facilities: In Project's vicinity.
   2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
   3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

4. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
    a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

C. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.

D. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC.)
2. Can provide installation and technical data to Architect and other related subcontractors.
3. Can inspect and verify components are in working order upon completion of installation.
4. Capable of producing wiring diagrams.
5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.

E. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
2. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

F. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.

G. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.
1. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbf (22.2 N.)
2. Maximum opening-force requirements:
    a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
    b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
    c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.

3. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
4. Adjust door closer sweep periods so that, from open position of 70 degrees, door will take at least 3 seconds to move to 3 inches (75 mm) from latch, measured to leading edge of door.

H. Pre-installation Conference: Conduct conference at Project site
1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

I. Coordination Conferences:
1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
a. Attendees: Door hardware supplier, door hardware installer, Contractor.
b. After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
1. Deliver each article of hardware in manufacturer’s original packaging.

C. Project Conditions:
1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
2. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Protection and Damage:
1. Promptly replace products damaged during shipping.
2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.

3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

F. Deliver keys and permanent cores (if applicable) to Owner by registered mail or overnight package service.

1.7 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Direct shipments not permitted, unless approved by Contractor.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
1. Warranty Period: Years from date of Substantial Completion, for durations indicated.
a. Closers:
1) Mechanical: 30 years for surface closers and 15 years for concealed closers
b. Exit Devices:
1) Mechanical: 3 years.
c. Locksets:
1) Mechanical: 3 years.
d. Continuous Hinges: Lifetime warranty.
e. Key Blanks: Lifetime
2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.9 MAINTENANCE

A. Maintenance Tools:
1. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Approval of manufacturers other than those listed shall be in accordance with QUALITY ASSURANCE article, herein.

B. 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.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fasteners
1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when 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 unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.3 KEYING

A. Keying Requirements – General
1. Permanent cylinders/cores keyed by the manufacturer according to the following key system.
a. Keying system tied into existing system as directed by the Owner.

2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.

B. Keys
1. Material: Nickel silver; minimum thickness of .092-inch (2.3mm.)
2. Quantity: Furnish in the following quantities.
a. Change (Day) Keys: 3 per cylinder/core.
b. Permanent Control Keys: 3.
c. Master Keys: 6.
d. Unused balance of key blanks shall be furnished to Owner with the cut keys.

2.4 ELECTRIC STRIKES

A. Electric Strikes: BHMA A156.31; Grade 1; with faceplate to suit lock and frame.

B. Manufacturer and Product: Von Duprin 6100 Series

C. Strikes shall be suitable for electrified removable mullion.

PART 3 EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
1. Standard Aluminum Doors and Frames: ANSI/SDI A250.8.

B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

H. Lock Cylinders: Install construction cores to secure building and areas during construction period.
   1. Replace construction cores with permanent cores as indicated in keying section.
   2. Furnish permanent cores to Owner for installation (if applicable.)

I. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.

J. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

K. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

L. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

M. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

3.3 FIELD QUALITY CONTROL

A. Architectural Hardware Consultant: Engage qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
   1. Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.4 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
   1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

A. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 087100

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SECTION 088813 - FIRE-RESISTANT GLAZING

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. Fire-protection-rated glazing.

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

1.4 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product; 12 inches (300 mm) square.

C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installers and glass testing agency.

B. Product Certificates: For each type of glass and glazing product, from manufacturer.

C. Sample Warranties: For special warranties.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install fire-resistant glazing until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature conditions at occupancy levels during the remainder of the construction period.

1.10 WARRANTY

A. Manufacturer's Special Warranty on Double Glazing Units with Clear Gel Fill: Manufacturer agrees to replace units that deteriorate within specified warranty period. Deterioration of double glazing units with clear gel fill is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning glass contrary to manufacturer's written instructions. Evidence of failure is the leakage of gel fill from units, air bubbles within units, or obstruction of vision by contamination or deterioration of gel.
   1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

B. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; deterioration of glazing materials; or other defects in construction.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organization 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: "Glazing Manual."

B. Safety Glazing Labeling: Permanently mark glazing with certification label of the Safety Glazing Certification Council. Label shall indicate manufacturer's name, type of glass, glass thickness, and safety glazing standard with which glass complies. CPSC Cat. II required.

2.4 GLASS PRODUCTS

A. Ultraclear Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear), with visible light transmission not less than 91 percent.

B. Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class I (clear) unless otherwise indicated, Quality-Q3.
   1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

2.5 FIRE-PROTECTION-RATED GLAZING

A. Fire-Protection-Rated Glazing: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on positive-pressure testing according to NFPA 257 or UL 9, including the hose-stream test, and shall comply with NFPA 80 and/or ASTM E119.
   1. Fire-protection-rated glazing required to have a fire-protection rating of 20 minutes shall be exempt from the hose-stream test.

B. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name; test standard; whether glazing is permitted to be used in doors or openings; if permitted in openings, whether or not glazing has passed the hose-stream test; whether or not glazing meets 450 deg F (250 deg C) temperature-rise limitation; and the fire-resistance rating in minutes.

C. Double Glazing Units with Clear Gel Fill: Double glazing units made from two lites of uncoated, fully tempered, ultraclear float glass; with a perimeter edge seal enclosing a cavity filled with optically clear, intumescent gel; and complying with 16 CFR 1201, Category II.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide SAFTI FIRST Fire Rated Glazing Solutions; SuperLite II-XL or equal.
   2. Glass rating based on wall or door rating.

2.6 GLAZING ACCESSORIES

A. Provide glazing gaskets, glazing sealants, glazing tapes, setting blocks, spacers, edge blocks, and other glazing accessories that are compatible with glazing products and each other and are approved by testing agencies that listed and labeled fire-resistant glazing products with which products are used for applications and fire-protection ratings indicated.

B. Glazing Sealants for Fire-Rated Glazing Products: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT. Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated.
   1. Sealants shall have a VOC content of 250 g/L or less.
   2. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

C. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; 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; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
   1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
   2. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

2.7 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. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.8 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit 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 publications, to comply with system performance requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with manufacturing and installation tolerances, including those for size, squareness, and offsets at corners, and for compliance with minimum required face and edge clearances.

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.

B. Examine glazing units to locate fire side and protected side. Label or mark units as needed so that fire side and protected side are readily identifiable. Do not use materials that leave visible marks in the completed work.

3.3 GLAZING, GENERAL

A. Use methods approved by testing agencies that listed and labeled fire-resistant glazing products.

B. 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.

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 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 length plus width is larger than 50 inches (1270 mm).
   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 with proper orientation so that coatings face fire side or protected side as specified.

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. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing 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 right before each glazing unit is installed.

F. 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.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch 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. Installation with Drive-in Wedge Gaskets: 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.

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. 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 washaway from glass.

3.7 CLEANING AND PROTECTION

A. Immediately after installation, remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. 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 buildup of dirt, scum, alkaline deposits, or stains.
   1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Remove and replace glass that is damaged during construction period.

D. 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 in writing by glass manufacturer.

3.8 FIRE-PROTECTION-RATED GLAZING SCHEDULE

A. Glass Type 'FR': Fire rated, clear glass.
   1. 20-minute, 45-minute and 60-minute fire-protection-rated glazing with 450 deg F (250 deg C) temperature-rise limitation; double glazing units with clear gel fill.

END OF SECTION 088813

SECTION 090561 - COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
   1. Broadloom carpet.
   2. Carpet tile.

B. Removal of existing floor coverings.

C. Preparation of new and existing concrete floor slabs for installation of floor coverings.

D. Testing of concrete floor slabs for moisture and alkalinity (pH).

E. Testing of existing concrete floor slabs for moisture and alkalinity (pH) has already been conducted; test report is attached.

F. Remediation of concrete floor slabs due to unsatisfactory moisture or alkalinity (pH) conditions.
   1. Contractor shall perform all specified remediation of concrete floor slabs. If such remediation is indicated by testing agency's report and is due to a condition not under Contractor's control or could not have been predicted by examination prior to entering into the contract, a contract modification will be issued.

G. Patching compound.

H. Remedial floor coatings.

I. Remedial floor treatment.

J. Remedial floor sheet membrane.

K. Preparation of new and existing wood-based floors and subfloors for installation of new floor coverings.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Moisture emission reducing curing and sealing compound for slabs to receive adhered flooring, to prevent moisture content-related flooring failures; to remain in place, not to be removed.

B. Section 033000 - Cast-in-Place Concrete: Concrete admixture for slabs to receive adhered flooring, to prevent moisture content-related flooring failures.

C. Section 033000 - Cast-in-Place Concrete: Limitations on curing requirements for new concrete floor slabs.

D. Section 035400 - Cast Underlayment: Self-leveling underlayment applied as remediation treatment.

1.3 REFERENCE STANDARDS

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2024.

B. ASTM C472 - Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters, and Gypsum Concrete; 2020.

C. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application; 2024.

D. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

E. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

F. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

G. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2018.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate scheduling of cleaning and testing, so that preliminary cleaning has been completed for at least 24 hours prior to testing.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Visual Observation Report: For existing floor coverings to be removed.

C. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
   1. Moisture and alkalinity (pH) limits and test methods.
   2. Manufacturer's required bond/compatibility test procedure.

D. Remedial Materials Product Data: Manufacturer's published data on each product to be used for remediation.
   1. Manufacturer's qualification statement.

2. Certificate: Manufacturer's certification of compatibility with types of flooring applied over remedial product.
3. Test reports indicating compliance with specified performance requirements, performed by nationally recognized independent testing agency.
4. Manufacturer's installation instructions.
5. Specimen Warranty: Copy of warranty to be issued by coating manufacturer and certificate of underwriter's coverage of warranty.

E. Testing Agency's Report:
1. Description of areas tested; include floor plans and photographs if helpful.
2. Summary of conditions encountered.
3. Moisture and alkalinity (pH) test reports.
4. Copies of specified test methods.
5. Recommendations for remediation of unsatisfactory surfaces.
6. Product data for recommended remedial coating.
7. Certificate: Include certification of accuracy by authorized official of testing agency.
8. Submit report to Architect.
9. Submit report not more than two business days after conclusion of testing.

F. Adhesive Bond and Compatibility Test Report.

G. Floor Moisture Testing Technician Certificate: International Concrete Repair Institute (ICRI) Concrete Slab Moisture Testing Technician- Grade I certificate.

H. Copy of RFCI (RWP).

1.6 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

B. Contractor may perform adhesive and bond test with Contractor's own personnel or hire a testing agency.

C. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
1. Submit evidence of experience consisting of at least 3 test reports of the type required, with project Owner's project contact information.

D. Contractor's Responsibility Relating to Independent Agency Testing:
1. Provide access for and cooperate with testing agency.
2. Confirm date of start of testing at least 10 days prior to actual start.
3. Allow at least 4 business days on site for testing agency activities.
4. Achieve and maintain specified ambient conditions.

5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

E. Floor Moisture Testing Technician Qualifications: International Concrete Repair Institute (ICRI) Concrete Slab Moisture Testing Technician Certification- Grade I.

F. Remedial Coating Installer Qualifications: Company specializing in performing work of the type specified in this section, trained by or employed by coating manufacturer, and able to provide at least 3 project references showing at least 3 years' experience installing moisture emission coatings.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with manufacturer's instructions and recommendations.

B. Deliver materials in manufacturer's packaging; include installation instructions.

C. Keep materials from freezing.

1.8 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.1 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
   1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
   2. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.
   3. Products:
      a. ARDEX Engineered Cements; ARDEX Feather Finish: www.ardexamericas.com/#sle.

b. Floor Seal Technology, Inc; Color Match Patch: www.floorseal.com/#sle.
c. H.B. Fuller Construction Products, Inc; TEC Feather Edge Skim Coat: www.tecspecialty.com/#sle.
d. USG Corporation; Durock Brand Advanced Skim Coat Floor Patch: www.usg.com/#sle.
e. Substitutions: See Section 016000 - Product Requirements.

B. Alternate Flooring Adhesive: Floor covering manufacturer's recommended product, suitable for the moisture and pH conditions present; low-VOC. In the absence of any recommendation from flooring manufacturer, provide a product recommended by adhesive manufacturer as suitable for substrate and floor covering and for conditions present.

PART 3 EXECUTION

3.1 CONCRETE SLAB PREPARATION

A. Follow recommendations of testing agency.

B. Perform following operations in the order indicated:
1. Existing concrete slabs (on-grade and elevated) with existing floor coverings:
a. Visual observation of existing floor covering, for adhesion, water damage, alkaline deposits, and other defects.
b. Removal of existing floor covering.
2. Existing concrete slabs with coatings or penetrating sealers/hardeners/dustproofers:
a. Do not attempt to remove coating or penetrating material.
b. Do not abrade surface.
c. Remove existing coatings and curing agents from surface according to recommendations of remedial coating manufacturer.
d. Prepare surface according to recommendations of remedial coating manufacturer and according to ASTM D4259.
3. Preliminary cleaning.
4. Moisture vapor emission tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
5. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
6. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
7. Specified remediation, if required.
8. Patching, smoothing, and leveling, as required.
9. Other preparation specified.

10. Adhesive bond and compatibility test.
11. Protection.

C. Remediations:
1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.
2. Excessive Moisture Emission or Relative Humidity: If an adhesive that is resistant to the level of moisture present is available and acceptable to flooring manufacturer, use that adhesive for installation of the flooring; if not, apply remedial floor coating or remedial sheet membrane over entire suspect floor area.
3. Excessive Alkalinity (pH): If remedial floor coating is necessary to address excessive moisture, no additional remediation is required; if not, if an adhesive that is resistant to the level present is available and acceptable to the flooring manufacturer, use that adhesive for installation of the flooring; otherwise, apply a skim coat of specified patching compound over entire suspect floor area.

3.2 REMOVAL OF EXISTING FLOOR COVERINGS

A. Comply with local, State, and federal regulations and recommendations of RFCI (RWP), as applicable to floor covering being removed.

B. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.3 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.4 MOISTURE VAPOR EMISSION TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F1869 and as follows.

D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.

F. Report: Report the information required by the test method.

3.5 INTERNAL RELATIVE HUMIDITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F2170 Procedure A and as follows.

D. Testing with electrical impedance or resistance apparatus may not be substituted for the specified ASTM test method, as the values determined are not comparable to the ASTM test values and do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if any test value exceeds 75 percent relative humidity.

F. Report: Report the information required by the test method.

3.6 ALKALINITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the Contractor's convenience.
   1. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.
   2. Place several drops of water on a clean surface of concrete, forming a puddle approximately 1 inch in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.
   3. Use of a digital pH meter with probe is acceptable; follow meter manufacturer's instructions.

C. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.7 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

3.8 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.9 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

3.10 APPLICATION OF REMEDIAL FLOOR TREATMENT

A. Comply with requirements and recommendations of treatment manufacturer.

3.11 INSTALLATION OF REMEDIAL FLOOR Sheet Membrane

A. Install in accordance with sheet membrane manufacturer's instructions.

3.12 PROTECTION

A. Cover prepared floors with building paper or other durable covering.

END OF SECTION 090561

SECTION 092116 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Metal channel ceiling framing.

D. Acoustic insulation.

E. Gypsum wallboard.

F. Joint treatment and accessories.

G. Acoustic (sound-dampening) wall and ceiling board.

H. Noise barriers in gypsum board assemblies.

1.2 RELATED REQUIREMENTS

A. Section 054000 - Cold-Formed Metal Framing: Structural steel stud framing.

B. Section 061000 - Rough Carpentry: Building framing and sheathing.

C. Section 061000 - Rough Carpentry: Wood blocking product and execution requirements.

1.3 REFERENCE STANDARDS

A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members; 2016, with Supplement (2020).

B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025.

D. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.

E. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

F. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2020).

G. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).

H. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2018.

I. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2024.

J. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.

K. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2020.

L. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

M. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

N. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.

O. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.

P. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2019.

Q. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

R. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

S. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

T. ASTM E413 - Classification for Rating Sound Insulation; 2022.

U. GA-216 - Application and Finishing of Gypsum Panel Products; 2021.

V. GA-600 - Fire Resistance and Sound Control Design Manual; 2021.

W. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

X. UL (FRD) - Fire Resistance Directory; Current Edition.

1.4 SUBMITTALS

A. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

B. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

C. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

D. Samples: 6 inch sample of each trim accessory indicated.

E. SSMA Manufacturer Qualification: Submit documentation of manufacturer association membership.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Member of Steel Stud Manufacturers Association (SSMA): www.ssma.com/#sle.

B. Copies of Documents at Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.
   1. See PART 3 for finishing requirements.

B. Interior Partitions: Provide completed assemblies with the following characteristics:

C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
   2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
   3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:
   1. ClarkDietrich; ____: www.clarkdietrich.com/#sle.
   2. MarinoWARE; ____: www.marinoware.com/#sle.
   3. SCAFCO Corporation; _____: www.scafco.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
   1. Studs: C-shaped with knurled or embossed faces.
      a. Products:
         1) MBA Building Supplies; ProSTUD: www.mbastuds.com/#sle.
   2. Runners: U shaped, sized to match studs.
   3. Ceiling Channels: C-shaped.
   4. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.
      a. Products:
         1) MBA Building Supplies; MBA Furring Channel: www.mbastuds.com/#sle.
   5. Furring Members: U-shaped sections, minimum depth of 3/4 inch.
      a. Products:
         1) MBA Building Supplies; MBA U-Channel: www.mbastuds.com/#sle.
   6. Furring Members: Zee-shaped sections, minimum depth of 1 inch.
      a. Products:
         1) MBA Building Supplies; MBA Z-Furring: www.mbastuds.com/#sle.
   7. Resilient Furring Channels: Single or double leg configuration; 1/2 inch channel depth.
      a. Products:
         1) Same manufacturer as other framing materials.
   8. Sill Plate Isolation Pads: Acoustical separation between sole plate and subfloor.
      a. Products:
         1) AcoustiGuard – WILREP LTD; Iso-Sill Rubber Isolation Pad: www.acoustiguard.com/#sle.

C. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and screwed to secondary deflection channel set inside but unattached to top track.

D. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.
   1. Products:
      a. ClarkDietrich; BlazeFrame Firestop Deflection Track: www.clarkdietrich.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

E. Non-structural Framing Accessories:
   1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
   2. Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
      a. Materials: ASTM A36/A36M formed sheet steel support member with factory-welded ASTM A1003/A1003M steel plate base.
      b. Height: 23-3/4 inches.
      c. Products:
         1) ClarkDietrich; Pony Wall (PW): www.clarkdietrich.com/#sle.
         2) MidWall; Kneewall Steel Brace Kit: https: www.kneewall.com/.
         3) Substitutions: See Section 016000 - Product Requirements.
   3. Partition Gap Closures: For vertical junctions between partition walls and window mullions.
      a. Material: Aluminum.
      b. Finish: To match adjacent framing system.
      c. Fit: Factory spring loaded.
      d. Gasketing: Factory installed.
      e. Acoustic Rating: 56 STC min.
      f. Products:
         1) Gordon; Mullion Mate: www.gordon-inc.com/#sle.
         2) Substitutions: See Section 016000-Product Requirements.
   4. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
      a. Products:
         1) ClarkDietrich; FastBridge Clip (FB33): www.clarkdietrich.com/#sle.
         2) Substitutions: See Section 016000 - Product Requirements.

F. Grid Suspension Systems: Steel grid system of main tees and support bars connected to structure using hanging wire.
   1. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.
   2. Hanger Attachments to Concrete:
      a. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
         1) Type: Postinstalled, chemical anchor or Postinstalled, expansion anchor.

b. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.

3. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.12 mm) in diameter.
4. Products:
   a. USG Corporation; Drywall Suspension System: www.usg.com/#sle.
   b. Chicago Metallic Corporation; Drywall Grid System.
   c. United States Gypsum Company; Drywall Suspension System.
   d. Substitutions: See Section 016000 - Product Requirements.

2.3 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
1. American Gypsum Company: www.americangypsum.com/#sle.
2. CertainTeed Corporation: www.certainteed.com/#sle.
3. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
4. USG Corporation: www.usg.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
2. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
3. Thickness:
   a. Vertical Surfaces: 5/8 inch.
   b. Ceilings: 5/8 inch.
   c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
4. Paper-Faced Products:
   a. American Gypsum Company; LightRoc Gypsum Wallboard: www.americangypsum.com/#sle.
   b. American Gypsum Company; FireBloc Type X Gypsum Wallboard: www.americangypsum.com/#sle.
   c. American Gypsum Company; FireBloc Type C Gypsum Wallboard: www.americangypsum.com/#sle.
   d. CertainTeed Corporation; Type X Drywall: www.certainteed.com/#sle.
   e. Georgia-Pacific Gypsum; ToughRock Fireguard X: www.gpgypsum.com/#sle.

f. Georgia-Pacific Gypsum; ToughRock Fireguard C: www.gpgypsum.com/#sle.
g. USG Corporation; Sheetrock Brand EcoSmart Panels Firecode X 5/8 in. (15.9 mm): www.usg.com/#sle.
h. USG Corporation; Sheetrock Brand Firecode X Panels 5/8 in. (15.9 mm): www.usg.com/#sle.
i. USG Corporation; Sheetrock Brand UltraLight Panels Firecode ULIX 5/8 in. (15.9 mm): www.usg.com/#sle.

C. Abuse Resistant Wallboard:
1. Application: Corridor and student occupied spaces from floor to 8'-0" above finished floor.
2. Surface Abrasion: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
6. Type: Fire-resistance-rated Type X, UL or WH listed.
7. Thickness: 5/8 inch.
8. Edges: Tapered.
9. Paper-Faced Products:
a. American Gypsum Company; M-Bloc AR Type X: www.americangypsum.com/#sle.
b. CertainTeed Corporation; Extreme Abuse Resistant Drywall with M2Tech: www.certainteed.com/#sle.
c. Georgia-Pacific Gypsum; ToughRock Fireguard X Mold Guard Abuse-Resistant: www.gpgypsum.com/#sle.
d. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond XP Hi-Abuse Gypsum Board: www.goldbondbuilding.com/#sle.
e. USG Corporation; Fiberock Brand AR Interior Panels FRX-G 5/8 in. (15.9 mm): www.usg.com/#sle.
f. USG Corporation; Fiberock Brand AR Interior Panels Regular 5/8 in. (15.9 mm): www.usg.com/#sle.
g. USG Corporation; Sheetrock Brand Mold Tough AR Firecode X 5/8 in. (15.9 mm): www.usg.com/#sle.

D. Impact Resistant Wallboard:
1. Application: High-traffic areas indicated.
2. Surface Abrasion: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.

3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Hard Body Impact: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
6. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
7. Type: Fire-resistance-rated Type X, UL or WH listed.
8. Thickness: 5/8 inch.
9. Edges: Tapered.
10. Paper-Faced Products:
    a. American Gypsum Company; M-Bloc IR Type X: www.americangypsum.com/#sle.
    b. CertainTeed Corporation; Extreme Impact Resistant Drywall with M2Tech: www.certainteed.com/#sle.
    c. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond XP Hi-Impact Gypsum Board: www.goldbondbuilding.com/#sle.
    d. USG Corporation; Sheetrock Brand Mold Tough VHI Firecode X Panels 5/8 in. (15.9 mm): www.usg.com/#sle.

E. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings, unless otherwise indicated.
2. Thickness: ___ inch.
3. Edges: Tapered.
4. Products:
    a. CertainTeed Corporation; Interior Ceiling Drywall: www.certainteed.com/#sle.
    b. CertainTeed Corporation; 1/2" Easi-Lite: www.certainteed.com/#sle.
    c. Georgia-Pacific Gypsum; ToughRock Span 24 Ceiling Board: www.gpgypsum.com/#sle.
    d. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond High Strength LITE Gypsum Board: www.goldbondbuilding.com/#sle.
    e. USG Corporation; Sheetrock Brand UltraLight Panels 1/2 in. (12.7 mm): www.usg.com/#sle.

2.4 GYPSUM BOARD ACCESSORIES

A. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
1. Products:

a. Franklin International, Inc; Titebond GREENchoice Professional Acoustical Smoke and Sound Sealant: www.titebond.com/#sle.
b. Liquid Nails, a brand of PPG Architectural Coatings; _____: www.liquidnails.com/#sle.
c. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
d. Substitutions: See Section 016000 - Product Requirements.

B. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
1. Corner Beads: Low profile, for 90 degree outside corners.
a. Products:
1) CertainTeed Corporation; No-Coat Drywall Corner: www.certainteed.com/#sle.
2) ClarkDietrich; Strait-Flex Big-Stick: www.clarkdietrich.com/#sle.
3) Phillips Manufacturing Co; Everlast Corner Bead: www.phillipsmfg.com/#sle.
4) Trim-Tex, Inc; _____: www.trim-tex.com/#sle.
2. Architectural Reveal Beads:
a. Reveal Depth: 1/2 inch.
b. Reveal Width: 1/2 inch.
c. Shapes: As indicated on drawings.
d. Products:
1) Phillips Manufacturing Co; J-400 Reveal Trim: www.phillipsmfg.com/#sle.
2) Trim-Tex, Inc; _____: www.trim-tex.com/#sle.
3) Substitutions: See Section 016000 - Product Requirements.
3. Expansion Joints:
a. Products:
1) Phillips Manufacturing Co; 093 Expansion Control Joint: www.phillipsmfg.com/#sle.
2) Trim-Tex, Inc; Fire Rated 093V Expansion Bead: www.trim-tex.com/#sle.

C. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Joint Tape:
a. Interior Gypsum Board: Tape compatible with XP system.
b. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
c. Tile Backing Panels: As recommended by panel manufacturer.
2. Fiberglass Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.

3. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
    a. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas.
    b. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges.
    c. Fill Coat: For second coat.
    d. Finish Coat: For third coat.
    e. Skim Coat: For final coat of Level 5 finish.
4. Joint Compound: Setting type, field-mixed.

D. Finishing Compound: Surface coat and primer, takes the place of skim coating.
1. Products:
    a. CertainTeed Corporation; Quick Prep Plus Interior Prep Coat: www.certainteed.com/#sle.
    b. Substitutions: See Section 016000 - Product Requirements.

E. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
1. Products:
    a. CertainTeed Corporation; Level V Wall and Ceiling Primer/Surfacer with M2Tech: www.certainteed.com/#sle.
    b. USG Corporation; USG Sheetrock Brand Tuff-Hide Primer-Surfacer: www.usg.com/#sle.
    c. Substitutions: See Section 016000 - Product Requirements.

F. Abuse Resistant Finishes:
1. Acrylic, water-based, non-textured, high build, tintable primer and surfacer.

G. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

H. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

I. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.2 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
   1. Level ceiling system to a tolerance of 1/1200.
   2. Laterally brace entire suspension system.
   3. Install bracing as required at exterior locations to resist wind uplift.

C. Studs: Space studs at 16 inches on center.
   1. Extend partition framing to structure in all locations.
   2. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

E. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
   1. Orientation: Vertical.
   2. Spacing: As indicated.

F. Blocking: Install wood blocking for support of:
   1. Wall-mounted cabinets.
   2. Toilet accessories.
   3. Stair handrails
   4. Wall mounted/braced equipment

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.4 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.6 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Where indicated on Drawings.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction, concealed areas, and where indicated..

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding are not required at base layer of double-layer applications.

D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

3.8 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION 092116

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SECTION 090120 – PATCHING LARGE HOLES IN PLASTER WITH PLASTER

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. The procedures include general guidelines offered by GSA (US Government Services Administration) to follow when restoring plaster in historic buildings. It identifies specific design issues and outlines recommended installation solutions that have the least visual or physical impact on the historic materials. This procedure includes guidance on repair of large plaster holes greater than 4-inches in diameter. When larger sections of plaster are missing, drywall patches may be used as a base.

B. Related Requirements:

1. Division 09: Patching Small Holes in Cracks & Plaster.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Sustainable Submittals:

C. Product Data: for adhesives, documentation including printed statement of VOC content.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports:

1. Expansion anchors.
2. Metal framing anchors.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect materials from weather in waterproof enclosure. Provide for air circulation around materials.

1.6 QUALITY ASSURANCE

A. These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the State Historic Preservation Officer (SHPO).

PART 2 - PRODUCTS

2.1 MATERIALS

A. Drywall and joint compound.

B. Nails and screws.

C. Joint tape (cloth mesh preferred).

2.2 EQUIPMENT

A. 6-inch taping knife.

B. 12-inch taping knife.

C. Float.

D. Hawk.

E. Sanding sponge (medium fine grit).

F. Stiff putty knife.

G. Goggles, work gloves, and dust mask.

H. Hammer and cold chisel.

I. Needle nose pliers and wire cutter.

J. Screw gun and drill.

K. Spray bottle and drop cloths.

L. Tin snips.

M. Vacuum.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Determine the extent of damaged plaster. Look for:

1. Holes.
2. Water Stains: Brownish rings on the plaster, especially the ceilings, indicate that the plaster has been wet. If the water was stopped quickly, the surface may only need to be sealed with pigmented shellac to prevent the stain from bleeding through the new paint or wallpaper. However, if the leak continued for a long period, the plaster will need to be replaced, and will often have a powdery appearance.
3. Chipping, flaking and delamination of plaster due to water infiltration.

3.2 EXECUTION / INSTALLATION / APPLICATION

A. Removing Deteriorated Plaster:

1. Remove loose plaster from the walls by hand (or flat pry bar may also be helpful in removing plaster that is difficult to remove by hand).
2. To remove sound plaster, for whatever reason, drill holes in the line of cut with a carbide drill bit; Holding the chisel at a shallow angle, carefully cut directly from hole to hole with a cold chisel; Cut the resulting plaster free from the lath by chipping the keys from the side.
3. Cut the plaster back to the nearest studs to make a regular opening, and re-secure the lath with drywall nails.
4. Use plaster washers and wood screws to re-secure weakly-keyed areas of sound plaster to the wall or ceiling.
5. Knock any plaster stuck between the lath back into the wall cavity.
6. Vacuum all dust, loose plaster, and other debris from the hole with a shop-vac, or sweep it out with an old paintbrush.

B. Making a Sheetrock Patch

1. Shim the Sheetrock as required to bring it up flush with the surface of the adjacent plaster.
2. Cut a Sheetrock patch to fit neatly in the opening.
3. Nail or screw the sheetrock in place; nail heads or screw heads should be set slightly below the surface of the Sheetrock, but without breaking the paper.
4. Using the 6-inch taping knife, fill the joint between the Sheetrock and the plaster with a small amount of joint compound.
5. Apply a fairly smooth, heavy coat of compound over the joint a little wider than the tape width.

6. Center the joint tape over the length of the joint; Hold the 6-inch taping knife at a 45-degree angle and press the tape into the compound; Smooth out any air pockets under the tape.
7. Apply a thin layer of compound over the tape and apply a first coat of compound to nails or screws.
8. Knock off any ridges or pimples that develop from shrinkage and cracking in the compound.
9. Apply the second coat of compound with the 6-inch taping knife and feather the edges out 6-8 inches; Scrape off any ridges or bumps.
10. When the second coat is dry, apply the third coat of compound with the 12 inch taping knife and feather the edges out 12-14 inches.
11. Touch up low spots with additional compound or high spots by light sanding with a wet sanding sponge.

3.3 WASTE MANAGEMENT

A. Coordinate with Division 01.

1. Separate and recycle cut-offs and waste materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
2. Set aside and protect materials suitable for reuse and/or remanufacturing.
3. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

END OF SECTION 090120

SECTION 092320 – PATCHING SMALL HOLES & CRACKS IN PLASTER

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. The procedures include general guidelines offered by GSA (US Government Services Administration) to follow when restoring plaster in historic buildings. It identifies specific design issues and outlines recommended installation solutions that have the least visual or physical impact on the historic materials. This procedure includes guidance on repair of patching small chips, cracks, or depressions in plaster surfaces.

B. Related Requirements:

1. Section 092310 Patching Large Holes & Cracks in Plaster.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Sustainable Submittals:

C. Product Data: for adhesives, documentation including printed statement of VOC content.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports:

1. Expansion anchors.
2. Metal framing anchors.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect materials from weather in waterproof enclosure. Provide for air circulation around materials.

1.6 QUALITY ASSURANCE

A. These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the local preservation office or State Historic Preservation Officer (SHPO).

1.7 REFERENCES

A. American National Standards Institute (ANSI) Standard Specifications: ANSI, 1430 Broadway, New York, NY 10018.

B. American Society for Testing and Materials (ASTM) Standard Specifications: ASTM, 1916 Race Street, Philadelphia, PA 19103-1187, 215/299-5400.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. U.S. Gypsum Association 810 First Street NE, #510 Washington, DC 20002 202/289-5440, FAX 202/289-3707

2.2 MATERIALS

A. Gypsum Plaster Materials:

1. General: gypsum plastering materials shall conform to ANSI A42.1. Provide neat or ready-mixed materials at installer's option unless indicated otherwise.
2. Base coat plaster: Perlite gypsum plaster such as" Structo-Lite" (U.S. Gypsum Association), or approved equal.
3. Base coat aggregate: Sand.
4. Finish coat plaster: Keene's cement.
5. Finishing lime: Installer's option for type.

B. Bonding Materials: Bonding agent shall conform to ASTM C631.

2.3 EQUIPMENT

A. Joint knife.

B. Sponge or heavy-nap cloth.

C. Crack widener or triangular can opener.

D. Stiff bristle brushes.

E. Hawk.

F. Slicker (flexible straight-edge).

G. Plasterer's trowel.

H. Margin trowel.

I. Mortarboard and mud pan.

J. Pointing trowel.

PART 3 - EXECUTION

3.1 EXECUTION, INSTALLATION, APPLICATION

A. Scrape loose or damaged finish plaster and peeling paint from surface with chisel or joint knife. Remove material where required to enlarge cracks, chips, holes, etc. to at least 1/2 inch across and undercut to improve bonding of new material.

B. Brush or vacuum surface to remove dust and debris.

C. Moisten the surface by lightly spraying a fine mist of clean water from a spray bottle.

D. Apply skim finish coat over low areas to bring entire finished surface out flush with the projecting firm and sound layers of adjacent plaster or paint. Form plaster as required to match original configuration and design or ornamental plaster.

E. Once dry, sand by hand to produce a surface without bumps, cracks, or depressions, ready to receive finish treatment.

3.2 ADJUSTING/CLEANING

A. Upon completion of this work, all floors, walls, and other adjacent surfaces that are stained, marred, or otherwise damaged by work in this procedure shall be cleaned and repaired and all work and the adjacent areas shall be left in a clean and perfect condition.

B. All completed work shall be adequately protected from damage by subsequent building operations and effects of weather. Protection shall be by methods recommended by the manufacturer of installed materials and as approved by Architect.

3.3 WASTE MANAGEMENT

A. Coordinate with Division 01.

1. Separate and recycle cut-offs and waste materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
2. Set aside and protect materials suitable for reuse and/or remanufacturing.
3. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

END OF SECTION 092320

SECTION 095100 - ACOUSTICAL CEILINGS - USG

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Suspended metal grid ceiling systems.

B. Acoustical units.

C. Wall angles and shadow moldings.

D. Special trims and accessories.

1.2 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A492 - Standard Specification for Stainless Steel Rope Wire; 1995 (Reapproved 2019).

C. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2018.

D. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2019 (Reapproved 2025).

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

F. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

G. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

H. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2023.

I. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

J. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

K. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019 (Reapproved 2025).

L. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

M. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.

N. ASTM E413 - Classification for Rating Sound Insulation; 2022.

O. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

P. ASTM E1414/E1414M - Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum; 2021a.

Q. CHPS (HPPD) - High Performance Products Database; Current Edition.

R. FM (AG) - FM Approval Guide; current edition.

S. UL (FRD) - Fire Resistance Directory; Current Edition.

T. UL (GGG) - GREENGUARD Gold Certified Products; Current Edition.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate work of this section with installation of mechanical and electrical components and with other construction activities affected by work of this section.
   1. Review with affected installers those locations of facility services lines and equipment within ceiling plenum that prevent installation of hangers at spacings compliant with limitations established in referenced standards. Arrange for each affected mechanical or electrical installer to provide necessary number of additional structural support points for ceiling installer.

B. Preinstallation Meeting: Convene one week before starting work of this section.

C. Sequencing: Schedule work of affected trades to minimize or eliminate installation conflicts and rework.
   1. Ensure that acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved. Do not install acoustical units until after interior wet work is dry.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning, junctions with other ceiling finishes, and mechanical and electrical items installed in the ceiling.

C. Product Data: Provide data on suspension system components and acoustical units.

D. Evaluation Service Reports: Show compliance with specified requirements.

E. Samples: Two samples 6 by 6 inches in size indicating material and finish of acoustical units.

F. Samples: Two samples each, 4 inches long of suspension system main runner, cross runner, and perimeter molding.

G. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

H. Designer's qualification statement.

I. Manufacturer's qualification statement.

J. Installer's qualification statement.

K. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements for additional provisions.
   2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.5 QUALITY ASSURANCE

A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience and approved by manufacturer.

1.6 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent before, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.1 CEILING ASSEMBLIES

A. Refer to Reflected Ceiling Plans on drawings for additional ceiling assembly information.

B. Acoustical Ceiling Assembly Type APC-1:
   1. Acoustical Units: , Item No. USG Juno #18281.
      a. Panel Size: 24 inches by 24 inches (2 by 2) panel.
      b. Panel Edge: FL edge.
      c. Color: Flat White.
      d. Characteristics:
         1) Noise Reduction Coefficient: 0.95
         2) Ceiling Attenuation Class: 30
         3) Tile Pattern: Smooth
         4) Light Reflectance: 0.85
         5) Recycled Content: 21%
   2. Suspension Grid: Donn Centricitee DXT 9/16-inch Suspension System.
      a. Color: Matching panels.

2.2 Ceiling PERFORMANCE REQUIREMENTS

A. Design for maximum deflection of 1/360 of span.

2.3 Ceiling COMPONENT PRODUCTS

A. Acoustical Units:
   1. Acoustical Units - General: ASTM E1264, Fire Class A.
      a. VOC Content: Certified as Low Emission by one of the following:
         1) Product listing in UL (GGG).
         2) Product listing in CHPS (HPPD).
      b. Noise Reduction Coefficient (NRC) rating, Ceiling Attenuation Class (CAC) rating, and Light Reflectance Coefficient (LR) performance for each type of unit specified below, as determined in accordance with ASTM E1264.
      c. Fire Class / Surface Burning Characteristics: Determined in accordance with test method ASTM E84.
         1) Surface Burning Characteristics: Unless otherwise indicated, flame spread index of 25 or less, smoke developed index of 50 or less.

B. Suspension Systems:
   1. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with wall angles and moldings, curtain pockets, and splices as required.
   2. Exposed Acoustical Suspension System: Hot-dipped galvanized steel grid and cap.
      a. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.

b. Profile: Tee; 9/16 inch face width.
c. Finish: Baked enamel.
d. Color: White.
e. Products:
1) USG Corporation; Centricitee DXT 9/16 Inch Suspension System: www.usg.com/ceilings/#sle.
2) Substitutions: See Section 016000 - Product Requirements.

C. Moldings and Trim:
1. Edge Molding, Expansion Joints, and Splices - General: Same material, thickness, and finish as metal pan panels, unless otherwise indicated.
2. Perimeter Wall Moldings: Same metal and finish as grid.
a. Size: As required for installation conditions.
b. Shadow Moldings: Shaped to create a perimeter reveal.
c. Acoustical Sealant For Perimeter Moldings: Nonhardening, nonskinning, for use in conjunction with suspended ceiling system.
3. Trim Accessories: Manufacturer's standard clips, cleats splice plates, extension plates, closure plates, corner pieces, and similar accessories required for a complete installation.

2.4 ACCESSORIES

A. Support Channels, Carriers, and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

B. Suspension Wire: Size and type as required for application, seismic requirements, and ceiling system flatness requirement specified.
1. Concealed Suspension:
a. Suspension Wire: Steel, annealed, galvanized finish, 12 gauge, 0.0808 diameter, complying with ASTM A641/A641M.

C. Touch-Up Paint for Exposed Surfaces: Type and color to match acoustical units and suspension system grid and trim elements.

D. Touch-Up Paint For Concealed Items: Zinc rich type, as recommended by ceiling system manufacturer.

2.5 Fabrication

A. Shop fabricate ceiling components to the greatest extent possible.

B. Fabricate components to allow access to ceiling plenum as required.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

C. Verify that field measurements are as indicated on shop drawings.

D. Start of installation constitutes acceptance of project conditions.

3.2 Preparation

A. Coordinate the location of hangers with other work.

B. Install ceiling system after major above-ceiling work is complete.

3.3 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M and manufacturer's instructions and as supplemented in this section.

B. Install hangers and inserts coordinated with overhead work. Provide additional hangers and supports as required.

C. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

D. Locate system on room axis according to reflected ceiling plan.

E. Suspension System, Nonseismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

F. Where ducts, facility services, or equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

I. Do not eccentrically load system or induce rotation of runners.

J. Edge Moldings: Install at intersection of ceiling and vertical surfaces and penetrations, using components of maximum length; set level. Provide edge moldings at junction with other ceiling finishes. Miter corners. Provide preformed edge closures to match bullnosed cornered partitions.

1. Use longest practical lengths.

3.4 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit edge trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
1. Cut to fit irregular grid and perimeter edge trim.
2. Make field cut edges of same profile as factory edges.
3. Double cut and field paint exposed reveal edges.

F. Where round obstructions occur, provide preformed closures to match perimeter molding.

3.5 INSTALLATION OF TRANSITION TRIM

A. After the grids are installed, for each grid end that meets the transition trim, insert one tee attachment clip into the lower and upper bosses and secure the set screw. Leave enough tension for adjustment.

B. Secure a tee attachment clip to each grid member that will connect to the transition trim. Install one framing screw into the center of the slotted screw hole. Leave enough tension so the attachment clip can be adjusted if needed. Follow manufacturer's instructions when aligning the attachment clip.

C. Install the splice plates by sliding them into the bosses at the end of each transition trim joint. Loosely tighten the set screws and align the system square and true.

3.6 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: Two degrees.

3.7 Cleaning

A. Clean and touch up minor finish damage. Remove and replace components that cannot be successfully cleaned and repaired.

END OF SECTION 095100

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Resilient base.
   2. Resilient molding accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

C. Samples for Initial Selection: For each type of product indicated.

D. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches long.

E. Product Schedule: For resilient base and accessory products. Use same designations indicated on Drawings.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.5 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
   1. Coordinate mockups in this Section with mockups specified in other Sections.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products 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.

1.7 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 resilient products during the following 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 more than 95 deg F.

C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 PRODUCTS

2.1 RESILIENT BASE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Armstrong World Industries, Inc.
2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
3. Johnsonite; A Tarkett Company.
4. Roppe Corporation, USA.
5. Or Approved Equal

B. Product Standard: ASTM F1861, Type TP (rubber, thermoplastic).
1. Group: I (solid, homogeneous)
2. Style and Location:

a. Style A, Straight: Provide in areas with carpet.
b. Style B, Cove: Provide in areas with resilient floor coverings.

C. Thickness: 0.125 inch

D. Height: 4 inches.

E. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.

F. Outside Corners: Pre-formed.

G. Inside Corners: Pre-formed.

H. Colors: As selected by Architect from full range of industry colors.

2.2 RESILIENT MOLDING ACCESSORY

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Armstrong World Industries, Inc.
2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
3. Johnsonite; A Tarkett Company.
4. Roppe Corporation, USA.

B. Description: Rubber reducer strips and transition strips for resilient floor coverings.

C. Locations: Provide rubber molding accessories in areas indicated.

D. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

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 resilient products.

B. Proceed with installation only after unsatisfactory conditions have been corrected.
1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates for Resilient Accessories: Prepare horizontal surfaces according to ASTM F710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by 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 10 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until materials are the same temperature as 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 products.

3.3 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.

3.4 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.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Perform the following operations immediately after completing resilient-product installation:
   1. Remove adhesive and other blemishes from surfaces.
   2. Sweep and vacuum horizontal surfaces thoroughly.
   3. Damp-mop horizontal surfaces to remove marks and soil.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

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SECTION 096816 - SHEET CARPETING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Carpet, direct-glued.

B. Removal of existing carpet.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 033000 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied carpet.

C. Section 090561 - Common Work Results for Flooring Preparation: Independent agency testing of concrete slabs, removal of existing floor coverings, cleaning, and preparation.

D. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

E. Section 096813 - Tile Carpeting.

F. Section 260519.13 - Undercarpet Electrical Power Cables: Undercarpet flat wiring.

G. Section 260539 - Underfloor Raceways for Electrical Systems: Electrical and telephone floor cover plate with recess for carpet.

1.3 REFERENCE STANDARDS

A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2016 (Reapproved 2021).

B. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2025.

C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

D. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

E. CRI (GL) - Green Label Testing Program - Certified Products; Current Edition.

F. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Current Edition.

G. CRI 104 - Standard for Installation of Commercial Carpet; 2015.

H. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2023.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Shop Drawings: Indicate seaming plan, method of joining seams, direction of carpet pile and pattern, location of edge moldings and edge bindings, layout of flat wire system.

D. Samples: Submit two samples 24 by 24 inch in size illustrating color and pattern for each carpet material specified.

E. Accessory Samples: Submit two 6 inch long samples of edge strip for each color specified.

F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

H. Operation and Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional requirements.
   2. Extra Carpet: 100 sq ft of each type, color, and pattern installed.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet with minimum three years documented experience.

1.6 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

B. Maintain minimum 70 degrees F ambient temperature 24 hours prior to, during and 24 hours after installation.

C. Ventilate installation area during installation and for 72 hours after installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Carpet:
1. Tarkett Commercial: www.tarkettcommercial.com
2. Substitutions: See Section 016000 - Product Requirements.

2.2 CARPET

A. Carpet:
1. Product: Basis of Design 11663 Tundra Flower manufactured by Tarkett Commercial.
2. Roll Width: 6 ft.
3. Color: As per Finish Schedule.
4. Pattern: As per Finish Schedule.
5. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
6. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
7. VOC Content: Provide CRI (GLP) certified product; in lieu of labeling, independent test report showing compliance is acceptable.

2.3 ACCESSORIES

A. Subfloor Filler: Type recommended by carpet manufacturer.

B. Moldings and Edge Strips: Rubber, color as selected.

C. Adhesives:
1. Compatible with materials being adhered; maximum VOC content as specified in Section 016116.

D. Seam Adhesive: Recommended by carpet manufacturer.

E. Carpet Adhesive: Recommended by carpet manufacturer; releasable type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive carpet.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet.

C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesives to subfloor surfaces.

D. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.2 PREPARATION

A. Remove existing carpet and carpet cushion.

B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

C. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.

D. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

E. Clean substrate.

3.3 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet and cushion in accordance with manufacturer's instructions and CRI 104 (Commercial).

C. Verify carpet match before cutting to ensure minimal variation between dye lots.

D. Lay out carpet and locate seams in accordance with shop drawings.
   1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic.
   2. Do not locate seams perpendicular through door openings.
   3. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.
   4. Locate change of color or pattern between rooms under door centerline.

5. Provide monolithic color, pattern, and texture match within any one area.

E. Install carpet tight and flat on subfloor, well fastened at edges, with a uniform appearance.

3.4 DIRECT-GLUED CARPET

A. Double cut carpet seams, with accurate pattern match. Make cuts straight, true, and unfrayed. Apply seam adhesive to cut edges of woven carpet immediately.

B. Apply contact adhesive to floor uniformly at rate recommended by manufacturer. After sufficient open time, press carpet into adhesive.

C. Apply seam adhesive to the base of the edge glued down. Lay adjoining piece with seam straight, not overlapped or peaked, and free of gaps.

D. Roll with appropriate roller for complete contact of adhesive to carpet backing.

E. Trim carpet neatly at walls and around interruptions.

F. Complete installation of edge strips, concealing exposed edges. Bind cut edges where not concealed by edge strips.

3.5 INSTALLATION ON STAIRS

A. Use one piece of carpet for each tread and the riser below. Apply seam adhesive to all cut edges.

B. Install carpet with pile direction in the length of the stair.

C. Adhere carpet tight to stair treads and risers.

3.6 CLEANING

A. Remove excess adhesive from floor and wall surfaces without damage.

B. Clean and vacuum carpet surfaces.

END OF SECTION 096816

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SECTION 098415 – FELT SOUND ABSORPTIVE PANELS

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: Furnish all labor, materials and equipment necessary to furnish and install all Custom fabricated acoustical wall panels.

1.3 REFERENCES

A. ASTM International:

1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

1.4 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data sheet, for specified products.

C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.

D. Samples: Submit selection and verification samples of finishes, colors and textures and 2’x2’ Sample Panels as a fit and finish reference.

E. Test Reports: Certified test reports showing compliance with specified performance requirements.

1. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

1.5 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirements Section.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.6 PROJECT CONDITIONS

A. Environmental Requirements: Do not install panels until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F (16 - 27 degrees C) and 45%, respectively.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Referenced manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

1. ACOUFELT

2.2 MATERIALS

A. REFERENCED PRODUCT – ACOUFELT PREMIER XX

1. Material & Composition
   a. Composition: 100% FilaSorb™ polyester felt
   b. Recycled Content: Minimum 60% recycled PET
   c. Thicknesses: 12mm
2. Size:
   a. As indicated on the drawings up to a maximum 48 inch (1219 mm) x 110 inch (3048 mm) panel.
3. Fire Test Ratings

a. Standard: ASTM E84 / CAN/ULC-S102
b. Classification: Class A
c. Flame Spread Index: 15
d. Smoke Developed Index: 200

4. COLOR
   a. To be selected by architect

5. Acoustical Performance: Absorption Coefficients:

Frequency, Hz	125	250	500	1000	2000	4000	NRC
12mm	.06	.02	0.23	0.61	0.89	0.95	0.45

6. Environmental Attributes
   a. Indoor Air Quality – Low VOC Formaldehyde and Phenol-free
   b. Light Fastness Warranty - 10 Years

PART 3 - EXECUTION

A. Installation

1. Install in accordance with manufacturer printed instructions, using approved direct-attach or mechanical mounting methods (Install Method A) without damaging panels.

B. Examination

1. Verify substrate surfaces are flat, clean, dry, and structurally ready to receive acoustic treatments.

C. Cleaning & Protection

1. Remove excess adhesive, clean felt surfaces per manufacturer recommendations, and protect finished installations from subsequent construction damage.

END OF SECTION 098415

SECTION 098430 - SOUND-ABSORBING WALL AND CEILING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sound-absorbing panels.

B. Mounting accessories.

1.2 REFERENCE STANDARDS

A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2023.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

C. ASTM E795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests; 2016.

1.3 SUBMITTALS

A. Product Data: Manufacturer's printed data sheets for products specified.

B. Shop Drawings: Fabrication and installation details, panel layout, fabric orientation, and wood grain orientation.

C. Selection Samples: Manufacturer's color charts for fabric covering, indicating full range of fabrics, colors, and patterns available.

D. Verification Samples: Fabricated samples of each type of panel specified; 12 by 12 inch, showing construction, edge details, and fabric covering.

E. Test Reports: Certified test data from an independent test agency verifying that panels meet specified requirements for acoustical and fire performance.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with at least three years of documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect acoustical units from moisture during shipment, storage, and handling. Deliver in factory-wrapped bundles; do not open bundles until units are needed for installation.

B. Store units flat, in dry, well-ventilated space; do not stand on end.

C. Protect edges from damage.

PART 2 PRODUCTS

2.1 FABRIC-COVERED Sound-Absorbing Units

A. Manufacturers:
1. Conwed Designscape/Wall Technology; Conwed Wall Panel: www.conweddesignscape.com/#sle.

B. General:
1. Prefinished, factory assembled fabric-covered panels.
2. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.

C. Fabric-Covered Acoustical Panels for Walls:
1. Panel Core: Manufacturer's standard rigid or semi-rigid fiberglass core.
2. Core Density: 6 to 7 lb/cu ft.
3. Sound Absorption: Noise Reduction Coefficient (NRC) or Sound Absorption Average (SAA) of 1.05 when tested in accordance with ASTM C423 for Type A mounting, per ASTM E795.
4. Panel Thickness: 2 inches.
5. Edges: Perimeter edges reinforced by a formulated resin hardener.
6. Corners: Square.
7. Fabric: Per material schedule on drawings..
8. Color: Per material schedule on drawings.
9. Patterns: Where fabric with directional or repeating patterns or fabric with directional weave is used, mark for installation in same direction.
10. Mounting Method: Z clip.

2.2 FABRICATION

A. Fabric Wrapped, General: Fabricate panels to sizes and configurations as indicated, with fabric facing installed without sagging, wrinkles, blisters, or visible seams.

B. Tolerances: Fabricate to finished tolerance of plus or minus 1/16 inch for thickness, overall length and width, and squareness from corner to corner.

2.3 ACCESSORIES

A. Back-Mounting Accessories: Manufacturer's standard accessories for concealed support, designed to allow panel removal, and as follows:
   1. Z-clip hanger and magnet system with magnets recessed into panel frame and designed to engage steel mounting plates secured to substrate with screws.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates for conditions detrimental to installation of acoustical units. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install acoustical units in locations as indicated, following manufacturer's installation instructions.

B. Install mounting accessories and supports in accordance with shop drawings.

C. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.

D. Install acoustical units to construction tolerances of plus or minus 1/16 inch for the following:
   1. Plumb and level.
   2. Flatness.

3.3 CLEANING

A. Clean sound-absorptive panels upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

3.4 PROTECTION

A. Provide protection of installed acoustical panels until Date of Substantial Completion.

B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION 098430

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SECTION 099123 - INTERIOR PAINTING

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 surface preparation and the application of paint systems on interior substrates.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Paint: 1 gal. (3.8 L) of each material and color applied.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
   1. Maintain containers in clean condition, free of foreign materials and residue.
   2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Products: See Material Legends on drawing AF001 for locations, colors, finishes.
   1. Sherwin-Williams Company.

2.2 PAINT, GENERAL

A. See Part 3 for Paint products.

B. Material Compatibility:
   1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
   1. Flat Paints and Coatings: 50 g/L.
   2. Nonflat Paints and Coatings: 150 g/L.
   3. Dry-Fog Coatings: 400 g/L.
   4. Primers, Sealers, and Undercoaters: 200 g/L.
   5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
   6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
   7. Pretreatment Wash Primers: 420 g/L.
   8. Floor Coatings: 100 g/L.
   9. Shellacs, Clear: 730 g/L.
   10. Shellacs, Pigmented: 550 g/L.

D. Colors: Match Architect's samples and or As indicated in a color schedule.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   1. Concrete: 12 percent.

2. Wood: 15 percent.
3. Gypsum Board: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."

F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

H. Aluminum Substrates: Remove loose surface oxidation.

I. Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in equipment rooms:
a. Equipment, including panelboards.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.

g. Tanks that do not have factory-applied final finishes.
h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

2. Paint the following work where exposed in occupied spaces:
   a. Equipment, including panelboards.
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
   h. Other items as directed by Architect.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
   1. Contractor shall touch up and restore painted surfaces damaged by testing.
   2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Gypsum Board – Walls

1. Eg-Shel Finish.
    a. Primer: ProMar 200 Zero VOC Latex Primer, B28W2600.
    b. 1st Coat: ProMar 200 Zero VOC Interior Latex Eg-Shel, B20-2600 Series.
    c. 2nd Coat: ProMar 200 Zero VOC Interior Latex Eg-Shel, B20-2600 Series.

B. Ferrous Metal – Doors, Frames and Miscellaneous Metals
1. Semi-Gloss Finish.
    a. Primer: Pro Industrial™ ProCryl® Universal Primer, B66-310 Series.
    b. 1st Coat: Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
    c. 2nd Coat: Pro Industrial Acrylic Semi-Gloss, B66-650 Series.

C. Non-Ferrous Metal – Galvanized/Aluminum Metal Surfaces
1. Eg-Shel Finish.
    a. Primer: Pro Industrial ProCryl Universal Primer, B66-310 Series
    b. 1st Coat: Pro Industrial Acrylic Eg-Shel, B66-660 Series.
    c. 2nd Coat: Pro Industrial Acrylic Eg-Shel, B66-660 Series.

D. Exposed Ceilings and Decking
1. Ferrous Metal Decking – Including Bar Joists/Structural Steel
    a. Flat Finish.
        1) Primer: Pro Industrial ProCryl Universal Primer, B66-310 Series.
        2) 1st Coat: Pro Industrial Waterborne Acrylic Dryfall, Flat, B42-80 Series.
        3) 2nd Coat: Pro Industrial Waterborne Acrylic Dryfall, Flat, B42-80 Series.
2. Non-Ferrous Metal Decking
    a. Flat Finish.
        1) 1st Coat: Pro Industrial Waterborne Acrylic Dryfall, Flat B42-80 Series.
        2) 2nd Coat: Pro Industrial Waterborne Acrylic Dryfall, Flat B42-80 Series.

END OF SECTION 099123

SECTION 099300 - STAINING AND TRANSPARENT FINISHING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Stains.

B. Transparent finishes.

1.2 DEFINITIONS

A. Refer to ASTM D16 for interpretation of terms used in this section.

1.3 Reference Standards

A. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2019.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.

1.4 Submittals

A. Product Data: Provide complete list of products to be used, including manufacturer's name, product name and catalog number, and general product category.

B. Samples: Two samples on actual wood substrate to be finished, 8 by 8 inch in size, indicating selected colors and sheens for each system, with specified coats cascaded.

C. Certificate: Certify that stains and transparent finishes comply with VOC limits specified.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Applicator's qualification statement.

F. Maintenance Data: Submit data including finish schedule showing where each product, color, and finish was used, product technical data sheets, safety data sheets (SDS), care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements for additional provisions.

2. Extra Stock Materials: Stain and transparent finish materials, 1 gal of each color and type from the same product run; store where directed.
    a. Label each container with color and type in addition to the manufacturer's label.

1.5 Quality Assurance

A. Applicator Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.6 Delivery, Storage, and Handling

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of stain or transparent finish, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Stain and Transparent Finish Materials: Store at minimum ambient temperature of 60 degrees F and a maximum of 80 degrees F in ventilated area and as required by manufacturer's instructions.

D. Handling: Maintain a clean, dry storage area to prevent contamination or damage to materials.

1.7 Field Conditions

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by manufacturer of stains and transparent finishes.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity is below 33 percent or exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperature: 50 degrees F, unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 fc measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 Stains and Transparent Finishes - General

A. Finishes:

1. Provide finishes capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each finish material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content: See Section 016116.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

E. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by Architect after award of contract.
2. Extend colors to surface edges; colors may change at any edge as directed by Architect.

2.2 STAIN AND TRANSPARENT FINISH SYSTEMS

A. Finish on Wood - Floors:
1. Stain: Semi-transparent stain for wood.
   a. Products:
      1) Bona US; DriFast Stain: www.bona.com/#sle.
2. Sealer: Water-based, sanding sealer, clear.
   a. Products:
      1) Bona US; ClassicSeal: www.bona.com/#sle.
      2) Bona US; IntenseSeal: www.bona.com/#sle.
      3) Bona US; NaturalSeal: www.bona.com/#sle.
      4) Bona US; AmberSeal: www.bona.com/#sle.
      5) Bona US; NordicSeal: www.bona.com/#sle.
      6) Bona US; SuperSport Seal: www.bona.com/#sle.
3. Sealer: Water-based sealer for wood athletic floors, clear or light amber.
   a. Products:
      1) Bona US; SuperSport DTS: www.bona.com/#sle.
4. Top Coat: Polyurethane varnish, oil modified.
   a. Products:
      1) Bona US; Woodline Poly: www.bona.com/#sle.
5. Top Coat(s): One- or two-component, water-based polyurethane.

a. Products:
1) Bona US; Mega: www.bona.com/#sle.
2) Bona US; Mega ONE: www.bona.com/#sle.
3) Bona US; Traffic HD: www.bona.com/#sle.
4) Bona US; Traffic HD Anti-Slip: www.bona.com/#sle.
5) Bona US; Traffic HD Raw: www.bona.com/#sle.

6. Top Coat: One- or two-component, water-based coating for wood athletic floors.
a. Products:
1) Bona US; SuperSport HD: www.bona.com/#sle.
2) Bona US; SuperSport ONE: www.bona.com/#sle.

7. Top Coat(s): One-component, water-based thin film coating.
a. Products:
1) Bona US; Domo: www.bona.com/#sle.

8. Top Coat Sheen:
a. Semi-Gloss: Gloss level 5; use this sheen at all locations.

2.3 Accessory Materials

A. Accessory Materials: Cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of finished surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 Examination

A. Do not begin application of stains and finishes until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
1. Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 Preparation

A. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

B. Remove or repair existing finishes that exhibit surface defects.

C. Clean surfaces thoroughly and correct defects prior to application.

D. Prepare surfaces using the methods recommended by the manufacturer to achieve the best result for the substrate under the project conditions.

E. Seal surfaces that might cause bleed-through or staining of topcoat.

F. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

G. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

3.3 Application

A. Apply products in accordance with manufacturer's written instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand wood surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

G. Reinstall items removed prior to finishing.

3.4 Field Quality Control

A. Coordination of Other Tests and Inspections: Provide access and _____ to accommodate tests and inspections by independent testing agency employed by Owner.

B. Inspect and test questionable coated areas in accordance with _____.

3.5 Cleaning

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 Protection

A. Protect finishes from subsequent construction operations.

B. Do not permit traffic over unprotected floor surface.

C. Touch up damaged finishes after Substantial Completion.

END OF SECTION 099300

SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. High performance coatings.

B. Surface preparation.

1.2 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2017).

C. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application; 2024.

D. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2023.

E. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; Current Edition.

F. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

G. SSPC-SP 13/NACE No.6 - Surface Preparation of Concrete; 2018.

1.3 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
   4. Manufacturer's installation instructions.

C. Samples: Submit two samples 8 by 8 inch in size illustrating colors available for selection.
   1. Submit samples on concrete substrates for Architect's review of color and texture.

D. The owner will determine the amount of aggregate required for the finished floor during th e review of floor samples. Provide a minimum of four (4) floor mock-up panels for the owners review to demonstrate the variation and range of non-slip aggregate. Note the percentage of non-slip aggregate on each sample.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Maintenance Data: Include cleaning procedures and repair and patching techniques.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Extra Coating Materials: 5% but not less than 1 gallon of each type and color.
   2. Label each container with manufacturer's name, product number, color number, and room names and numbers where used.

1.4 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

C. Applicators Qualifications: Engage and experienced applicator who has completed high-performance coating system applications similar in material and extent to those indicated for the Project and whoe work has a record of successful in-service performance.

D. Source Limitations: Obtain primers and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.5 MOCK-UPS

A. See Section 014000 - Quality Requirements for general requirements for mock-ups.

B. Provide mock-up , 10 feet long by 10 feet wide, illustrating coating , for each specified coating.
   1. Architect will select an area to represent conditions for application of each type of coating and substrate.

2. After permanent lighting and other environmental services have been activated, apply coatings in the area selected by Architect. Provide the required sheen, color, and texture of each surface.
    a. After finishes are accepted, Architect will use the mock-up area to evaluate coating systems of a similar nature.

C. Locate where directed.

D. Mock-up may remain as part of the work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.
1. Protect materials from freesing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and workareas are protected from fire and health hazards resulting from handling, mixing, and applying coatings.

1.7 FIELD CONDITIONS

A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.

C. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.

D. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

F. Restrict traffic from area where coating is being applied or is curing.

1.8 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for bond to substrate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Only materials (primers, coatings, etc.) listed in the latest edition of the MPI Approved Product List (APL) are acceptable for use on this project.

B. Material Quality: Provide manufacturer's highest grade of the various high-performance coatings specified. Materials not displaying manufacturer's product identification are not acceptable.
   1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificate of performance for proposed substitutions.

C. VOC Classifications: Provide high-performance coating materials, including primers, undercoats, and finish-coat materials, that have a VOC classification of 350 g/L or less.

D. High-Performance Coatings:
   1. Substitutions: Section 016000 - Product Requirements.

2.2 TOP COAT MATERIALS

A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
   1. Volatile Organic Compound (VOC) Content:
      a. Provide coatings that comply with the most stringent requirements specified in the following:
         1) 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
         2) Architectural coatings VOC limits of the State in which the Project is located.
      b. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
   2. Colors: Selected from manufacturer's standard colors.

B. Epoxy Floor Coating for Auditorium and Balcony:

1. Top Coat(s): Polyamide Epoxy Deck Coating, Slip Resistant, Two-Component; MPI #82.
    a. Sheen: Eggshell.
    b. Products:
        1) Sherwin-Williams; ArmorSeal 1000 HS. (MPI #82): www.protective.sherwin-williams.com/#sle.
            a) Pigmented, color selected by Architect from manufacturers full range.
        2) Substitutions: Section 016000 - Product Requirements.

C. Shellac: Pure, white type.

2.3 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by coating manufacturer.
1. Primer Sealer, Interior, Institutional Low Odor; MPI #149.
    a. Products:
        1) Pittsburgh Paints; Speedhide zero VOC Interior Latex Sealer, 6-4900XI: www.ppgpaints.com/#sle. (MPI #149)
        2) Pittsburgh Paints; Pure Performance Interior Latex Primer, 9-900: www.ppgpaints.com/#sle. (MPI #149)
        3) Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Primer: www.protective.sherwin-williams.com/#sle. (MPI #149)
        4) Substitutions: Section 016000 - Product Requirements.

2.4 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Cementitious Substrates: Do not begin application until substrate has cured 28 days minimum and measured moisture content is not greater than 12 percent.
   2. Concrete Floors and Traffic Surfaces: 8 percent.

G. Proceed with coating application only after unacceptable conditions have been corrected.
   1. Commencing coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

B. Clean surfaces of loose foreign matter.

C. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.

D. Remove finish hardware, fixture covers, and accessories and store.

E. Existing Painted and Sealed Surfaces:
   1. Strip existing paint and coatings from surface.
   2. Remove loose, flaking, and peeling paint. Feather edge and sand smooth edges of chipped paint.
   3. Clean with mixture of trisodium phosphate and water to remove surface grease and foreign matter.

F. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Clean concrete according to ASTM D4258. Allow to dry.
   3. Prepare surface as recommended by coating manufacturer and in accordance with SSPC-SP 13/NACE No.6.

3.3 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Concrete: Prior to priming, patch with masonry filler to produce smooth surface.

3.4 COATING APPLICATION

A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in MPI - Architectural Painting and Specification Manual.

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.5 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when coatings are being applied:
   1. Owner will engage the services of a qualified testing agency to sample coatng materials being used. Samples of materials delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
   2. Testing agency will perform appropriate tests for the following characteristics as required by Owner:
      a. Quantitive materials analysis.
      b. Absorption.
      c. Accelerated yellowness.
      d. Color retention.
      e. Alkali and mildew resistance.
      f. Abrasion resistance.
      g. Washability.
      h. Dry opacity.
      i. Recoating.
      j. Skinning.
   3. Owner may direct Contractr to stop applying coatings if test results show materials being used do not comply with specified requirements. Contractor shall remove noncomplying coatings with rejected materials. If necessary, Contractor may be required to remove rejected materials from previously coated surfaces if, on recoating with specified materials, the two coatings are not compatible.

B. See Section 014000 - Quality Requirements for general requirements for field inspection.

3.6 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.7 PROTECTION

A. Protect work of other trades, whether being coated or not, against damage from coating operation. Correct damage by cleaning , repairing, replacing, and recoating, as approved by Architect, and leave in an undamage condition.
   1. Provide "Wet Paint" signs to protect newly coated finishes. After completeing coating operations, remove temporary protective wrapping provided by others to protect their work.
   2. At completion of construction activites of other trades, touch up and restore damaged or defaced coating surfaces. Comply with procedure specified in PDCA P1.

B. Protect finished work from damage.

3.8 SCHEDULE

A. Color: As indicated on Finish Schedule.

B. Concrete Floors in Auditorium and Balcony: Opaque epoxy floor coating, non-skid finish.

END OF SECTION 099600

SECTION 105626 – HEAVY DUTY ADJUSTABLE METAL SHELVING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Furnish and install heavy-duty adjustable metal shelving units as indicated on the drawings and specified herein.
B. Work includes:

1. Heavy-duty steel shelving frames.
2. Adjustable shelf supports.
3. MDF shelf panels.
4. All accessories and hardware required for a complete installation.

1.2 REFERENCE STANDARDS

A. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy.
B. ASTM D1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials..

1.3 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Include data on material descriptions, construction component dimensions and profiles, and finishes; and necessary accessories.

C. Load Capacity.

D. Assembly details.

E. Shelf adjustment increments.

F. Anchoring requirements and hardware.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Shelving shall be designed and manufactured for heavy-duty storage applications.

1.5 FIELD CONDITIONS

A. Field verify all existing conditions prior to installation

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Provide manufacturer's standard warranty covering defects in materials and workmanship for not less than one year from Date of Substantial Completion.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver components in manufacturer's original packaging.

B. Store materials in a clean, dry location protected from damage and deformation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design

1. REIBII Heavy-Duty Adjustable Shelving Unit, 48"W x 24"D x 60"H, or approved equal.

B. Acceptable Manufacturers:

1. REIBII.
2. Edsal.
3. Valley Craft.
4. Lyon Workspace Products.

2.2 HEAVY DUTY ADJUSTABLE SHELVING

A. Overall dimensions as per floor plans

B. Construction

1. Cold-rolled steel frame members.
2. Boltless or clip-type shelf adjustment system.
3. Factory-applied powder coat finish.
4. Color: Manufacturer's standard gray or black unless otherwise indicated.

C. Shelves
1. Quantity: Four (4) adjustable shelves minimum.
2. Shelf material: MDF panels.
3. MDF thickness: 5 mm minimum.
4. Shelves adjustable in vertical increments not exceeding 1-1/2 inches.
5. Shelf panels shall be fully supported by steel shelf beams.

D. Capacity
1. Minimum unit load capacity: 2,000 pounds evenly distributed.
2. Shelf capacity shall be as recommended by manufacturer.

E. Accessories
1. All clips, connectors, braces, and reinforcement members required for complete installation.
2. Floor leveling devices where required.

F. Finish
1. Powder-coated finish.
2. Corrosion-resistant.
3. Scratch-resistant coating suitable for warehouse, storage, utility, and maintenance environments.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify installation area dimensions and conditions prior to installation.

B. Do not proceed with installation until unacceptable conditions have been corrected.

3.2 PREPARATION

A. Prepare surfaces of substrates using methods in accordance with manufacturer's installation instructions.

B. Clean surfaces thoroughly before starting installation.

3.3 INSTALLATION

A. Install shelving in accordance with manufacturer's written instructions.

B. Assemble components plumb, level, rigid, and secure.

C. Adjust shelves to locations indicated on drawings or as directed by Owner.

D. Anchor shelving to wall or floor where required by code, manufacturer recommendations, or project conditions.

E. Protect installed shelving from damage until Substantial Completion.

3.4 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Remove protective coverings from finished surfaces.

C. Clean exposed surfaces and leave shelving ready for use.

3.5 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals for closeout submittals.

END OF SECTION 105626

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SECTION 144200 - WHEELCHAIR LIFTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Vertical platform wheelchair lifts.

1.2 RELATED REQUIREMENTS

A. Section 262726 - Wiring Devices.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

C. ASME A17.1 - Safety Code for Elevators and Escalators Includes Requirements for Elevators, Escalators, Dumbwaiters, Moving Walks, Material Lifts, and Dumbwaiters with Automatic Transfer Devices; 2022.

D. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts; 2023.

E. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

F. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

G. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

H. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

I. ASTM A572/A572M - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel; 2025.

J. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

K. ASTM A786/A786M - Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates; 2015 (Reapproved 2025).

L. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.

M. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2020.

N. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2022).

O. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel; 2018, with Errata (2022).

P. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

Q. ITS (DIR) - Directory of Listed Products; Current Edition.

R. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

S. UL (DIR) - Online Certifications Directory; Current Edition.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate installation of wheelchair lift system with adjacent construction using necessary attachments; provide anchoring devices in accordance with manufacturer's installation instructions; coordinate installation of cast-in-place concrete components.
   1. Electrical System: Coordinate utility and electrical system connections to ensure they are made in an orderly and expeditious manner.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Include data on material descriptions, construction details, component dimensions and profiles, and finishes; include data on rated capacities, electrical and operating characteristics, and necessary accessories.

C. Shop Drawings: Include plans, elevations, sections, and attachment details; include equipment assembly details with dimensions, weights, loads, required clearances, components, size and location of anchors and required field connections, and methods for field assembly; provide diagrams indicating signal, power, and control wiring.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

F. Testing agency's qualification statement.

G. Executed warranty.

H. Project Record Documents: Accurately record actual locations of concealed items, conduits, and components.

I. Maintenance Materials: Provide the following for Owner's use in maintenance of wheelchair lifts and equipment.
   1. See Section 016000 - Product Requirements for additional provisions.
   2. Provide technical information for servicing operating equipment.
   3. Spare Parts: Provide parts catalog with complete list of equipment replacement parts; identify each entry with equipment description and identifying code.
   4. Provide legible schematic wiring diagrams of installed electrical equipment and changes made to this part of work; list symbols corresponding to identity or markings on wheelchair lifts structural and electrical components.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.

C. Documents at Project Site: Maintain at project site one copy of manufacturer's installation instructions, erection drawings, shop drawings, and reference standard documents.

1.7 FIELD CONDITIONS

A. Use of wheelchair lifts during construction for hoisting materials or personnel is not permitted.

1.8 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: provide a warranty for a period of ten (10) years on the drive train, four (4) years on all other components. Complete forms in Owner's name and register with manufacturer.

C. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with ASME A18.1, ASME A17.1, applicable local codes, and authorities having jurisdiction (AHJ).

B. Accessibility Requirements: Comply with ADA Standards and ICC A117.1.

C. Structural Performance: Comply with ASCE 7 for loading wheelchair lift components and assemblies.

D. Perform welding of steel in accordance with AWS D1.1/D1.1M.

E. Perform electrical work in accordance with NFPA 70.

2.2 VERTICAL PLATFORM WHEELCHAIR LIFTS

A. Basis of Design Ascension, Protégé Model 5442P or approved equal, Vertical Platform Wheelchair Lifts: Provide manufacturer's standard type that complies with indicated requirements. Use manufacturer's standard components for vertical platform wheelchair lifts as required for complete system unless otherwise indicated.

1. Type of Vertical Platform Wheelchair Lift:
    a. Vertical platform wheelchair lift without shaft way or enclosure; platform includes sidewalls and gates creating safety barrier for passenger.
2. Configuration: As indicated on drawings.
    a. Straight through entry/exit, with front and rear openings.
3. Location:
    a. Interior of building, as indicated on drawings.
4. Lift Load Capacity: 900 pounds maximum.
5. Weight of lift: 850 pounds maximum.
6. Vertical Speed: five (5) feet per minute
7. Lifting Height from Bottom to Upper Floor Level: As indicated on drawings. Lift range of 4″ to 42″, infinitely adjustable.
8. Platform Width Clearance: 36″ inside clear width.
9. Platform Length Clearance: 54″ inside clear length.
10. Space Requirements: 52″ width x 61″ length. No taller than 49″ in the down position.
11. Platform Gates: Self-closing and flush-mounted, nominal height of 48 inches with width of 36″. Platform gates provide unobstructed views through transparent windows fabricated from 1/4" [6 mm] thick high impact strength clear thermoplastic.
12. Gate configuration: The upper landing platform gate shall be left-hinged when facing the lift from the upper landing. The lower landing platform gate shall be right-hinged when facing the lift from the lower landing.
13. Platform Side Wall Panels: Nominal height of 48 inches, with windows fabricated from 1/4" [6 mm] thick high impact strength clear thermoplastic.
14. Platform Floor: Aluminum sheet with non-skid painted finish, having overall thickness not greater than 1-1/2 inches.

15. Drive Configuration:
    1) Drive shall be direct-acting hydraulic.
    2) Both sides of lift platform shall be supported evenly by means of synchronized hydraulic cylinders.
    3) Hydraulic power unit shall be mounted on vibration-isolating supports designed to minimize vibration transmission and reduce frame-borne noise.

2.3 ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Electrical power requirements shall be compatible with 120VAC, 60 hertz, single phase, 15 amp service.

B. Motor shall be 1/2 hp,115V AC single phase.

C. Control circuits shall be 24 VDC.

D. The lift shall be supplied with a three prong grounded electrical cord (20' [6.1 m] in length).

E. The lift shall contain a Ground Fault Circuit Interrupter (GFCI).

F. Electrical Components, Boxes, Conduit, Wiring, and Devices: Comply with NFPA 70 and UL (DIR) or ITS (DIR) listed and labeled and marked as applicable for proposed locations.

2.4 SAFETY DEVICES

A. Emergency stop button at passenger control station. The emergency stop button shall prevent any operation of the lift when actuated.

B. Electro-mechanical interlock to prevent accidental opening of lower landing platform gate.

C. Gate switches to prevent platform movement if either platform gate is open.

D. Lift platform stop height sensor.

E. Under-platform safety pan that protects the area under the lift platform.

F. Grab bar extending full length of one,(1) inside side wall. see plans for location of grab bar.

G. Slip resistant surfaces on platform floor and dock plate.

H. Structural safety factors as specified in ASME A18.1.

I. Self-closing platform gates.

J. Alarm and lighted alarm switch on platform.

2.5 MATERIALS

A. The platform frame, base frame and lifting device shall be constructed from ASTM A36, AISI 1018, or AISI 1020 Steel.

B. The windows shall be fabricated from ¼" thick high impact strength clear thermoplastic.

C. Rolled Steel Sections, Shapes, and Rods: Comply with ASTM A36/A36M.

D. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, Designation SS (structural steel), Grade 33 (230), with G90/Z275 coating.

E. Rolled Steel Floor Plates: Comply with ASTM A786/A786M, 1/8 inch thick, with manufacturer's standard surface pattern; rolled from steel plate complying with ASTM A572/A572M, Grade 55 (380).

F. Steel Tubing: Comply with ASTM A500/A500M, cold formed.

G. Anchor Bolts and Rods: Comply with ASTM F1554, Grade 55.

H. Welding: Comply with applicable requirements of AWS D1.1/D1.1M and AWS D1.3/D1.3M.

I. Shop and Touch-Up Primer: Red oxide.

J. Touch-Up Primer for Galvanized Surfaces: Zinc-rich type.

2.6 EQUIPMENT

A. Lubrication of Equipment: Provide grease fittings for lubricating bearings requiring periodic lubrication, automatic feed type grease cups, and visible and easily accessible lubrication points.

B. Guide Rails, Ropes, Counterweights, Sheaves, Attachment Brackets, and Anchors: Sized in accordance with local building code, including safety factors.

C. Maintenance Devices: Provide as necessary within wheelchair lift system, supported on structural members within accessible locations.

2.7 FINISHES

A. Baked-On Factory Finish for Structural Metal Surfaces: Clean surfaces of rust, oil, or grease and wipe clean with solvent; apply manufacturer's standard two-coat, baked-on finish consisting of primer and thermosetting top coat.
   1. Color: Manufacturer's standard color.

B. Zinc Coated Hot-Dip Galvanized Iron and Steel Surfaces: Clean with neutralizing solvent, pretreat, and apply primer; for equipment comply with ASTM A123/A123M and hardware comply with ASTM A153/A153M.
   1. Color: Manufacturer's standard color.

C. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that areas and conditions comply with installation tolerances and other conditions affecting this work.

B. Verify that locations for electrical rough-in connections to system equipment are in acceptable locations before installing equipment.

C. Verify that electrical power is available and of correct characteristics.

D. Do not proceed with installation until unacceptable conditions have been corrected.

3.2 PREPARATION

A. Prepare surfaces of substrates using methods in accordance with lift manufacturer's installation instructions.

B. Clean surfaces thoroughly before starting installation of lifts.

3.3 INSTALLATION

A. Install wheelchair lift system and components in accordance with manufacturer's written installation instructions.

B. Install wheelchair lift system securely to supporting structure, and flush with adjacent surfaces.

C. Install structural components using methods that comply with requirements indicated relative to layout and structural position.

3.4 ADJUSTING

A. Adjust wheelchair lift equipment to operate smoothly and safely.

B. Verify vertical travel of wheelchair lift system; adjust as necessary to maintain operating range indicated.

C. After installation, inspect exposed factory-finished wheelchair lift equipment and repair damaged finishes.

3.5 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Remove protective coverings from finished surfaces.

C. Clean surfaces and components.

3.6 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals for closeout submittals.

B. See Section 017900 - Demonstration and Training for additional requirements.

C. Demonstrate proper operation of wheelchair lifts to Owner's designated representative.

D. Training: Train Owner's personnel on operation and maintenance of system.
1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
2. Provide minimum of two hours of training.
3. Instructor: Manufacturer's training personnel.
4. Location: At project site.

END OF SECTION 144200

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