PROJECT SPECIFICATIONS

PIONEER VALLEY TRANSIT AUTHORITY

PARATRANSIT ADMINISTRATION AND MAINTENANCE AND BUS WASH AND STORAGE BUILDINGS

FAÇADE REPAIRS

2840 MAIN ST
SPRINGFIELD, MA 01107

December 03, 2025

IFB #26-007

STV Project #3023239

DOCUMENT 000110

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DOCUMENT 001113

ADVERTISEMENT FOR BIDS

1.1 PROJECT INFORMATION

A. Notice to Bidders: Qualified bidders may submit bids for project as described in this Document. Submit bids according to the Instructions to Bidders.

1. Regulatory Requirements: M.G.L. c. 149 shall govern submittal, opening, and award of bids.

B. Project Identification: PVTA Bus Maintenance Facility – Façade Repairs, Bid No. IFB #26-007

1. Project Location:
   a. Two Buildings at 2840 Main Street – Springfield, MA 01107

C. Owner: Pioneer Valley Transit Authority (PVTA), 2808 Main Street, Springfield, MA 01107

1. Owner's Representative: John Burke
2. Procurement Officer: Leland Zak, email: LZak@pvta.com

D. Architect: STV Incorporated

E. Project Description: Project consists of the renovation of two buildings' exterior facades that are made up of bricks, concrete masonry units, and concrete. The buildings are fully sprinklered and this renovation will not increase or decrease the occupancy of the building.

F. Construction Contract: Bids will be received for the following Work:

1. General Contract: Prime Contractor certified in Masonry and Waterproofing, Damp proofing and Caulking.

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive sealed lump sum bids until the bid time and date at the location given below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:
1. General Contract Bid:
   a. Bid Due Date: February 26th, 2026.
   b. Bid Time: 2:00 pm, local time.
   c. Location: PVTA, 2808 Main Street, Springfield, MA 01107.

B. Bids on February 26th, 2026 will be thereafter publicly opened and read aloud.

C. Bidder Questions must be received by email before February 12, 2026, to lzak@pvta.com

1.3 PREBID MEETING

A. Prebid Meeting: A Prebid meeting for all bidders will be held on Thursday, January 29, 2026, 10:00am at:
   1. PVTA Office
      a. 2808 Main Street, Springfield, MA 01107.
      b. 3rd Floor Conference Room

   2. Prospective bidders are requested to attend.

1.4 BID SECURITY

A. Bid security in the form of a bid bond, cash, certified check, treasurer's or cashier's check payable to the Owner shall be submitted with each bid in the amount of (5%) percent of the bid amount. No bids may be withdrawn for a period of (60) days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.5 DOCUMENTS

A. Printed Procurement and Contracting Documents: Obtain after January 5, 2026, by contacting Sir Speedy, 1441 Main Street, Springfield, MA 01103.

   1. Bidders are responsible for printing and shipping costs.

B. Online Procurement and Contracting Documents: Obtain access after January 5, 2026, by visiting PVTA's Business Opportunities website: http://www.pvta.com/opportunities.php.

1.6 TIME OF COMPLETION

A. This project is being bid in anticipation of starting the work in the spring of 2026. Successful bidder shall begin the Work on or about April 1st, 2026, and after receipt of the Notice to Proceed and shall complete the Work within the Contract Time of (90) days. All work shall be substantially complete in (75) days from Notice to Proceed.

1.7 PERMITS

A. Each bidder shall include in their proposal all costs for permits as may be required for their portion of the work. The Building Permit will be obtained and paid for by the General Contractor.

1.8 BIDDER'S QUALIFICATIONS

A. Bidders must submit the “Federally Required Contract Clauses” and “Federal Certifications” in Exhibit A and Exhibit B, at the time quotes are submitted. Bidders shall be DCAMM certified as Prime Contractors specializing in masonry and waterproofing.

B. Bidders must submit a Division of Capital Asset Management approved Certificate of Eligibility and Update Statement pursuant to the requirements of G.L. c.149, §44D

C. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work.

D. A Performance Bond, separate Labor and Material Payment Bond in the amount at least equal to one hundred percent (100%), and Insurance in a form acceptable to Owner will be required of the successful Bidder.

E. All bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 149 as amended. The project will require filed sub-bids.

F. Prevailing Wage Rates as determined by the Commissioner of the Division of Occupational Safety of the Executive Office of Labor and Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27D, as amended, apply to this project.

G. File Sub Bidders and General Contract Bidders must submit the “Federally Required Contract Clauses” and “Federal Certifications” in Exhibit A and Exhibit B, located at the end of these project specifications, at the time bids are submitted

1.9 NOTIFICATION

A. This Advertisement for Bids document is issued by Pioneer Valley Transit Authority.

B. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

C. The Owner reserves the right to waive any informalities, to accept or reject, in whole or in part any or all bids, or take whatever other action may be deemed to be in the best interest of the Owner.

END OF DOCUMENT 001113

AIA® Document A701™ – 2018

Instructions to Bidders

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

PVTA Bus Maintenance Facility – Facade Repairs
2840 Main Street, Springfield, MA 01107

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

Pioneer Valley Transit Authority
2808 Main St
Springfield, MA 01107

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

STV Incorporated
One Financial Center
Boston, MA 02210

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

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

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

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

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ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

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

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

ARTICLE 2 BIDDER'S REPRESENTATIONS

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

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

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

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

See 001113 – Advertisement for Bids

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

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

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

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

§ 3.2 Modification or Interpretation of Bidding Documents

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

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

« » Submit by Email to LZak@pvta.com.

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

§ 3.3 Substitutions

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

§ 3.3.2 Substitution Process

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

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

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

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

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

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

§ 3.4 Addenda

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

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By Email and posted on the PVTA website.

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

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

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

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

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

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

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

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

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

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

See 001113 – Advertisement for Bids

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

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

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that

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Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning 60 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

See 001113 – Advertisement for Bids

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

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

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

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

§ 4.4 Modification or Withdrawal of Bid

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

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

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

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

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

§ 5.2 Rejection of Bids

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

§ 5.3 Acceptance of Bid (Award)

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

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

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ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

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

§ 6.2 Owner's Financial Capability

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

§ 6.3 Submittals

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

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

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

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

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

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

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

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

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

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

§ 7.2 Time of Delivery and Form of Bonds

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

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

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

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

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder.

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APPENDIX 002113

PVTA PROTEST PROCEDURES

1.1 GENERAL

1.2 This procedure is applicable to all procurements in excess of $100,000. Protests for procurements of less than $100,000 shall be informally handled by the Procurement Department.

1.2 DEFINITIONS

2.2 "Interested Party" means an actual or prospective bidder or offeror whose direct economic interest would be affected by the award of a contract or by the failure to award a contract. It does not include subcontractors or potential subcontractors.

2.3 All "days" referred to are deemed to be normal business days. Except as otherwise provided, in computing a period of time prescribed by these regulations, the day from which the designated period of time begins to run shall not be counted, but the last day of the period shall be counted unless that day is not a normal business day, in which event the period shall include the next working day. Time for filing any document or copy thereof with the Authority expires at 4:30 p.m. Eastern Standard Time or Eastern Daylight Savings Time, as applicable on the last day on which such filing may be made.

2.4 "Adverse agency action" is any action or inaction on the part of the Authority which is prejudicial to the position taken in a protest filed with the Authority. It may include but is not limited to: a decision on the merits of a protest; a procurement action such as the opening of bids or receipt of proposals, the award of a contract, or the rejection of a bid despite the pendency of a protest; or the Authority acquiescence in and active support of continued and substantial contract performance.

3.1 FILING OF PROTEST

3.2 An interested party may protest to the Authority a solicitation issued by the Authority for the procurement of property or services, or the proposed award or the award of such a contract.

3.3 Protest must be in writing and addressed as follows: Sandra Sheehan, Procurement Officer, PVTA, 2808 Main Street, Springfield, MA 01107.

3.4 The protester shall furnish two complete copies of the protest to the Procurement Officer, addressed as stated above.

3.5 A protest filed with the Authority shall:

1. Include the name, address and telephone number of the protester;
2. Include an original signed by the protester or its representative;
3. Identify the solicitation and purchase order number;
4. Set forth a detailed statement of the legal and factual grounds of protest, including copies of relevant documents; and,
5. State the form of relief requested.

3.6 No formal briefs or other technical forms of pleading or motion are required. Protest submissions should be concise, logically arranged, and clearly state legally sufficient grounds of protest.

3.7 A protest filed with the Authority may be dismissed for failure to comply with any of the requirements of this section.

4.1 TIME OF FILING

4.2 Protests based upon alleged improprieties in a solicitation which are apparent prior to bid opening or the closing date for receipt of initial proposals shall be filed prior to bid opening or the closing date for receipt of initial proposals. In procurements where proposals are requested, alleged improprieties which do not exist in the initial solicitation, but which are subsequently incorporated into the solicitation, must be protested not later than the next closing date for receipt of proposals following the incorporation.

4.1.1 In cases other than those covered above, protests shall be filed not later than 5 days after the basis of protest is known or should have been known, while within 5 days prior to the date specified for a bid opening of an IFB or for the due date for filing a response for RFP's.

4.3 The term "filed" regarding protests to PVTA means receipt of the protest submission in PVTA's Procurement Department.

4.4 PVTA, for good cause shown, or where it determines that a protest raises issues significant to the procurement system, may consider any protest which is not filed timely.

5.1 NOTICE OF PROTEST, SUBMISSION OF AUTHORITY REPORT AND TIME FOR FILING OF COMMENTS ON REPORT

5.2 The Procurement Officer shall promptly give notice of the protest to the contractor if award has been made or, if no award has been made, to all bidders or offerors who appear to have a substantial and reasonable prospect of receiving an award if the protest is denied. The Procurement Officer shall furnish copies of the protest submissions to such parties, if requested to do so in writing. In addition, if a contract will be paid in part with funding from the FTA, then the FTA Region I office shall be notified in writing of the protest.

5.3 Material submitted by a protester will not be withheld from any interested party outside the Authority which may be involved in the protest except to the extent that the withholding of information is permitted or required by law or regulation. If the protester considers that the protest contains material which should be withheld, a statement advising of this fact must be affixed to the front page of the protest submission and the allegedly protected information must be so identified whenever it appears.

5.4 Protests shall be reviewed by a panel consisting of representatives of Legal, the Procurement Officer and appropriate technical and other staff. Such review panel shall be chaired by the Procurement Officer or by a designee, as authorized in writing.

Documents that will be included in the review will consist of the protest, the bid or proposal submitted by the protester, the solicitation, including the specifications or portions relevant to the protest, the abstract of bids or offers or relevant portions, any other documents that are relevant to the protest, or any additional evidence or information deemed necessary in determining the validity of the protest. Following final review, the Procurement Officer will furnish a copy of the report to the protester and interested parties who have responded to the notice.

5.5 Comments on the report shall be filed by the protester and interested parties with the Procurement Officer within 5 days after receipt of the report. Failure of the protester to file comments, or to file a statement requesting that the case be decided on the existing record, or to request an extension under this section within the 5-day period will result in dismissal of the protest.

5.6 Notwithstanding any other provision of this procedure, when on its face a protest does not state a valid basis for protest or is untimely, the Procurement Officer may summarily dismiss the protest. Among the protests which may be dismissed without consideration of the merits are those concerning the following:

1. PVTA's Purchasing Regulations and Procedures.
2. Contract Administration.

3. Affirmative Determination of Responsibility by the Procurement Officer. Because the determination that a bidder or offeror is capable of performing a contract is based in large measure on subjective judgments which generally are not readily susceptible of reasoned review, an affirmative determination of responsibility will not be reviewed,

   absent a showing that such determination was made fraudulently or in bad faith or that definitive responsibility crite1ia in the solicitation were not met.

4. Determinations by the Authority of "minor informalities" in bids or proposals which can be waived by the Authority, absent a showing that such determination was made fraudulently or in bad faith or that definitive responsiveness criteria in the solicitation were not met.

5. Affirmative determination by the Authority that a bid or proposal is responsive to the Authority's specifications, absent a showing that such determination was made fraudulently or in bad faith or that definitive specification criteria in the solicitation were not met.

6. Protests not filed within the time limits set forth above.

7. Subcontractor Protests. The Authority will not consider subcontractor protests.

8. Judicial proceedings. The Authority will not consider protests where the matter involved is the subject of litigation before a court of competent jurisdiction, unless the court requests a decision by the Authority in accordance with these procedures. The Authority will not consider protests where the matter involved has been decided on the merits by a court of competent jurisdiction.

6.1 WITHHOLDING OF AWARD AND SUSPENSION OF CONTRACT PERFORMANCE

6.2 When the Authority receives notice of a protest prior to award of a contract it may not award a contract under the protested procurement while the protest is pending unless the Procurement Officer determines in writing that urgent and compelling circumstances significantly affecting interests of PVTA will not permit waiting for the protest decision.

7.1 CONFERENCE MEETING

7.1 A conference meeting on the merits of the protest may, at the sole discretion of the review panel, be held at the request of the protester or interested parties who have responded to the notice given above. Requests for a conference should be made at the earliest possible time in the protest proceeding.

7.2 Conferences will be held on a date set by the review panel no later than 5 days after receipt by the protester and interested parties of the review panel report. All

interested parties shall be invited to attend. Ordinarily, only one conference will be held on a protest.

7.3 If any party refuses to attend such a conference, or a witness fails to attend or fails to answer a relevant question, the review panel may draw an inference unfavorable to the party refusing to cooperate.

7.4 The review panel may request that a conference be held if at any time during the protest proceeding it decides that such a conference is needed to clarify material issues. If such a conference is held the review panel shall make such adjustments in the submission deadlines as it determines to be fair to all parties.

7.5 Failure of the protester to file comments, or to file a statement requesting that the case be decided on the existing record will result in dismissal of the protest.

8.1 REMEDIES

8.2 If the review panel determines that a solicitation or proposed award does not comply with statute or regulation, it shall recommend that the Authority implement any combination of the following remedies which it deems appropriate under the circumstances:

1. Refrain from exercising options under the contract;
2. Recomplete the contract;
3. Issue a new solicitation;
4. Award a contract consistent with statute and regulation; or
5. Such other recommendations as the Procurement Officer determines necessary to promote compliance.

8.3 In determining the appropriate recommendation, the review panel shall consider all the circumstances surrounding the procurement or proposed procurement including, but not limited to, the seriousness of the procurement deficiency, the degree of prejudice to other interested parties or to the integrity of the competitive procurement system, the good faith of the parties, the extent of performance, cost to the Authority, the urgency of the procurement and the impact of the recommendation on the Authority's mission.

9.1 TIME FOR DECISION BY THE AUTHORITY'S REVIEW PANEL

9.2 The review panel shall issue a final decision on a protest within 60 days from the date the protest is filed with it. The determination of PVTA regarding a protest will be final.

10.1 FTA INVOLVEMENT

10.2 FTA Circular 4220.l F provides the following advice regarding appeals from the Authority's determination:

...A protester must exhaust all administrative remedies with the grantee (Authority) before pursuing a protest with FTA. Review of protests by FTA will be limited to a grantee's failure to have or follow its protest procedures, or its failure to review a complaint or protest. An appeal to the FTA must be received by the cognizant FTA regional or Headquarters Office within five (5) working days of the date the protestor knew or should have known of the violation.

Violations of Federal law or regulation will be handled by the complaint process stated in that law or regulation. Violations of State or local law or regulations will be under the jurisdiction of State or local authorities.

END OF APPENDIX 002113A

DOCUMENT 002213

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

A. Instructions to Bidders for Project consist of the following:

1. AIA Document A701, "Instructions to Bidders" a copy of which is bound in this Project Manual.
2. The following Supplementary Instructions to Bidders that modify and add to the requirements of the Instructions to Bidders.

1.2 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS, GENERAL

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

1.3 ARTICLE 2 - BIDDER'S REPRESENTATIONS

A. Add Section 2.1.3.1:

1. 2.1.3.1 - The Bidder has investigated all required fees, permits, and regulatory requirements of authorities having jurisdiction and has properly included in the submitted bid the cost of such fees, permits, and requirements not otherwise indicated as provided by Owner.

B. Add Section 2.1.5:

1. 2.1.5 - The Bidder is a properly licensed Contractor according to the laws and regulations of the Commonwealth of Massachusetts and meets qualifications indicated in the Procurement and Contracting Documents.

C. Add Section 2.1.6:

1. 2.1.6 - The Bidder has incorporated into the Bid adequate sums for work performed by installers whose qualifications meet those indicated in the Procurement and Contracting Documents.

1.4 ARTICLE 3 - BIDDING DOCUMENTS

A. 3.1 – Copies

1. Delete Section 3.1.1 and insert the following:

a. Qualified Bidders may obtain complete electronic sets of the Bidding Documents from PVTA's Business Opportunities website: http://www.pvta.com/opportunities.php.

2. Delete Section 3.1.2.

B. 3.2 - Interpretation or Correction of Procurement and Contracting Documents:

1. Add Section 3.2.2.1:

a. 3.2.2.1 - Submit Bidder's Requests for Interpretation using form bound in the Project Manual.
b. Delete Section 3.2.2 and insert the following:

1) Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach PVTA's Procurement Director at LZak@pvta.com by , February 12, 2026 at 5:00pm.

C. 3.4 - Addenda:

1. Delete Section 3.4.3 and replace with the following:

a. 3.4.3 - Addenda will be issued on or before February 19, 2026 except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

2. Add Section 3.4.4.1:

a. 3.4.4.1 - Owner may elect to waive the requirement for acknowledging receipt of 3.4.4 Addenda as follows:

1) 3.4.4.1.1 - Information received as part of the Bid indicates that the Bid, as submitted, reflects modifications to the Procurement and Contracting Documents included in an unacknowledged Addendum.
2) 3.4.4.1.2 - Modifications to the Procurement and Contracting Documents in an unacknowledged Addendum do not, in the opinion of Owner, affect the Contract Sum or Contract Time.

1.5 ARTICLE 4 - BIDDING PROCEDURES

A. 4.1 - Preparation of Bids:

1. Add Section 4.1.1.1:

a. 4.1.1.1 - Printable electronic Bid Forms and related documents are available from the PVTA.

2. Add Section 4.1.8:

a. 4.1.8 - The Bid shall include unit prices when called for by the Procurement and Contracting Documents. Owner may elect to consider unit prices in the determination of award. Unit prices will be incorporated into the Contract.

3. Add Section 4.1.9:

a. 4.1.9 - Owner may elect to disqualify a bid due to failure to submit a bid in the form requested, failure to bid requested alternates or unit prices, failure to complete entries in all blanks in the Bid Form, or inclusion by the Bidder of any alternates, conditions, limitations or provisions not called for.

B. 4.3 - Submission of Bids:

1. Add Section 4.3.1.2:

a. 4.3.1.2 - Include Bidder's Contractor License Number applicable in Project jurisdiction on the face of the sealed bid envelope.

C. 4.4 - Modification or Withdrawal of Bids:

1. Add the following sections to 4.4.2:

a. 4.4.2.1 - Such modifications to or withdrawal of a bid may only be made by persons authorized to act on behalf of the Bidder. Authorized persons are those so identified in the Bidder's corporate bylaws, specifically empowered by the Bidder's charter or similar legally binding document acceptable to Owner, or by a power of attorney, signed and dated, describing the scope and limitations of the power of attorney. Make such documentation available to Owner at the time of seeking modifications or withdrawal of the Bid.

b. 4.4.2.2 - Owner will consider modifications to a bid written on the sealed bid envelope by authorized persons when such modifications comply with the following: the modification is indicated by a percent or stated amount to be added to or deducted from the Bid; the amount of the Bid itself is not made known by the modification; a signature of the authorized person, along with the time and date of the modification, accompanies the modification. Completion of an unsealed bid form, awaiting final figures from the Bidder, does not require power of attorney due to the evidenced authorization of the Bidder implied by the circumstance of the completion and delivery of the Bid.

1.6 ARTICLE 6 - POSTBID INFORMATION

A. 6.1 - Contractor's Qualification Statement:

1. Delete Section 6.1.1:

B. 6.3 - Submittals:

1. Add Section 6.3.1.4:

    a. 6.3.1.4 - Submit information requested in Sections 6.3.1.1, 6.3.1.2, and 6.3.1.3 no later than **two** business days following Architect's request.

1.7 ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

A. 7.1 - Bond Requirements:

1. Add Section 7.1.1.1:

    a. 7.1.1.1 - Both a Performance Bond and a Payment Bond will be required, each in an amount equal to 100 percent of the Contract Sum.

B. 7.2 - Time of Delivery and Form of Bonds:

1. Delete the first sentence of Section 7.2.1 and insert the following:

    a. The Bidder shall deliver the required bonds to Owner no later than **5** days after the date of Notice of Intent to Award and no later than the date of execution of the Contract, whichever occurs first. Owner may deem the failure of the Bidder to deliver required bonds within the period of time allowed a default.

2. Delete Section 7.2.3 and insert the following:

    a. 7.2.3 - Bonds shall be executed and be in force on the date of the execution of the Contract.

1.8 ARTICLE 8 - FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

A. A101-2017 edited as bound in this Project Manual.

1.9 ARTICLE 9 - EXECUTION OF THE CONTRACT

A. Add Article 9:

1. 9.1.1 - Subsequent to the Notice of Intent to Award, and within **5** days after the prescribed Form of Agreement is presented to the Awardee for signature, the Awardee shall execute and deliver the Agreement to Owner.
2. 9.1.2 - Owner may deem as a default the failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature within the period of time allowed.
3. 9.1.3 - Unless otherwise indicated in the Procurement and Contracting Documents or the executed Agreement, the date of commencement of the Work shall be the date of the executed Agreement **or the date that the Bidder is obligated to deliver the executed Agreement and required bonds to Owner**.

4. 9.1.4 - In the event of a default, Owner may declare the amount of the Bid security forfeited and elect to either award the Contract to the next responsible bidder or re-advertise for bids.

1.10 ARTICLE 10 TIME FOR COMPLETION

A. Add Article 10:
   1. Substantial Completion: The date for Substantial Completion shall be 75 calendar days from Notice to Proceed.
   2. Final Completion: The date for Final Completion shall be 15 calendar days after the date of Substantial Completion.

END OF DOCUMENT 002213

DOCUMENT 002600

PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.

B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award.

1.2 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.

B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:

1. Extensive revisions to the Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing in compliance with the following requirements:

1. Requests for substitution of materials and equipment will be considered if received no later than (10) days prior to date of bid opening.

2. Submittal Format: Submit three copies of each written Procurement Substitution Request, using form immediately following this section.

B. Architect's Action:

1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

C. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 002600

SUBSTITUTION REQUEST FORM

PROJECT: PVTA 2840 Main Street Façade Repairs

OWNER: Pioneer Valley Transit Authority

TO	Architect/Engineer	FROM	Contractor

Kyle Nadeau
STV Incorporated

Kyle.nadeau@stvinc.com

CONTRACTOR'S REQUEST, WITH SUPPORTING DATA

1. Specification Sections to which this request applies:

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

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

2. Itemized comparison of proposed substitution with product specified.

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

3. Proposed change in Contract Time:

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

4. Proposed Change in Contract Sum:

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

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

   _____

   _____

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

We have investigated the proposed equivalent material and we:

1. Believe that it is equal or superior in all respects to the originally specified product, except as stated in 2. Above;
2. Will provide the same warranty as required in Division 1 Section “Warranties”;
3. Will provide the same special warranty or guaranty as specified;
4. Will pay redesign and special inspection costs caused by the use of this product;
5. Will pay additional costs to other contractors caused by the substitution;
6. Will coordinate the incorporation of the proposed substitution in the Work;
7. Will modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning;
8. Waive future claims for added cost to Contractor caused by the proposed substitution;
9. Confirm that this product is compliant with the Buy America Requirements as specified; and

Contractor Signature(s) _____ Date _____

ARCHITECT'S REVIEW AND ACTION

☐ Provide more information in the following categories. Resubmit.

☐ Sign Contractor's Statement of Conformance. Resubmit.

☐ The proposed substitution is approved, with the following conditions

_____

_____

Addition/Deduction from the Contract Time: _____ days.

Addition/Deduction from the Contract Amount: _____ dollars.

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

_____

_____

DOCUMENT 004100

BID FORM – GENERAL CONTRACT

Bid of _____(here in after called "Bidder")*

(____) a corporation, organized and existing under the laws of the State of _____

(____) a partnership

(____) a joint venture

(____) an individual

doing business as _____

**Specify corporation, partnership or individual as applicable.*

To the Pioneer Valley Transit Authority (hereinafter called "Owner").

A. The undersigned Bidder, in compliance with your invitation for bids for the Façade Repairs and Associated Work at the PVTA Bus Maintenance Facility, located at 2840 Main Street, Springfield MA 01107, having examined the plans and specifications and related documents and the site of the proposed work, having had the opportunity to visit the site, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents and the plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

B. Bidder hereby agrees that if selected as the Contractor it will promptly provide PVTA with required payment and performance bonding listed herein, insurance certificates per the PVTA insurance requirements supplied with this RFQ. With issuance of a PVTA Purchase Order (PO Terms and Conditions supplied with this RFQ), Contractor agrees to initiate work on or before a date to be specified in the written "Notice to Proceed" from the Owner, and to fully complete the project within ninety (90) consecutive calendar days of the date in the “Notice to Proceed.”

C. Bidder acknowledges receipt of, and this bid includes the following addenda:

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

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

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

D. The Bidder agrees to perform the **BASE BID** scope of work, including the Unit Price amounts, described in the contract documents for the sum of:

_____ Dollars and _____ Cents
(Printed)

$ _____ .

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

E. Unit Prices:

The unit prices listed below are <u>above and beyond</u> those shown on the Contract Drawings and shall be included by the Contractor under the appropriate Base Bid or Alternate Scope of Work. Each unit price will appear on the Contractor's Schedule of Values and will be tabulated as part of the final contract amount.

BASE BID UNIT PRICES

ITEM	SPECIFICATION SECTION	ESTIMATED QUALITY (BEYOND DRAWINGS)	UNIT OF MEASURE	UNIT PRICE DOLLAR AMOUNT	TOTAL DOLLAR AMOUNT
BRICK CUITTING & POINTING			SQUARE FOOT	$	$
BRICK REPLACEMENT			SQUARE FOOT	$	$
CAST STONE REPLACEMENT			SQUARE FOOT		
WINDOW LINTEL REPLACEMENT, INCLUDING FLASHING, BRICK, & MORTOR			EACH	$	$

SCHEDULE OF BID PRICES

THE SCHEDULE OF THE BASE ESTIMATED CONTRACT BID PRICES IS AS FOLLOWS:

ITEM NO.	DESCRIPTION	QUANTITY AND UNIT	BID PRICE IN WORDS	BID PRICE IN NUMBERS
TOTAL	Bid Including Filed Sub-Bids	(1) Lump Sum		

LIST OF FILED SUB-BIDDERS

THE BIDDER SHALL LIST THE NAMES AND ADDRESSES OF THEIR SELECTED FILED SUB-BIDDERS IN THE FOLLOWING TABLE.

ITEM NO.	CATEGORY OF WORK	COMPANY NAME
B	Not Applicable	

F. The Bidder agrees that the bid price above includes all superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, and all other things necessary to cover the finished work of the several kinds called for under the **Massachusetts State Prevailing Wage Sheet** supplied with the RFQ.

G. The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract prices to PVTA.

H. The selected Contractor shall comply with Section 29E of Chapter 149 of the Massachusetts General Laws for any project (except 1 – 4-unit residential projects) with a contract value of $3,000,000 million or more.

I. The undersigned offers the following information as evidence of its qualifications to

I. The undersigned offers the following information as evidence of its qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

1. Have been in business under present name for _____ years.
2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as Principals, are as follows:

_____

_____

_____

_____

_____

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

LIST OF SIMILAR PROJECTS COMPLETED

PROJECT NAME	COMPLETION DATE	CONTRACT AMOUNT	ARCHITECT / ENGINEER	REFERENECE NAME	REFERENCE TELEPHONE NUMBER

J. The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

K. The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

L. Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 002113 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bonds are not executed within the time set forth above.

M. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

N. The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

O. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

P. Pursuant to M.G.L. C. 62C, Sec. 49A, I certify hereby in writing, under penalties of perjury, that the within named Bidder/Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

Q. The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less that the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development.

R. The undersigned bidder agrees to indemnify the Awarding Authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

Respectfully submitted:

Date: _____ By: _____
(Signed)

_____
(Printed)

_____
(Title)

_____
(Business Name)

_____
(Federal ID Number)

_____
(Business Address)

_____
(City and State)

_____
(Telephone Number)

END OF DOCUMENT 004100

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a Stipulated Sum

AGREEMENT made as of the [ ] day of [ ] in the year 2025
(In words, indicate day, month and year.)

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

Pioneer Valley Transit Authority
2808 Main St
Springfield, MA 01107

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

« »
« »
« »
« »

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

PVTA Bus Maintenance Facility – Façade Repairs
2840 Main Street, Springfield, MA 01107

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

STV Incorporated
One Financial Center
Boston, MA 02210

The Owner and Contractor agree as follows.

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TABLE OF ARTICLES

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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

[« »] The date of this Agreement.

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

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

« »

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

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

§ 3.3 Substantial Completion

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

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

[« »] By the following date: « »

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

Portion of Work	Substantial Completion Date

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

Item	Price

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

Item	Price	Conditions for Acceptance

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

Item	Price

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

Item	Units and Limitations	Price per Unit ($0.00)

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

« »

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

« »

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

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

« »

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

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

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

§ 5.1.6 In accordance with AIA Document A201™–2007, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

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

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of « » (« »). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;

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

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

.4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

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

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

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

« »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Section 9.10.3 of AIA Document A201–2007.

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

§ 5.2 Final Payment

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

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and

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

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

« »

§ 5.3 Interest

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

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2007

[« »] Litigation in a court of competent jurisdiction

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[« »] Other *(Specify)*

« »

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

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2007, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 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)

« »
« »
« »
« »
« »
« »

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

« »
« »
« »
« »
« »
« »

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

§ 8.5 Insurance and Bonds

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.
(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)

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§ 8.6 Notice in electronic format, pursuant to Section 13.3 of AIA Document A201–2007, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

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

.2 **.3** AIA Document A201™–2007, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

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

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

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

« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

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Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2007 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.)

« »

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

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

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DOCUMENT 006100

PERFORMANCE BOND

A. KNOW ALL MEN BY THESE PRESENTS that we _____(Name of Contractor) a _____ (Corporation, Partnership, Joint Venture or Individual) hereinafter called “Principal” and _____ of _____(Address) _____(City), State of _____(State) hereinafter called the "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to _____, hereinafter called "Owner", in the penal sum of _____ Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

B. THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered a certain contract with the Owner, dated the _____ day of _____, 20___ (the “Construction Contract”), for the construction described as follows: _____.

C. NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the Construction Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under the Construction Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

D. PROVIDED, FURTHER, that the Surety’s obligation under this Bond shall arise after (1) the Owner has declared the Principal in default of the Construction Contract or any provision thereof or (2) has declared that the Principal has failed, or is otherwise unable

or unwilling, to execute the work consistent with, and in conformance to, the Construction Contract (collectively referred to as a “Contractor Default”). The determination of a Contractor Default shall be made solely by the Owner. The Owner need not terminate the Construction Contract to declare a Contractor Default or to invoke its rights under this Bond.

E. When the Surety’s obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of the following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract: (2) arrange for a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

F. If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

G. After the Surety’s obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Construction Contract; (2) additional design, professional services, and legal costs, including attorneys’ fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Construction Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligation of the Principal, if any, as provided in the Construction Contract; and (5) liquidated damages as provided in the Construction Contract, or if none are so specified, actual and foreseeable consequential damages resulting from the Contractor Default or default of the Surety under this Bond.

H. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the Commonwealth of Massachusetts.

I. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the work or to the specifications.

J. IN WITNESS WHEREOF, this instrument is executed in _____ ( ) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20___.

ATTEST:

_____
Principal

_____ By _____
(Principal Secretary)

_____

_____

_____
(Address-Zip Code)

_____ (SEAL)
Witness as to Principal

_____

_____
(Address-Zip Code)

ATTEST:

_____
Surety

_____ By _____
(Attorney-in-Fact)

_____

_____
(Address-Zip Code)

_____ (SEAL)
Witness as to Surety

_____

_____
(Address-Zip Code)

NOTE: *Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.*

PAYMENT BOND

A. KNOW ALL MEN BY THESE PRESENTS that we _____(Name of Contractor) a _____ (Corporation, Partnership, Joint Venture or Individual) hereinafter called "Principal" and _____ of _____(Address) _____(City), State of _____(State) hereinafter called the "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to _____, hereinafter called "Owner", in the penal sum of _____ Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

B. THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered a certain contract with the Owner, dated the _____ day of _____, 20___ (the "Construction Contract"), for the construction described as follows: _____.

C. NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

D. PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive

notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications.

E. PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

F. IN WITNESS WHEREOF, this instrument is executed in ____ ( ) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____
Surety

_____ By _____
(Attorney-in-Fact)

_____

_____
(Address-Zip Code)

_____ (SEAL)
Witness as to Surety

_____

_____
(Address-Zip Code)

NOTE: *Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.*

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)
PVTA Bus Maintenance Facility – Façade Repairs
2840 Main Street
Springfield, MA 01107

THE OWNER:
(Name, legal status and address)

Pioneer Valley Transit Authority
2808 Main St
Springfield, MA 01107

THE ARCHITECT:
(Name, legal status and address)

STV Incorporated
One Financial Center
Boston, MA 02210

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13 MISCELLANEOUS PROVISIONS

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14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES



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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

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

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

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

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

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

§ 1.8 Building Information Models Use and Reliance

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

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relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a represen[redacted]ve who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval [redacted]authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The [redacted]m "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 [redacted]uest, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lie[redacted]ghts. Such information shall include a correct statement of the record legal title to the property on which t[redacted]Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the O[redacted]er shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill t[redacted]Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Wor[redacted]ntil the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the[redacted]ontract Time shall be extended appropriately.

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

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

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

§ 2.3 Information and Services Required of the Owner

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

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

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

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

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract [redacted]cuments with reasonable promptness. The Owner shall also furnish any other information or services under t[redacted] Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after re[redacted]ving the Contractor's written request for such information or services.

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

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referre[redacted]o throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if req[redacted]d in the jurisdiction where the Project is located. The Contractor shall designate in writing a representa[redacted]e who shall have express authority to bind the Contractor with respect to all matters under this Contract. The ter[redacted]"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 accordan[redacted]with the Contract Documents either by activities or duties of the Architect in the Architect's administration of th[redacted]Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as

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the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

§ 3.3 Supervision and Construction Procedures

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

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

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

§ 3.4 Labor and Materials

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

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

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

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§ 3.5 Warranty

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

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

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

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

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

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§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 Superintendent

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

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

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

§ 3.10 Contractor's Construction and Submittal Schedules

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

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

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

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and

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similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

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

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, br[redacted]ures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for som[redacted]ortion of the Work.

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

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

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

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

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

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor [redacted]ll not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Archi[redacted]t's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specif[redacted]ly notified the Architect of such deviation at the time of submittal and (1) the Architect has given written app[redacted]al to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Direc[redacted]e has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or o[redacted]sions 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 Draw[redacted]s, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on prev[redacted]s submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisi[redacted]ns.

§ 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

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specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rel[redacted]pon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such desig[redacted]professionals, provided the Owner and Architect have specified to the Contractor the performance and design[redacted]iteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve o[redacted]ke other appropriate action on submittals only for the limited purpose of checking for conformance wit[redacted]formation given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify th[redacted]he Work has been performed in accordance with the design criteria, the Contractor shall furnish such certificatio[redacted]o the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statut[redacted]ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and sha[redacted]ot unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to comple[redacted]he Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be res[redacted]d to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Doc[redacted]ents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partiall[redacted]ompleted construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering s[redacted] construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a S[redacted]arate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be[redacted]reasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Cont[redacted]tor, 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 [redacted]waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor sh[redacted] remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus mat[redacted]als from and about the Project.

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

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§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

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

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

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

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and ma[redacted]order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make deter[redacted]nations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

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

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

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and re[redacted]rements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's resp[redacted]se to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable prom[redacted]ess.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and[redacted]asonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making[redacted]ch interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and C[redacted]tractor, will not show partiality to either, and will not be liable for results of interpretations or decisions render[redacted]n good faith.

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in

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number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the exte f the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Docu ts, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for s y of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the O ner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect u r the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontract thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherw in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contr or, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subc ractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each prop d Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to whic he Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor te and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Sub ntractors will similarly make copies of applicable portions of such documents available to their respective pr osed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

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

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

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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 th ubcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contra r or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's ob ations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner der separate agreements. The Owner reserves the right to perform construction or operations related to the ject with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract stantially similar to those of this Contract, including those provisions of the Conditions of the Contract related t surance and waiver of subrogation.

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

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces a of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor sh participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contra r shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreem t. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractor nd the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs cons tion or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or Separate Contractors shall have the same obligations and rights that the Contractor has under the Condi s of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 1 nd 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity r introduction and storage of their materials and equipment and performance of their activities, and shall connect d 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 construct or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operat s by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Con ctor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to p eeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's complete r partially completed construction is fit and proper to receive the Contractor's Work. The Contractor sha ot be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contra r that are not apparent.

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

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

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

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

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

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

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.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the chang

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

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

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

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

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the ner, the Contractor may request payment for Work completed under the Construction Change Directive in Applic ns for Payment. The Architect will make an interim determination for purposes of monthly certification for pay nt for those costs and certify for payment the amount that the Architect determines, in the Architect's profession udgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Su n the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accorda e with Article 15.

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

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§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

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

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

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

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

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

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

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

§ 9.4 Certificates for Payment

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

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

§ 9.5 Decisions to Withhold Certification

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

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

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

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

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

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

§ 9.6 Progress Payments

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

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

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information re ding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Archit and Owner on account of portions of the Work done by such Subcontractor.

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

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that prov d 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 Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Document

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

§ 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.

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§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

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

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

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

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

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

§ 9.9 Partial Occupancy or Use

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

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

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

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§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

- **.1** employees on the Work and other persons who may be affected thereby;

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.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

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

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

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

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

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

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

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by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

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

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

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

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

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procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

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

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

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

§ 11.3 Waivers of Subrogation

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

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

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

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

§11.5 Adjustment and Settlement of Insured Loss

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

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

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

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect

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timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

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

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

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

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

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

§ 13.5 Interest

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

§ 13.6 Disadvantaged Business Enterprise (DBE)

§ 13.6.1 This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs. The goal for participation of Disadvantaged Business Enterprises (DBE) is 3%.

§ 13.6.2 The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the PVTA deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).

The successful bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

§ 13.6.3 The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the PVTA. In addition, the contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed.

§ 13.6.4 The contractor must promptly notify the PVTA, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the PVTA.

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ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

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

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

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

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

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

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

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

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

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

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

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not

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expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

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

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

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

§ 14.4 Termination by the Owner for Convenience

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

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

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

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

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

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

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

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

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

§ 15.1.6 Claims for Additional Time

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

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

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

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

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

§ 15.2 Initial Decision

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

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

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Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

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

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

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

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

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

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

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

§ 15.3 Mediation

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

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

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

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

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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DOCUMENT 007100

SUPPLEMENTARY CONDITIONS

The following Supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction," AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, paragraph, subparagraph or clause shall remain in effect.

ARTICLE 1 GENERAL PROVISIONS

PARAGRAPH 1.1 BASIC DEFINITIONS

A. Sub-paragraph 1.1.1: Line 2, before "Agreement," insert "the Bidding Requirements (Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, Completed Bid Form, Bid Bond, completed Contractor's Qualification Statement, and other sample forms). Delete the last sentence in its entirety.

B. Sub-paragraph 1.1.8: Delete "Claims" and insert "claims". Delete "and certify termination of the Agreement under Section 14.2.2.".

PARAGRAPH 1.2

A. Sub-paragraph 1.2.1: Add to the end of the sub-section:

All Work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others. Should the Drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of Work unless otherwise directed by written addendum to the Contract.

B. Sub-paragraph 1.2.2: Add to the end of the sentence:

, except that the performance of filed sub-trade work shall comply with the provisions of chapter 149 of the General Laws of the Commonwealth of Massachusetts. The Contractor and all Subcontractors shall refer to all of the Drawings, including those showing primarily the Work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all Work reasonably inferable therefrom as being necessary to produce the indicated results.

C. Sub-paragraphs 1.2.4-1.2.11: Add the following new sub-sections 1.2.4 to 1.2.11 as follows:

-1.2.11

§ 1.2.4 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

§ 1.2.5 Where codes, standards, requirements, and publications of public and private bodies are referred to in the Specifications, references shall be understood to be to the latest revision prior to the date of receiving bids, except where otherwise indicated.

§ 1.2.6 Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the Project generally.

§ 1.2.7 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

§ 1.2.8 The Electrical drawings are diagrammatic only, and are not intended to show the alignment, physical locations or configurations of such Work. Such Work shall be installed without additional cost to the Owner to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the Contractor shall prepare coordination drawings showing the exact alignment, physical location and configuration of the Electrical installations and demonstrating to the Contractor's satisfaction that the installations will comply with the preceding sentence. A copy of the drawings shall be submitted to the Architect, and the Contractor shall revise and resubmit the drawings if so directed by the Architect.

§ 1.2.9 Exact locations of fixtures and outlets shall be obtained from the Architect as provided in subparagraph 3.2.5 before the Work is roughed in; Work installed without such information from the Architect shall be relocated at the Contractor's expense.

§ 1.2.10 Test boring or soil test information included with the Contract Documents or otherwise made available to the Contractor was obtained by the Owner for use by the Architects in the design of the Project or Work. The Owner does not hold out such information to the Contractor as a completely accurate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed except as provided in subparagraph 3.7.4.

§ 1.2.11 Where the Work is to fit with existing conditions or work to be performed by others, the Contractor shall fully and completely join the Work with such conditions or work, unless otherwise specified. Owner provided drawings showing existing conditions or construction are based on available documents and are not guaranteed to show actual existing conditions.
PARAGRAPH 1.5

A. Sub-paragraph 1.5.1: Delete 1.5.1 and replace as follows:

§ 1.5.1 All Drawings, Specifications and copies thereof furnished by the Owner are and shall remain the Owner's property. They are to be used only with respect to this Project and are not to be used on any other project without the prior written consent of the Owner. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Owner at the completion of the Work. Submission 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 any reserved rights.

ARTICLE 2 OWNER

PARAGRAPH 2.1

A. Delete Sub-Paragraph 2.1.2

PARAGRAPH 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

A. Sub-Paragraph 2.2.1: Delete the last three sentences.

B. Sub-Paragraph 2.2.2: Add the following to the beginning of the paragraph:

"If required by the nature of the Work,"

C. Sub-Paragraph 2.2.3: In the first sentence insert "available" after "shall furnish". Delete the last sentence and replace as follows:

The Owner makes no warranty as to the accuracy or completeness of such information, and the Contractor shall exercise proper precautions relating to the safe performance of the Work.

D. Sub-Paragraph 2.2.4: Delete the last sentence.

E. Sub-Paragraph 2.2.5: Add to the end of the sub-section as follows:

All additional copies will be furnished upon request at the cost of reproduction.

PARAGRPAH 2.3

a. Sub-Paragraph 2.3 Delete from the last sentence ", except to the extent required by Section 6.1.3" and add as follows:

The Contractor shall resume the Work after such stoppage promptly upon written notice to do so from the Owner. The Contractor shall remain responsible for maintaining the progress of the Work and shall not be entitled to any increase in the Contract Sum or Contract Time. The Contractor shall be responsible for all costs incurred by the Owner attributable to such an order to stop the Work.

ARTICLE 3 CONTRACTOR

PARAGRAPH 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

A. Subparagraph 3.2.1: Delete “generally” after “the site, become”. Add to the end of the sub-section as follows:

The Contractor shall not be entitled to any change in the Contract Time or Contract Sum on account of its failure, or that of any Subcontractor, to comply with the foregoing requirements.

B. Subparagraph 3.2.2: Delete the beginning of the second sentence through the words “in the Contract documents; however”. Add the following at the end of the subparagraph:

“If the Contractor fails to make such report, no excuse will thereafter be entertained by Owner or Architect for failure to carry out the work in satisfactory manner. Should conflict occur within or between Contract Documents, the Contractor is deemed to have estimated on more expensive way of doing work, unless the Contractor asked for and obtained written decision before submission of proposal as to which method or materials will be required. Delete the last sentence and replace as follows:

> If the Contractor performs any construction activity that it knows or should know involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume appropriate responsibility for such performance and shall bear responsibility for the costs of any required correction.

C. Subparagraph 3.2.3: Delete “not” after “Contractor is”. Delete “, but” after “public authorities” and create new sentence beginning with “The Contractor shall promptly”.

D. Subparagraph 3.2.4: Delete “claims” after “the Contractor shall make” and insert “a claim”. Delete the last sentence.

E. Subparagraph 3.2.5: Add new sub-section 3.2.5 as follows:

§ 3.2.5 Any claim by the Contractor or Subcontractors that, in submitting their respective bids, they did not include all items as shown in the Contract Documents will be given no consideration for an adjustment of any kind. If any item is specified in a Section which would not normally furnish this item it shall be the responsibility of the Contractor to coordinate the situation with the Subcontractor, and if the item under consideration is not to be provided by the Subcontractor it shall be the responsibility of the Contractor to provide the work in question, without any additional cost to the Owner.__

PARAGRAPH 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

A. Subparagraph 3.3.1: Add to the end of the first sentence as follows:

which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall adequately staff the Project to properly and thoroughly manage, schedule and supervise all construction activities.

Delete the last sentence.

B. Subparagraph 3.3.2: After “performing” insert “any.” Add the last sentence as follows:

This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the Work.

PARAGRAPH 3.4 LABOR AND MATERIALS

A. Subparagraph 3.4.2: Delete in its entirety and substitute the following:

“3.4.2 The Contractor may propose substitutions in accordance with the requirements for substitutions in Division 1 Specifications.”

B. Subparagraph 3.4.3: Add to the end of the second sentence as follows:

, and the Contractor shall ensure that all workers to be employed on the Project have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) of at least 10 hours. The Contractor shall be responsible for maintaining all safety precautions at and around the Project site. On the Owner’s request, the Contractor shall permanently remove from the Project site any employee of the Contractor or any Subcontractor who fails to comply with the requirements of the Contract Documents or whose presence or behavior is deemed by the Owner to be averse to the success of the Project or the Owner’s interests.

PARAGRPAH 3.5

A. Add to the end of the first sentence as follows:

and, promptly after written notification of non-conformance, shall be repaired or replaced by the Contractor with Work conforming to such requirements.

Delete the second to last sentence.

B. Add new subparagraphs 3.5.2 to 3.5.8 as follows:

§ 3.5.2 The Contractor shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Architect may require the Contractor

to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the Architect, would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the Contractor's expense. This provision shall not require the Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

§ 3.5.3 If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval and request approval of the deviation. The Architect shall judge the design and appearance of proposed substitutes, an may refuse to approve any substitute which, in the Architect's opinion, would be out of character or otherwise inconsistent with the character or quality of design of the Project.

§ 3.5.4 In informing the Architect of deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable in accordance with the Contract Documents. If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.

§ 3.5.5 Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner or the Architect, unless such substitution was made at the written request or direction of the Owner or the Architect.

§ 3.5.6 The warranty provided in this paragraph 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

§ 3.5.7 The Contractor shall procure and deliver to the Architect, no later than the date claimed by the Contractor as the date of Substantial Completion, all special warranties required by the Contract Documents. Delivery by the Contractor shall constitute the Contractor's guarantee to the Owner that the warranty will be performed in accordance with its terms and conditions.

§3.5.8 The Contractor shall guarantee all Work for a period of one year after Date of Substantial Completion, or by the terms of any special guarantee required by the Contract Documents. The Contractor shall, upon written notice from the Owner, promptly correct defective Work or Work not in accordance with the Contract Documents. __

PARAGRAPH 3.6 TAXES

A. Delete in its entirety and substitute the following:

"3.6.1.1 The project is exempt from the Massachusetts Sales Tax to the extent permitted by G.L. c.64H, §6(f). The exemption number will be provided by the Awarding Authority to the Contractor. These taxes are not to be included in the Contract Sum.

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

PARAGRAPH 3.7 PERMITS, FEES AND NOTICES

A. Subparagraph 3.7.2: Add to the end of the sub-section as follows:

If any of the Work is required to be inspected or approved by any public authority, the Contractor shall cause such inspection or approval to be performed and shall comply with any instructions or corrections ordered by the public authority.

B. Subparagraph 3.7.3: Delete "knowing it" after "performs Work" and replace with "it knows or should know".

C. Delete sub-section 3.7.4 and replace as follows:

§ 3.7.4 Concealed or Unknown Conditions. Claims for concealed or unknown conditions shall be governed by Chapter 30, Section 39N of the General Laws of the Commonwealth of Massachusetts, as amended.

D. Subparagraph 3.7.5: Delete second and last sentences.

PARAGRAPH 3.8

A. Delete this Paragraph in its entirety.

PARAGRAPH 3.9 SUPERINTENDENT

A. Subparagraph 3.9.1: In the first sentence: Insert ", in accordance with the Contract Documents," after "shall employ" and insert "at all times" after "the Project site".

B. Subparagraph 3.9.3: Add the following at the end: "Proposed changes of Superintendents shall follow the same review procedures as in 3.9.2".

C. Add new subparagraphs 3.9.4 and 3.9.5 as follows:

§ 3.9.4 The Contractor shall coordinate and supervise the Work performed by Subcontractors to the end that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. The Contractor and all Subcontractors shall at all times afford each trade, any separate contractor, or the Owner, every reasonable opportunity for the installation of Work and the storage of materials.

§ 3.9.5 The Contractor shall arrange for and attend job meetings with the Architect and such other persons as the Architect may from time to time wish to have present. The Contractor shall be represented by a principal, project manager, general superintendent or other authorized main office representative, as well as by the Contractor's own superintendent. An authorized representative of any Subcontractor or Sub-subcontractor shall attend such meetings if the representative's presence is requested by the Architect. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, change orders, time schedules and manpower. Any notices required under the Contract may be served on such representatives.__

PARAGRAPH 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

A. This paragraph is supplemented by Division 1 Specifications.

PARAGRAPH 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. This paragraph is supplemented by Division 1 Specifications.

PARAGRAPH 3.13

A. Add to the end of the Subparagraph as follows:

The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times with the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Owner shall not be liable to the Contractor, the Subcontractors, their employees, or anyone else with respect to the conditions of the premises, except only for a condition caused directly and solely by the negligence of the Owner.

PARAGRAPH 3.15 CLEANING UP

A. This paragraph is supplemented by Division 1 Specifications.

PARAGRAPH 3.16

A. Insert “, Owner’s representatives” after “provide the Owner”.

PARAGRAPH 3.18 INDEMNIFICATION

A. Delete subparagraph 3.18.1 and replace with the following:

"3.18.1 To the fullest extent provided by law, and notwithstanding the limits of any insurance provided or maintained by the Contractor, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's Consultants and officers, employees, members and agents of any of them from and against all claims, actions, liabilities, damages, and costs (including, but not limited to, attorneys fees) of every nature and description arising out of or resulting from the acts, omissions, or negligence of the Contractor or his employees or agents or by anyone directly or indirectly employed by the Contractor, including Subcontractors, or anyone for whose acts the Contractor may be liable. The Contractor's duties and obligations pursuant to this subparagraph shall survive the termination or expiration of this agreement and shall not be limited by any provision herein requiring the Contractor to maintain specific insurance coverages. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations, including those of indemnity, which would otherwise exist as to a party or person described in this section."

ARTICLE 4 ARCHITECT

PARAGRAPH 4.1 GENERAL

A. Subparagraph 4.1.2, First Sentence: Delete "Contractor."

B. Delete subparagraph 4.1.3 in its entirety.

PARAGRAPH 4.2 ADMINISTRATION OF THE CONTRACT

A. Change title of this Paragraph from "Administration of the Contract" to "Services of The Architect."

B. Subparagraph 4.2.1

1. First Sentence: Change "administration of the Contract" to "professional services."

C. Subparagraph 4.2.3: In the first sentence delete "reasonably" after "will keep the Owner."

D. Delete Subparagraph 4.2.10

E. Subparagraph 4.2.11: Add to the end of the sub-section as follows:

The parties agree that the Architect's duties under this subparagraph shall be governed by Chapter 30, Section 39P of the General Laws of the Commonwealth of Massachusetts, as amended.

F. Subparagraph 4.2.12: Delete the second sentence.

ARTICLE 5 SUBCONTRACTORS

A. Subparagraph 5.1.1: Delete the first sentence and substitute the following:

"A Subcontractor is any person or entity who has a direct contract with the Contractor to perform any portion of the Work."

Paragraph 5.2

A. Subparagraph 5.2.2: In the second sentence insert "and legally permissible" after "has made reasonable".

B. Subparagraph 5.2.3: Delete the last two sentences and replace as follows:

No increase in the Contract Sum or Contract Time shall be allowed for such change.

C. Subparagraph 5.2.4: Add to the end of the sub-section as follows:

The applicable provisions of Chapter 149, Section 44F of the General Laws of the Commonwealth of Massachusetts shall apply to filed sub-bid subcontractors.

D. Subparagraph 5.4.1: In sub-heading .1 delete "Section 14.2" and replace with "Article 14".

Add new sub-heading .3 as follows:

.3 The Owner may further assign the subcontract to a successor contractor or other entity.

Delete last sentence of subparagraph.

E. Delete Subparagraphs 5.4.2 and 5.4.3.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

PARAGRAPH 6.1

A. Subparagraph 6.1.1: At the end of the first sentence delete "including those portions related to insurance and waiver of subrogation". In the second sentence delete "Claim" after "shall make such" and replace with "claim".

B. Delete Subparagraph 6.1.4 and replace as follows:

§ 6.1.4 The Owner reserves the right to enter any part of the Project site at any time to inspect the Work or to perform other work with its own forces or separate contractors, or to address any emergency situation. Such access is not to be construed to mean partial occupancy by the Owner and no claim for increase in the Contract Time or Sum will be considered unless such Owner's

contractors have delayed or damaged the Contractor's Work. The Contractor shall permit the Owner to place and install as much furniture, equipment and other material during the progress of the Work as is possible before completion of the various parts of the Work and agrees that such placing and installation of equipment shall not in any way evidence the completion or acceptance of the Work or any portion of it.

PARAGRAPH 6.2 MUTUAL RESPONSIBILITY

A. Subparagraph 6.2.2, Last Sentence: After "Contractor," change "so to" to "to so."

B. Subparagraph 6.2.3: Delete the last sentence.

C. Delete Subparagraph 6.2.5 in its entirety.

PARAGRAPH 6.3 OWNER'S RIGHT TO CLEAN UP

A. Last Line: Delete balance of sentence after "the Owner," and replace with "may elect to complete such clean up with his own forces, or to contract with others for this service, either on a specific occasion, or for the balance of the project. In either event, the Architect shall determine, at his sole discretion, what portion of these costs shall be back charged to each Contractor."

ARTICLE 7 CHANGES IN THE WORK

PARAGRAPH 7.2

A. Add new sub-section 7.2.3 as follows:

§ 7.2.3 Upon request of the Owner or the Architect, the Contractor shall without cost to the Owner submit to the Architect, in such form as the Architect may require, an accurate written estimate of the cost of any proposed extra Work or change. The estimate shall indicate the quantity and unit cost of each item of material, and the number of hours of work and hourly rate for each class of labor, as well as a description and the amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of material shall be shown if required by the Architect. The Contractor shall promptly revise and resubmit each estimate if the Architect determines that it is not in compliance with the requirements of this Article, or that it contains errors of fact or mathematical errors. If required by the Architect, in order to establish the exact cost of new Work added or of previously required Work omitted, the Contractor shall obtain and furnish to the Architect bona fide proposals from recognized suppliers for furnishing any material included in such Work. Such estimates shall be furnished promptly so as to occasion no delay in the Work, and shall be furnished at the Contractor's expense. The Contractor shall state in the estimate any extension of time required for the completion of the Work if the change or extra work is ordered.__

PARAGRAPH 7.3 CONSTRUCTION CHANGE DIRECTIVES

A. Subparagraph 7.3.3: Delete the first sentence of the sub-section and replace as follows:

If the Construction Change Directive provides for an adjustment to the Contract Sum, and if the Contract Documents include a unit price for the work that is the subject of such directive, such unit price shall be the basis of the adjustment to the Contract Sum, unless the Owner, in its sole discretion, chooses another method. If, however, the Contract Documents do not include a unit price for such work, the adjustment shall be based on one of the following methods, as selected by the Owner:

In sub-heading .2 delete “stated in the Contract Documents or” after “Unit prices”.

B. Delete Subparagraph 7.3.4 and replace as follows:

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

C. Subparagraph 7.3.5: In the first sentence add after “the Work involved and” as follows:
, within five (5) calendar days from receipt of the Construction Change Directive,”; insert “by written notice” after “advise the Architect”; and add to the end of the sub-section as follows:
Failure to so advise the Architect within such 5-day period (1) shall be interpreted as Contractor’s agreement with the proposed method of adjustment; (2) shall constitute an irrevocable waiver of any right of the Contractor to submit a claim on account of the method of adjustment; and (3) shall cause the Construction Change Directive to be deemed and constitute a Change Order.

D. Subparagraph 7.3.6: In the second sentence delete “recorded as” after “immediately shall be” and replace with “deemed and shall constitute”.__

E. Subparagraph 7.3.7: Delete and substitute the following:

“7.3.7 If none of the methods set forth in clauses 7.3.3.1, 7.3.3.2 or 7.3.3.3 are agreed upon for determining the cost or credit to the Owner resulting from a change in the work, the cost or credit shall be determined as follows:

7.3.7.1 For charges resulting in additional cost to the Owner, the cost shall be the actual computed cost and shall include the following:

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

.2 Materials entering permanently into the work.

.3 Use of equipment employed directly on the work.

.4 Power and consumable supplies for the operation of power equipment.

.5 Insurance (Workmen's Compensation, Social Security and Unemployment Insurance).

.6 Intentionally Omitted. .7 For work performed by the Contractor with his own forces, there shall be added a percentage fee for the Contractor equal to 15 percent of items (.1) through (.5) above.

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

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

.10 The percentage fees as indicated herein shall also apply to Sub-Paragraph 7.3.3.

.11 Nothing in this article shall excuse the Contractor from proceeding with the extra work as directed.

.12 If Contractors are requested to submit lump sum proposal for extra work, such proposals shall include a detailed breakdown for all labor, materials and equipment, including a breakdown of subcontractors' prices."

.13 All change orders should be fully reviewed and vetted and must have merit before they are submitted to the Architect and Owner for review, otherwise they will be rejected and returned. Change orders for minimal dollar amounts are considered frivolous change orders and will not be reviewed (i.e. change orders foe $100-$500 amount is considered nickel/diming the project.

7.3.7.2 For changes resulting in a credit to the Owner, the cost shall be the estimated costs as they would have been expended according to 7.3.7.1, or the value or prorated value of said work submitted in the Contractor's Schedule of Values, whichever is greater."

F. Subparagraph 7.3.9: Delete the end of the first sentence starting after "Directive to the Owner," and replace as follows:

Amounts for such changes in the Work shall not be included in Applications for Payment. Such amounts shall only be included in an Application for Payment after the adjustment for the Construction Change Directive has been included in a Change Order signed by the Owner and the Contractor.

ARTICLE 8 TIME

PARAGRAPH 8.2

A. Subparagraph 8.2.2: In the first sentence delete ", except by agreement or instruction of the Owner in writing, prematurely".

B. Add new Subparagraphs 8.2.4 and 8.2.5 as follows:

§ 8.2.4 Unless specifically required by law, no payment under this Contract shall be due until the construction schedule, required by Section 3.10, and conforming to the requirements of the General Requirements has been accepted by the Architect.

§ 8.2.5 If the Architect in reviewing any Application for Payment determines that the amount of completed Work in place as certified by the Architect is less than 90% of the Work in place required by the Contractor's construction schedule or schedule of values provided for in Section 9.2, or that there have been delays to critical paths and the Contract completion date will not be met, or that, in the Owner's sole discretion, there is reasonable concern that the Work will not be Substantially Complete by the date required in the Contract Documents, the Contractor shall be required to submit a recovery schedule with a written description of the steps the Contractor intends to take to put the Project back on schedule. At the Owner's option, the Contractor shall take some or all of the following actions at no additional cost to the Owner:

.1 Increase the number of workers on the site, in such quantities and trades as will substantially eliminate the backlog of work;

.2 Increase the number of working hours per shift, shifts per day, working days per week, amount of construction equipment, or any combination of the foregoing, sufficiently to substantially eliminate backlog of work; or

.3 Reschedule activities so that the completion dates initially scheduled will be met.

PARAGRAPH 8.3. DELAYS AND EXTENSIONS OF TIME

A. Subparagraph 8.3.1: Insert “(except weather)” after “casualties or other causes” After “delay authorized by Owner”, delete “pending mediation and arbitration”. Add to the end of the Subparagraph as follows:

, and this shall be the Contractor’s sole remedy for such delay. Under no circumstances will the Contractor be entitled to an increase in the Contract Sum, or to any other damages, on account of or in connection with any delay, regardless of the cause of such delay, and Contractor agrees not to make any claim for such damages, including, but not limited, claims for damages on account of having to perform out-of-sequence work, claims for damages on account of loss of production, and claims for damages on account of hindrances or interference with the work.

B. Delete Subparagraph 8.3.3 in its entirety.

C. Add new Subparagraphs 8.3.4 and 8.3.5 as follows:

§ 8.3.4 No extension of time shall be granted because of seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the Contractor, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on account of any additional costs of operations or conditions resulting therefrom.

§ 8.3.5 The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Owner or the Architect on account of any delay in the commencement of the Work and/or any hindrance, delay or suspension of any portion of the Work, whether such delay is caused by the Owner, the Architect, or otherwise, except as and to the extent expressly provided in G.L. c. 30, §39N. The Contractor acknowledges that the Contractor's sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article. __

ARTICLE 9 PAYMENTS AND COMPLETION

PARAGRAPH 9.2

A. Add to the end of Subparagraph as follows:

, and shall be revised if later found by the Architect to be inaccurate. In addition, the Contractor shall submit to the Architect, at least 14 days before the first Application for Payment, a Cash Flow Schedule that shows the percentage completion to be obtained and the total dollar value of Work to be completed as of the first of each month until Substantial Completion. All calculations in the Cash Flow Schedule shall be on the basis of Work in place and shall exclude the value of materials delivered but not in place.

B. Add new Subparagraph 9.2.1 as follows:

§ 9.2.1 The Cash Flow Schedule shall be based on an orderly progression of the Work allowing adequate time for each operation (including adequate time for submission and review of submittals) and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The Cash Flow Schedule will be reviewed by the Architect for compliance with the requirements of the Contract Documents. Unless specifically required by law, no payment under this Contract shall be due until the Cash Flow Schedule has been reviewed and approved by the Architect. The Architect's review of the Cash Flow Schedule shall not impose any duty on the Architect or the Owner with respect to the timing, planning, scheduling or execution of the Work. In particular if the Contractor proposes a Cash Flow Schedule indicating a date of Substantial Completion which is earlier than the Contract Time the Contractor shall not be entitled to additional payment or compensation of any kind if for any reason the full Contract Time is required to achieve Substantial Completion of the Work.

PARAGRAPH 9.3 APPLICATIONS FOR PAYMENT

A. Subparagraph 9.3.1: Delete 9.3.1.1 and add the following Clauses 9.3.1.3 and 9.3.1.4:

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

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

.2 Duly executed waivers of mechanic's lien and materialmen's liens from all Subcontractors and, when appropriate, from materialmen and lower tier Subcontractors establishing payment or satisfaction of payment of

all amounts requested by the Contractor on behalf of such entities or persons in any previous Application for Payment: and

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

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

C. Subparagraph 9.3.1: Add the following Clause 9.3.1.4:

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

D. Add to the end of the Subparagraph 9.3.2: "The Owner may deduct the amount of such costs from payments due the Contractor."

PARAGRAPH 9.4 CERTIFICATES FOR PAYMENT

A. Subparagraph 9.4.1: Insert at the beginning of the first sentence as follows: Subject to Contractor's compliance with Section 9.3 and the provisions of Section 9.6. Delete remainder of sentence following "copy to the Contractor" and substitute the following:

" , for the percentage of work that the Architect determines to the best of his knowledge has been completed or notify the Contractor and Owner in writing his reasons for withholding a Certificate as provided in Subparagraph 9.5.1."

PARAGRAPH 9.5

A. Add new sub-headings .8, .9, .10, .11, and .12 to Subparagraph 9.5.1 as follows:

.8 failure of the Contractor or mechanical or electrical trade subcontractors to comply with requirements of the General Requirements for maintaining record drawings. The Contractor shall check record drawings each month. Written confirmation that the record drawings are current will be required by the Architect before approval of the Contractor's monthly payment requisition;

.9 failure of the Contractor to provide required warranties under Section 9.3, claims for direct payment, or reasonable evidence indicating probable filing of such claims;

.10 costs incurred by the Owner under Section 10.2.5;

.11 failure of the Contractor to submit prerequisite documentation required by the General Requirements; or

.12 liquidated damages due the Owner pursuant to Section 8.4.

B. Delete Subparagraph 9.5.3 in its entirety.

PARAGRAPH 9.6 PROGRESS PAYMENTS

A. Delete Subparagraph 9.6.3 and replace with the following:

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

B. Subparagraph 9.6.4: Delete "If the Contractor fails to furnish such evidence within seven days," from the beginning of the second sentence.

C. Delete Subparagraph 9.6.5 in its entirety.

D. Delete Subparagraph 9.6.7 in its entirety.

E. Add new Subparagraph 9.6.8 as follows:

§ 9.6.8 Notwithstanding the provisions of Section 9.6 all progress payments shall be made in accordance with Chapter 30, Sections 39F, 39G and 39K (as appropriate) of the General Laws of the Commonwealth of Massachusetts, as amended.__

PARAGRAPH 9.7

Delete Paragraph 9.7 in its entirety.

PARAGRAPH 9.8 SUBSTANTIAL COMPLETION

A. Subparagraph 9.8.1: Add to the end of the Subparagraph as follows:

In addition, Substantial Completion for the entire Project shall be achieved only when: (1) the Owner has beneficial occupancy and use of the entire Project for all its intended uses; (2) all Project systems included in the Work are operational and acceptable to the Owner; (3) all governmental inspections for the Project have been successfully completed, all governmental approvals and related paperwork have been delivered to the Owner, and final and unconditional certificates of occupancy for the entire Project have been delivered to the Owner, (4) the only remaining Work to be performed is minor in nature and the remaining Work may reasonably be performed without having a material adverse effect on or materially interfering with the Owner's occupancy and use of the Project and (5) all prerequisites to Substantial Completion defined in the Contract Documents have been completed.

B. Subparagraph 9.8.2: Add to the end of the first sentence as follows:

together with the estimated value of completing or correcting such items (the "Punchlist") and (2) the permits and certificates referenced in Section 13.5. The Architect shall have the right to modify and supplement the Punchlist, including the estimated value of completion or correction.

C. Add the following to the end of 9.8.3:

"Should the Architect, on the basis of this second inspection, determine that the work is not substantially complete, the Contractor shall submit a request for a third inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers, relative to Substantial Completion shall be back charged to the Contractor."

D. Delete Subparagraph 9.8.5 and replace as follows:

The Certificate of Substantial Completion shall be submitted to the Owner and Contractor by the Architect. The certificate shall state the date of substantial completion, shall state any consequent responsibilities of the Contractor and the Owner in accordance with the Contract Documents. The Contractor shall complete and correct any incomplete and defective work within forty-five (45) calendar days from the date of Substantial Completion

E. Add the following Subparagraph 9.8.6:

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

PARAGRAPH 9.9

A. Subparagraph 9.1: Delete the end of the first sentence starting after "Work at any stage".

Delete the second sentence and replace as follows:

Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner has accepted in writing the responsibilities assigned to it and the Contractor for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance.

PARAGRAPH 9.10 FINAL COMPLETION AND FINAL PAYMENT

A. Subparagraph 9.10.1, First Sentence: Place period after the second mention of “Contract Documents” and delete the remainder of the sentence.

B. Add the following to the beginning of subparagraph 9.10.1.

“When contemplating application for final payment, the Contractor shall schedule, one week in advance with the Architect, a joint inspection visit to the Project to determine if the Contract has been fully executed.”

C. Add Subparagraph 9.10.1.1 as follows:

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

PARAGRAPH 10.2

A. Subparagraph 10.2.1: Add new sub-heading .4 as follows:

.4 work or property of the Owner, its tenants, or other parties at or near the Project site with the Owner's permission.

B. Subparagraph 10.2.5: At the beginning and end of the first sentence: Delete “and” after “10.2.1.2”. Insert “and 10.2.1.4” after “10.2.1.3”. Delete the remainder of the first sentence as follows:

, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.

Add to the end of the sub-section as follows:

Where the damage or loss presents an immediate danger to the public, the Owner, in its sole discretion and at the Contractor’s expense, may promptly remedy such damage or loss without prior notice to the Contractor.

C. Add new Subparagraphs 10.2.9, 10.2.10, 10.2.11, 10.2.12, and 10.2.13 as follows:

§ 10.2.9 The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services, and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site.

§ 10.2.10 The Contractor shall at all times protect excavations, trenches, buildings and materials from rain water, groundwater, backup or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end.

§ 10.2.11 The Contractor shall remove snow and ice which might result in damage or delay.

§ 10.2.12 During the progress of the Work and at all times prior to the date of Substantial Completion or occupancy of the Work by the Owner, whichever is earlier, the Contractor shall provide temporary heat, ventilation, and enclosure, adequate to permit the Work to proceed in a timely fashion, and to prevent damage to completed Work or Work in progress, or to materials stored on the premises. The use of the permanent heating and/or ventilation systems for temporary heat and/or ventilation shall be subject to the prior written approval of the Owner and Architect.

§ 10.2.13 [G.L. c.149, §44F(1)] The Contractor shall install weather protection and furnish adequate heat in the protected area from November 1 to March 31.

PARAGRAPH 10.3

A. Subparagraph 10.3.1: Delete the second sentence and replace as follows:

The Contractor shall not cause or permit any introduction onto, under, or near the Owner's property of any hazardous materials or substances as defined by any applicable law, and shall not cause of permit any release, discharge, transportation, storage, or disposal of such materials or substances onto, under, or near the Owner's property or areas near the Owner's property. If the Contractor encounters or recognizes on the site any material known or reasonably believed to be hazardous, including but not limited to asbestos or polychlorinated biphenyl (PCB), the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Architect in writing. The Contractor and the Owner shall cooperate in implementing measures to remove or contain said material and the Contractor shall comply with all directions of the Architect in the implementation of such removal or containment.

B Delete Subparagraphs 10.3.2, 10.3.3, and 10.3.4.

C. Subparagraph 10.3.5: Delete the remainder of the sentence starting after "obligations

under" and replace as follows:

Article 10 or for any violation of applicable law related to the Contractor's noncompliance with the provisions of this Article 10.

D. Delete Subparagraph 10.3.6.

E. Add new Subparagraph 10.3.7 as follows:

§ 10.3.7 The parties anticipate that certain hazardous substances and/or materials may be discovered at the site. When such conditions are set forth in the Contract Documents, the Contractor acknowledges that such conditions have been considered in establishing the Contract Time and Contract Sum. No extension of the Contract Time or increase in the Contract Sum shall be claimed or allowed with respect to any hazardous substances or materials located at the site which were disclosed in the Contract Documents. The Contractor shall strictly comply with all laws, regulations, rules, orders, ordinances and the like related to the excavation, storage, removal and disposal of any such hazardous substances or materials.__

ARTICLE 11 INSURANCE AND BONDS

PARAGRAPH 11.1 CONTRACTOR'S LIABILITY INSURANCE and PARAGRAPH 11.2 OWNER'S LIABILITY INSURANCE

A. Delete Paragraphs 11.1 and 11.2 in their entirety and substitute the following:

"11.1 REQUIREMENTS

11.1.1 The Contractor shall purchase and maintain such insurance as will fully protect him from claims set forth below which may arise in whole or in part out of or result from the Contractor's execution of the Work, whether such execution be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

.1 Claims under workmen's compensation, disability benefit acts;

.2 Claims for damages because of bodily injury, occupational sickness or disease or death of his employees.

.3 Claims for damages because of bodily injury, sickness or disease or death of any person other than his employees.

.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor or (2) by any other person; and

.5 Claims for damages because of injury to or destruction of property, including loss of use resulting therefrom.

11.1.2 Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the work. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least thirty (30) days' prior, written notice has been given to the Owner. Contractors' insurers to have A.M. Best Ratings of A-, VII or higher.

11.1.3 The Contractor shall furnish Certificates of Insurance of each Subcontractor employed in the performance of the work under this Contract, showing that said Subcontractors have complied with all the requirements of this Contract with reference to insurance to be furnished by such Subcontractor.

11.1.4 The Contractor shall procure and maintain, at his own expense during the Contract time, liability insurance as hereinafter specified:

1. Commercial General Liability ("CGL")

a. Limits of Insurance of not less than:

$1,000,000	Each Occurrence
$1,000,000	Personal and Advertising Injury
$2,000,000	General Aggregate
$2,000,000	Products/Completed Operations Aggregate
$50,000	Fire Damage
$5,000	Medical Expense

b. If the CGL coverage contains a General Aggregate Limit, such General Aggregate shall apply separately to each project.

c. CGL coverage shall be written, and include the Broad Form Endorsement, on ISO Occurrence form CG 00 01-1093 or a substitute form providing equivalent coverage and shall cover liability arising from yet not limited to premises, operations, independent contractors, products – completed operations, and personal and advertising injury.

d. The Owner, and all other parties required by the Owner shall be included as insureds on the CGLs, using ISO Additional Insured Endorsement CG 20 10 (11 85) or CG 20 10 (10 93) and CG 20 37 (10 01) or CG 20 33 (10 01) and CG 20 37 (10 01) or a substitute providing equivalent coverage to the additional insureds. This insurance for the additional insureds shall be as broad as the coverage provided for the named insured Subcontractor. It shall apply as primary and noncontributing insurance before any other insurance or self-insurance, including any deductible maintained by or provided to the additional insureds.

e. Attached to each certificate of insurance shall be a copy of the Additional Insured Endorsement addressed in section (d) above.

f. Subcontractors shall maintain CGL coverage for itself and all additional insureds for the duration of the project and maintain Completed Operations coverage for itself and each additional insured for at least three (3) years after completion of the Work.

2. Automobile Liability

a. Business Automobile Liability with limits of not less than $1,000,000 combined single limit.

b. Business Auto coverage must include coverage for liability arising out of all owned, leased, hired, and non-owned automobiles.

c. The Owner, and all other parties required by the Owner shall be included as additional insureds on the auto policy.

3. Commercial Umbrella

a. General Contractor: Umbrella limits must be at least $20,000,000 with a per project aggregate.
Subcontractor: Umbrella limits must be at least $5,000,000 with a per project aggregate.

b. Umbrella coverage must include as insureds all entities that are additional insureds on the CGL.

c. Umbrella coverage for such additional insureds shall apply as primary and noncontributing insurance before any other insurance or self-insurance, including any deductible maintained by, or provided to the additional insureds other than the CGL, Auto Liability, and Employers Liability coverages maintained by the Subcontractor.

4. Workers Compensation and Employers Liability

a. Employers Liability Insurance limits must be at least $500,000 each accident for bodily injury by accident, $500,000 each employee for injury by disease, and $500,000 each disease – policy limit.

b. Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

c. Where applicable the Maritime Coverage Endorsement (Jones Act) shall be attached to the policy.

5. Pollution Liability Policy:

a. Pollution limit must be at least $5,000,000 per incident with a per project aggregate.

b. Pollution coverage must include as insureds all entities that are additional insureds on the commercial general liability policy.

11.1.5 The following types of Liability Insurance shall be furnished.

.1 Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under this Contract.

.2 Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under this Contract performed for the Contractor by Subcontractors.

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

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

11.1.6 The Contractor shall acquire and maintain Fire Insurance, All Risk, Builders Risk Completed Value Insurance Policy and installation floater, upon the project to the full insurable value thereof. The named insured shall be the Owner, STV Incorporated, the Contractor and Subcontractors as their interest may appear. This provision shall in no way release the Contractor or Contractor's surety from obligations under the Contract Documents to fully complete the project. This insurance shall cover all the work in place and all materials stored at the building site or at any other location or while in transit, whether or not covered by partial payments made by the Owner during the contract time and until work is accepted by the Owner.

PARAGRAPH 11.3 PROPERTY INSURANCE

A. Delete Subparagraph 11.3.1 and replace as follows:

1. The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. Coverage for such liability insurance shall

be provided by a company or companies reasonably acceptable to the Owner. Contractor shall furnish to Owner written confirmation as to the insurance carrier's most current financial ratings prior to commencing work. Such insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include "all risks" insurance for physical loss or damage including without duplication, theft, vandalism and malicious mischief. This insurance shall also cover portions of the Work stored off the site or in transit. If this insurance is written with stipulated amounts deductible, the Owner shall not be responsible for any difference between the payments made by the insurance carrier and the claim. The policy shall contain a provision that coverages afforded under policies will not be canceled or allowed to expire until at least 30 days' written notice has been given to the Owner. The Owner shall be named insured within the policy.

2. Delete Clauses 11.3.1.1, 11.3.1.2, 11.3.1.3, 11.3.1.4 and 11.3.1.5 in their entirety.

D. Delete Subparagraphs 11.3.2, 11.3.3, 11.3.4 and 11.3.5in their entirety.

E. Subparagraph 11.3.6: Delete in its entirety and substitute the following:

"11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner two certified copies of the policy or policies providing this Property Insurance coverage, each containing those endorsements specifically related to the Project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Contractor."

F. Delete Subparagraph 11.3.7 in its entirety and replace with the following:

Waiver of Subrogation: Contractor and any Subcontractors waive all rights against Owner, Architect, and their agents, officers, directors, and employees for recovery of damages to the extent these damages are covered by commercial general liability, commercial umbrella liability, business automobile liability, or workers compensation and employers liability insurance maintained per the requirements stated above.

G. Subparagraph 11.3.8:

1. Line 1: Change "Owner's" to "this."

2. Lines 1 & 2: change "Owner" to "Contractor."

H. Subparagraph 11.3.9, Lines 1, 2, 3: Change "Owner" to "Contractor."

I. Subparagraph 11.3.10, Lines 1, 2, 3: Change "Owner" to "Contractor."

PARAGRAPH 11.4 PERFORMANCE BOND AND PAYMENT BOND

A. Delete Subparagraphs 11.4.1 and 11.4.2 in their entirety and replace with 11.4.1 through 11.4.5 as follows:

"11.4.1 Prior to execution of the contract the successful bidder shall furnish the Owner with Payment and Performance bonds covering the faithful performance of the contract and the payment of all obligations arising thereunder, respectively.

11.4.2 Bonds shall be in the amount of one hundred percent of the contract amount.

11.4.3 Bonds shall be prepared on forms satisfactory to the Owner.

11.4.4 Bonds shall include coverage of all obligations of the Contractor during the specified guarantee period.

11.4.5 Surety Company or Companies must be qualified to do business in the Commonwealth of Massachusetts and acceptable to the Owner."

ARTICLE 13 MISCELLANEOUS PROVISIONS

PARAGRAPH 13.1 GOVERNING LAW

A. Delete text in its entirety and replace with the following:

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

PARAGRAPH 13.2

A. Subparagraph 13.2.1: In the second sentence delete "Except as provided in Section 13.2.2".

B. Delete Subparagraph 13.2.2 in its entirety.

PARAGRAPH 13.5

A. Delete Subparagraph 13.5.4 and replace as follows:

The Contractor shall obtain and deliver promptly to the Architect any occupancy permit and any certificates of final inspection of any part of the Contractor's work and operating permits for any mechanical apparatus, such as elevators, escalators, boilers, air compressors, etc., which may be required by law to permit full use and occupancy of the premises by the Owner. Receipt of such permits or certificates by the Architect shall be a condition precedent to Substantial Completion of the Work.

PARAGRAPH 13.7

A. 13.7 Delete section 13.7 and replace with the following:

It is expressly agreed that the obligations of the Contractor hereunder arise out of contractual duties, and that the failure of the Contractor to comply with the requirements of the Contract Documents shall constitute a breach of contract, not a tort, for the purpose of applicable statutes of limitation and repose. Any cause of action which the Owner may have on account of such failure shall be deemed to accrue only when the Owner has obtained actual knowledge of such failure, not before.

PARAGRAPH 13.8

A. 13.8 Add new Paragraph 13.8 as follows:

§ 13.8 LIMITATION OF LIABILITY

§ 13.8.1 The Owner shall be liable, if ever, only to the extent of its interest in the Project; and no officer, director, partner, agent or employee of the Owner shall ever be personally or individually liable with respect to this Contract or the Work. Each Subcontract shall include the foregoing limitation, which shall be effective if the Owner ever succeeds to the Contractor's rights and obligations under a Subcontract.

PARAGRAPH 13.9

A. Add new Paragraph 13.9 as follows:

§ 13.9 DEFENSE OF SUITS

§ 13.9.1 The Contractor shall be responsible for, shall defend and pay all costs, attorneys' fees and liabilities both direct and indirect as a result of suits arising out of this Contract.

§ 13.9.2 Neither final acceptance nor occupation of the premises by the Owner shall relieve the Contractor of responsibility for all claims for labor, materials, and equipment arising out of this Contract.

§ 13.9.3 The Contractor shall indemnify and hold harmless the Owner and the Architect and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the work.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

PARAGRAPH 14.1

A. Subparagraph 14.1.1: Insert in the beginning of the first sentence as follows: "Provided that the Contractor is not in breach of any of its obligations under the Contract,"

Delete sub-headings .1, .2, and .4.

B. Delete Subparagraph 14.1.2.

C. Delete Subparagraph 14.1.3 and replace as follows:

If one of the above reasons exists, the Contractor may, upon seven days written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work properly executed and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. The payment for materials or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to the Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interest.

D. Delete Subparagraph 14.1.4.__

PARAGRAPH 14.2

A. Subparagraph 14.2.1: Delete "repeatedly" from the beginning of sub-headings .1 and .3.

Insert new sub-headings .4 and .5 after sub-heading .3 as follows:

.4 becomes the subject of a voluntary petition in bankruptcy or any voluntary proceeding related to insolvency, receivership, liquidation or comparable proceeding or any assignment for the benefit of creditors or becomes the subject of an involuntary petition in bankruptcy or any involuntary proceeding related to insolvency, receivership, liquidation or comparable proceeding or any assignment for the benefit of creditors.

.5 submits three successive Applications for Payment, each of which indicate that the actual Work completed is less than 90 percent of the values estimated in the construction schedule (submitted by the Contractor pursuant to Section 3.10.1) to be completed by the respective dates.

B. Subparagraph 14.2.2: In the first sentence delete ",upon certification by the Initial Decision Maker that sufficient cause exists to justify such action,".

Delete the second sentence of sub-heading .3.

C. Subparagraph 14.2.4: In the first sentence: Insert "all costs and losses incurred by the Owner on account of the Contractor's failure to comply with the Contract Documents and" after "the Work, including". Insert "and Owner's Project Manager's" after "for the Architect's".

Delete the last sentence of the sub-section and replace as follows:

"The Owner shall be entitled to hold all amounts due the Contractor at the date of termination until all of the Owner's damages have been established, and to apply such amounts to such damages."

PARAGRAPH 14.3

A. Subparagraph 14.3.2 Insert ", subject to compliance with the conditions of Section 8.3." at the end of the first sentence. Delete the second sentence.

PARAGRAPH 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

A. Subparagraph 14.4.2: In sub-heading .3 delete "and" after "all existing contracts" and replace with "except for subcontracts, if any, that Owner elects to assume, terminate all"

B. Delete Subparagraph 14.4.3 and replace with the following: In the event that the Contract is terminated for the Owner's convenience, the Contractor shall be reimbursed in accordance with the Contract Documents for all Work properly performed up to the termination date, and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. Payment for materials or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to the Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interest. The Contractor shall not be entitled to payment for overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

PARAGRAPH 15.1 CLAIMS

A. Subparagraph 15.1.1: Delete sub-section 15.1.1 and replace as follows:

§ 15.1.1 DEFINITION

The word "Claim" shall mean a written demand by the Contractor for an increase in the Contract Time or the Contract Sum. The Contractor is responsible for substantiating its Claims. The word "Claim" shall not include claims by the Owner. The Owner may withhold from the Contractor the value of any claims against the Contractor in accordance with Massachusetts General Laws, including, but not limited to, Sections 39G and 39K of Chapter 30.

B. Subparagraph 15.1.2: Delete sub-section 15.1.2 and replace as follows:

§ 15.1.2 NOTICE OF CLAIMS

Contractor must initiate Claims within fourteen (14) calendar days after occurrence of the event giving rise to such Claim by written notice to the Architect and the Owner. Such written

notice must (1) be signed by the Contractor; (2) conspicuously identify on its face that the notice serves as a notice of claim; (3) explain in sufficient detail the basis of the Claim; (4) identify the date of the event giving rise to such Claim; and (5) state the exact dollar amount of the increase in the Contract Sum being requested, if any, and the number of days extension to the Contract Time sought, if any.

C. Subparagraph 15.1.3: Delete “Section 9.7 and” after “as provided in”.

Delete the final sentence.__

D. Subparagraph 15.1.5: First Sentence: Delete period after “given” and add “and a statement of why additional time is necessary.” In the second sentence delete “of cost and” after “include an estimate”.

E. Delete Subparagraph 15.1.5.2

F. Delete Subparagraph 15.1.6

PARAGRAPH 15.2 INITIAL DECISION

A. Subparagraph 15.2.1: In the third sentence: Delete “mediation” after “condition precedent” and delete the end of the sentence beginning after “payment is due”.

B. Delete Subparagraph 15.2.2 and replace as follows:

The Initial Decision Maker will review Claims and within 30 days of the receipt of the Claim take one or more of the following actions: (1) request additional supporting data from the Contractor; (2) notify the Contractor that the Initial Decision Maker requires additional time to resolve the Claim; and/or (3) reject the Claim in whole or in part.

C. Subparagraph 15.2.3: Delete the last sentence.

D. Delete Subparagraph 15.2.4 and replace as follows:

If the Architect requests the Contractor to furnish additional supporting data in connection with a Claim, the Contractor shall provide such data within ten (10) calendar days of such request. If the Contractor is of the opinion that it is impossible to provide such data within such time, the Contractor shall notify the Architect of such opinion in writing within such ten-day period. If the Architect determines that it is impossible for such data to be provided within such ten-day period through no fault of the Contractor, the Contractor shall provide such data within 30 calendar days of the Architect’s request, unless the Architect fixes another date, in which case the data must be submitted by the date so fixed. Failure of the Contractor to provide such data within the time prescribed herein shall result in the irrevocable waiver of the Claim.

E. Subparagraph 15.2.5: Delete the last sentence and replace as follows: The rejection of a claim by the Architect and any decisions of the Owner with respect to the same, and the interpretations by the Architect of the plans, drawings and specifications, shall be final and binding on the Contractor in accordance with Section 39J of Chapter 30 of the Massachusetts General Laws.

F. Delete Subparagraph 15.2.6 in is entirety.

G. Subparagraph 15.2.7:Delete the capitalized word, “Claim,” and replace with lower-case word, “claim,” in the first and second sentences.

H. Delete Subparagraph 15.2.8.

PARAGRAPH 15.3 MEDIATION

A. Delete this paragraph in its entirety.

PARAGRAPH 15.4 ARBITRATION

A. Delete this paragraph in its entirety.

END OF SUPPLEMENTARY CONDITIONS

DOCUMENT 007150

PREVAILING WAGE RATES

1.1 PREVAILING WAGE RATES

A. The Commonwealth of Massachusetts Executive Office of Labor and Workforce Development Department of Labor Standards Prevailing Wage is bound herein immediately following this page.

END OF DOCUMENT 007150

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS
Prevailing Wage Rates

MAURA HEALY
Governor
KIM DRISCOLL
Lt. Governor

As determined by the Director under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority:	Pioneer Valley Transit Authority	**City/Town:**	SPRINGFIELD
Contract Number:			
Description of Work:	Masonry repairs to PVTA's Paratransit Facilities. Work to include replacing brick, pointing, replacing downspouts and weather stripping, waterproofing, sealant, chimney rebuild, and crack patching.		
Job Location:	2840 Main Street, Springfield, MA 01107		

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F “rental of equipment” contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets form DLS and provide them to the contractor.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to http://www.mass.gov/dols/pw.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$40.95	$15.57	$21.78	$0.00	$0.00	$78.30
	1/1/2026	$40.95	$16.17	$21.78	$0.00	$0.00	$78.90
	6/1/2026	$41.95	$16.17	$21.78	$0.00	$0.00	$79.90
	12/1/2026	$41.95	$16.17	$23.52	$0.00	$0.00	$81.64
	1/1/2027	$41.95	$16.77	$23.52	$0.00	$0.00	$82.24
(3 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$41.02	$15.57	$21.78	$0.00	$0.00	$78.37
	1/1/2026	$41.02	$16.17	$21.78	$0.00	$0.00	$78.97
	6/1/2026	$42.02	$16.17	$21.78	$0.00	$0.00	$79.97
	12/1/2026	$42.02	$16.17	$23.52	$0.00	$0.00	$81.71
	1/1/2027	$42.02	$16.77	$23.52	$0.00	$0.00	$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$41.14	$15.57	$21.78	$0.00	$0.00	$78.49
	1/1/2026	$41.14	$16.17	$21.78	$0.00	$0.00	$79.09
	6/1/2026	$42.14	$16.17	$21.78	$0.00	$0.00	$80.09
	12/1/2026	$42.14	$16.17	$23.52	$0.00	$0.00	$81.83
	1/1/2027	$42.14	$16.77	$23.52	$0.00	$0.00	$82.43
ADS/SUBMERSIBLE PILOT PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$117.16	$10.08	$11.62	$12.67	$0.00	$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.50	$10.15	$9.50	$8.57	$0.00	$65.72
	6/1/2026	$38.80	$10.15	$9.50	$8.57	$0.00	$67.02
	12/7/2026	$40.10	$10.15	$9.50	$8.57	$0.00	$68.32
	6/7/2027	$41.50	$10.15	$9.50	$8.57	$0.00	$69.72
	12/6/2027	$42.90	$10.15	$9.50	$8.57	$0.00	$71.12
	6/5/2028	$44.40	$10.15	$9.50	$8.57	$0.00	$72.62
	12/4/2028	$45.90	$10.15	$9.50	$8.57	$0.00	$74.12
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$37.49	$10.15	$9.50	$6.56	$0.00	$63.70
	6/1/2026	$38.79	$10.15	$9.50	$6.56	$0.00	$65.00
	12/1/2026	$40.08	$10.15	$9.50	$6.56	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS WORKER (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)	12/1/2025	$40.32	$14.50	$4.30	$6.25	$0.00	$65.37
ASPHALT RAKER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ASPHALT RAKER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
BATCH/CEMENT PLANT - ON SITE OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BLOCK PAVER, RAMMER / CURB SETTER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.50	$10.15	$9.50	$8.57	$0.00	$65.72
	6/1/2026	$38.80	$10.15	$9.50	$8.57	$0.00	$67.02
	12/7/2026	$40.10	$10.15	$9.50	$8.57	$0.00	$68.32
	6/7/2027	$41.50	$10.15	$9.50	$8.57	$0.00	$69.72
	12/6/2027	$42.90	$10.15	$9.50	$8.57	$0.00	$71.12
	6/5/2028	$44.40	$10.15	$9.50	$8.57	$0.00	$72.62
	12/4/2028	$45.90	$10.15	$9.50	$8.57	$0.00	$74.12
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$37.49	$10.15	$9.50	$6.56	$0.00	$63.70
	6/1/2026	$38.79	$10.15	$9.50	$6.56	$0.00	$65.00
	12/1/2026	$40.08	$10.15	$9.50	$6.56	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
BOILER MAKER BOILERMAKERS LOCAL 29 BOILERMAKERS LOCAL 29	1/1/2024	$48.12	$7.07	$14.60	$6.00	$0.00	$75.79

Apprentice: BOILER MAKER

Effective Date: 1/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: BOILER MAKER

Effective Date: 1/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	$31.28	$7.07	$9.32	$3.90	$0.00	$51.57
2	65.00	$31.28	$7.07	$9.32	$3.90	$0.00	$51.57
3	70.00	$33.68	$7.07	$10.03	$4.20	$0.00	$54.98
4	75.00	$36.09	$7.07	$10.74	$4.50	$0.00	$58.40
5	80.00	$38.50	$7.07	$11.45	$4.80	$0.00	$61.82
6	85.00	$40.90	$7.07	$12.18	$5.10	$0.00	$65.25
7	90.00	$43.31	$7.07	$12.88	$5.40	$0.00	$68.66
8	95.00	$45.71	$7.07	$13.62	$5.70	$0.00	$72.10

Apprentice to Journeyworker Ratio: 1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)	8/1/2025	$56.36	$11.49	$15.57	$5.89	$0.00	$89.31
	2/1/2026	$57.71	$11.49	$15.57	$5.89	$0.00	$90.66
	8/1/2026	$59.91	$11.49	$15.57	$5.89	$0.00	$92.86
	2/1/2027	$61.31	$11.49	$15.57	$5.89	$0.00	$94.26

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$28.18	$11.49	$15.57	$5.89	$0.00	$61.13
2	60.00	$33.82	$11.49	$15.57	$5.89	$0.00	$66.77
3	70.00	$39.45	$11.49	$15.57	$5.89	$0.00	$72.40
4	80.00	$45.09	$11.49	$15.57	$5.89	$0.00	$78.04
5	90.00	$50.72	$11.49	$15.57	$5.89	$0.00	$83.67

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$28.86	$11.49	$15.57	$5.89	$0.00	$61.81
2	60.00	$34.63	$11.49	$15.57	$5.89	$0.00	$67.58
3	70.00	$40.40	$11.49	$15.57	$5.89	$0.00	$73.35
4	80.00	$46.17	$11.49	$15.57	$5.89	$0.00	$79.12
5	90.00	$51.94	$11.49	$15.57	$5.89	$0.00	$84.89

Apprentice to Journeyworker Ratio: 1:5

BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING BOTTOM MAN LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$49.85	$10.15	$9.50	$9.80	$0.00	$79.30
	6/1/2026	$51.40	$10.15	$9.50	$9.80	$0.00	$80.85
	12/1/2026	$52.90	$10.15	$9.50	$9.80	$0.00	$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$48.70	$10.15	$9.50	$9.80	$0.00	$78.15
	6/1/2026	$50.25	$10.15	$9.50	$9.80	$0.00	$79.70
	12/1/2026	$51.75	$10.15	$9.50	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING TOP MAN LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$49.03	$10.15	$9.50	$9.80	$0.00	$78.48
	6/1/2026	$50.58	$10.15	$9.50	$9.80	$0.00	$80.03
	12/1/2026	$52.08	$10.15	$9.50	$9.80	$0.00	$81.53
For apprentice rates see "Apprentice- LABORER"							
CARBIDE CORE DRILL OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
CARPENTER CARPENTERS CARPENTERS LOCAL 336 - HAMPDEN HAMPSHIRE FRANKLIN	9/1/2025	$43.54	$8.56	$11.25	$6.90	$0.00	$70.25
	3/1/2026	$44.44	$8.56	$11.25	$6.90	$0.00	$71.15
	9/1/2026	$45.39	$8.56	$11.25	$6.90	$0.00	$72.10
	3/1/2027	$46.29	$8.56	$11.25	$6.90	$0.00	$73.00

Apprentice: CARPENTER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.59	$8.56	$0.00	$1.38	$0.00	$29.53
2	45.00	$19.59	$8.56	$0.00	$1.38	$0.00	$29.53
3	55.00	$23.95	$8.56	$0.00	$2.76	$0.00	$35.27
4	55.00	$23.95	$8.56	$0.00	$2.76	$0.00	$35.27
5	70.00	$30.48	$8.56	$11.25	$4.14	$0.00	$54.43
6	70.00	$30.48	$8.56	$11.25	$4.14	$0.00	$54.43
7	80.00	$34.83	$8.56	$11.25	$5.52	$0.00	$60.16
8	80.00	$34.83	$8.56	$11.25	$5.52	$0.00	$60.16

Apprentice: CARPENTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$20.00	$8.56	$0.00	$1.38	$0.00	$29.94

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	10/1/2025	$27.75	$7.02	$3.80	$1.00	$0.00	$39.57
CARPENTERS	10/1/2026	$28.85	$7.02	$3.80	$1.00	$0.00	$40.67
CARPENTERS-ZONE 3 (Wood Frame)							

All Aspects of New Wood Frame Work

Apprentice: CARPENTER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	45.00	$20.00	$0.65	$0.00	$1.38	$0.00	$22.03
3	55.00	$24.44	$8.56	$0.00	$2.76	$0.00	$35.76
4	55.00	$24.44	$8.56	$0.00	$2.76	$0.00	$35.76
5	70.00	$31.11	$8.56	$11.25	$4.14	$0.00	$55.06
6	70.00	$31.11	$8.56	$11.25	$4.14	$0.00	$55.06
7	80.00	$35.55	$8.56	$11.25	$5.52	$0.00	$60.88
8	80.00	$35.55	$8.56	$11.25	$5.52	$0.00	$60.88

Apprentice to Journeyworker Ratio: 1:5

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$16.65	$7.02	$0.00	$0.00	$0.00	$23.67
2	60.00	$16.65	$7.02	$0.00	$0.00	$0.00	$23.67
3	65.00	$18.04	$7.02	$0.00	$1.00	$0.00	$26.06
4	70.00	$19.43	$7.02	$0.00	$1.00	$0.00	$27.45
5	75.00	$20.81	$7.02	$3.80	$1.00	$0.00	$32.63
6	80.00	$22.20	$7.02	$3.80	$1.00	$0.00	$34.02
7	85.00	$23.59	$7.02	$3.80	$1.00	$0.00	$35.41
8	90.00	$24.98	$7.02	$3.80	$1.00	$0.00	$36.80

Apprentice: CARPENTER WOOD FRAME

Effective Date: 10/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$17.31	$7.02	$0.00	$0.00	$0.00	$24.33
2	60.00	$17.31	$7.02	$0.00	$0.00	$0.00	$24.33
3	65.00	$18.75	$7.02	$0.00	$1.00	$0.00	$26.77
4	70.00	$20.20	$7.02	$0.00	$1.00	$0.00	$28.22
5	75.00	$21.64	$7.02	$3.80	$1.00	$0.00	$33.46
6	80.00	$23.08	$7.02	$3.80	$1.00	$0.00	$34.90
7	85.00	$24.52	$7.02	$3.80	$1.00	$0.00	$36.34
8	90.00	$25.97	$7.02	$3.80	$1.00	$0.00	$37.79

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	7/1/2024	$44.56	$13.20	$16.30	$2.93	$1.69	$78.68

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)							

Apprentice: CEMENT MASONRY/PLASTERING

Effective Date: 7/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.28	$13.20	$16.30	$0.00	$0.00	$51.78
2	60.00	$26.74	$13.20	$16.30	$2.93	$1.69	$60.86
3	65.00	$28.96	$13.20	$16.30	$2.93	$1.69	$63.08
4	70.00	$31.19	$13.20	$16.30	$2.93	$1.69	$65.31
5	75.00	$33.42	$13.20	$16.30	$2.93	$1.69	$67.54
6	80.00	$35.65	$13.20	$16.30	$2.93	$1.69	$69.77
7	90.00	$40.10	$13.20	$16.30	$2.93	$1.69	$74.22

Apprentice to Journeyworker Ratio: 1:3

CHAIN SAW OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CRANE OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$43.06	$13.78	$12.15	$3.00	$0.00	$71.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
	1/1/2026	$59.56	$10.35	$12.00	$12.60	$0.00	$94.51

Apprentice: DELEADER (BRIDGE)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.26	$10.30	$0.00	$0.00	$0.00	$39.56
2	55.00	$32.18	$10.30	$0.00	$6.88	$0.00	$49.36
3	60.00	$35.11	$10.30	$0.00	$7.50	$0.00	$52.91
4	65.00	$38.03	$10.30	$0.00	$8.13	$0.00	$56.46
5	70.00	$40.96	$10.30	$11.95	$8.75	$0.00	$71.96

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: DELEADER (BRIDGE)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
6	75.00	$43.88	$10.30	$11.95	$9.38	$0.00	$75.51
7	80.00	$46.81	$10.30	$11.95	$10.00	$0.00	$79.06
8	90.00	$52.66	$10.30	$11.95	$11.25	$0.00	$86.16

Apprentice: DELEADER (BRIDGE)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.78	$10.35	$0.00	$0.00	$0.00	$40.13
2	55.00	$32.76	$10.35	$0.00	$6.93	$0.00	$50.04
3	60.00	$35.74	$10.35	$0.00	$7.56	$0.00	$53.65
4	65.00	$38.71	$10.35	$0.00	$8.19	$0.00	$57.25
5	70.00	$41.69	$10.35	$12.00	$8.82	$0.00	$72.86
6	75.00	$44.67	$10.35	$12.00	$9.45	$0.00	$76.47
7	80.00	$47.65	$10.35	$12.00	$10.08	$0.00	$80.08
8	90.00	$53.60	$10.35	$12.00	$11.34	$0.00	$87.29

Apprentice to Journeyworker Ratio: 1:1

DEMO: ADZEMAN LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$48.75	$10.15	$9.50	$9.65	$0.00	$78.05
	6/1/2026	$50.30	$10.15	$9.50	$9.65	$0.00	$79.60
	12/7/2026	$51.80	$10.15	$9.50	$9.65	$0.00	$81.10
	6/7/2027	$53.40	$10.15	$9.50	$9.65	$0.00	$82.70
	12/6/2027	$55.00	$10.15	$9.50	$9.65	$0.00	$84.30
	6/5/2028	$56.68	$10.15	$9.50	$9.65	$0.00	$85.98
	12/4/2028	$58.35	$10.15	$9.50	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$49.75	$10.15	$9.50	$9.65	$0.00	$79.05
	6/1/2026	$51.30	$10.15	$9.50	$9.65	$0.00	$80.60
	12/7/2026	$52.80	$10.15	$9.50	$9.65	$0.00	$82.10
	6/7/2027	$54.40	$10.15	$9.50	$9.65	$0.00	$83.70
	12/6/2027	$56.00	$10.15	$9.50	$9.65	$0.00	$85.30
	6/5/2028	$57.68	$10.15	$9.50	$9.65	$0.00	$86.98
	12/4/2028	$59.35	$10.15	$9.50	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BURNERS LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$49.50	$10.15	$9.50	$9.65	$0.00	$78.80
	6/1/2026	$51.05	$10.15	$9.50	$9.65	$0.00	$80.35
	12/7/2026	$52.55	$10.15	$9.50	$9.65	$0.00	$81.85
	6/7/2027	$54.15	$10.15	$9.50	$9.65	$0.00	$83.45
	12/6/2027	$55.75	$10.15	$9.50	$9.65	$0.00	$85.05
	6/5/2028	$57.43	$10.15	$9.50	$9.65	$0.00	$86.73
	12/4/2028	$59.10	$10.15	$9.50	$9.65	$0.00	$88.40

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: CONCRETE CUTTER/SAWYER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$49.75	$10.15	$9.50	$9.65	$0.00	$79.05
	6/1/2026	$51.30	$10.15	$9.50	$9.65	$0.00	$80.60
	12/7/2026	$52.80	$10.15	$9.50	$9.65	$0.00	$82.10
	6/7/2027	$54.40	$10.15	$9.50	$9.65	$0.00	$83.70
	12/6/2027	$56.00	$10.15	$9.50	$9.65	$0.00	$85.30
	6/5/2028	$57.68	$10.15	$9.50	$9.65	$0.00	$86.98
	12/4/2028	$59.35	$10.15	$9.50	$9.65	$0.00	$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$49.50	$10.15	$9.50	$9.65	$0.00	$78.80
	6/1/2026	$51.05	$10.15	$9.50	$9.65	$0.00	$80.35
	12/7/2026	$52.55	$10.15	$9.50	$9.65	$0.00	$81.85
	6/7/2027	$54.15	$10.15	$9.50	$9.65	$0.00	$83.45
	12/6/2027	$55.75	$10.15	$9.50	$9.65	$0.00	$85.05
	6/5/2028	$57.43	$10.15	$9.50	$9.65	$0.00	$86.73
	12/4/2028	$59.10	$10.15	$9.50	$9.65	$0.00	$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$48.75	$10.15	$9.50	$9.65	$0.00	$78.05
	6/1/2026	$50.30	$10.15	$9.50	$9.65	$0.00	$79.60
	12/7/2026	$51.80	$10.15	$9.50	$9.65	$0.00	$81.10
	6/7/2027	$53.40	$10.15	$9.50	$9.65	$0.00	$82.70
	12/6/2027	$55.00	$10.15	$9.50	$9.65	$0.00	$84.30
	6/5/2028	$56.68	$10.15	$9.50	$9.65	$0.00	$85.98
	12/4/2028	$58.35	$10.15	$9.50	$9.65	$0.00	$87.65
For apprentice rates see "Apprentice- LABORER"							
DIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$78.11	$10.08	$11.62	$12.67	$0.00	$112.48
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A $69.83, 3A $91.79,4A $102.14 Total Rate							
DIVER TENDER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A $54.20, 3A $73.93,4A $82.05 Total Rate							
DIVER TENDER (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$83.69	$10.08	$11.62	$12.67	$0.00	$118.06
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$117.16	$10.08	$11.62	$12.67	$0.00	$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888 DRAWBRIDGE - SEIU LOCAL 888	7/1/2020	$26.77	$6.67	$3.93	$0.00	$0.16	$37.53

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELECTRICIAN (Including Core Drilling)	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
ELECTRICIANS LOCAL 7	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
ELECTRICIANS LOCAL 7	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37

Apprentice: ELECTRICIAN (Including Core Drilling)

Effective Date: 6/29/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$20.86	$7.50	$0.63	$0.00	$0.00	$28.99
2	45.00	$23.47	$7.50	$0.70	$0.00	$0.00	$31.67
3	50.00	$26.08	$13.50	$7.53	$0.00	$0.00	$47.11
4	55.00	$28.69	$13.50	$7.61	$0.00	$0.00	$49.80
5	65.00	$33.90	$13.50	$9.84	$0.00	$0.00	$57.24
6	70.00	$36.51	$13.50	$11.30	$0.00	$0.00	$61.31

Apprentice: ELECTRICIAN (Including Core Drilling)

Effective Date: 12/28/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$21.30	$7.65	$0.63	$0.00	$0.00	$29.58
2	45.00	$23.97	$7.65	$0.70	$0.00	$0.00	$32.32
3	50.00	$26.63	$13.75	$7.53	$0.00	$0.00	$47.91
4	55.00	$29.29	$13.75	$7.61	$0.00	$0.00	$50.65
5	65.00	$34.62	$13.75	$9.84	$0.00	$0.00	$58.21
6	70.00	$37.28	$13.75	$11.30	$0.00	$0.00	$62.33

Apprentice to Journeyworker Ratio: 2:3

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTOR	1/1/2025	$66.41	$16.28	$10.96	$10.40	$0.00	$104.05
ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2026	$69.23	$16.38	$11.06	$10.70	$0.00	$107.37
ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2027	$72.23	$16.48	$11.16	$11.00	$0.00	$110.87

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.21	$16.28	$0.00	$0.00	$0.00	$49.49
2	55.00	$36.53	$16.28	$10.96	$10.40	$0.00	$74.17
3	65.00	$43.17	$16.28	$10.96	$10.40	$0.00	$80.81
4	70.00	$46.49	$16.28	$10.96	$10.40	$0.00	$84.13
5	80.00	$53.13	$16.28	$10.96	$10.40	$0.00	$90.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: ELEVATOR CONSTRUCTOR

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.62	$16.38	$0.00	$0.00	$0.00	$51.00
2	55.00	$38.08	$16.38	$11.06	$10.70	$0.00	$76.22
3	65.00	$45.00	$16.38	$11.06	$10.70	$0.00	$83.14
4	70.00	$48.46	$16.38	$11.06	$10.70	$0.00	$86.60
5	80.00	$55.38	$16.38	$11.06	$10.70	$0.00	$93.52

Apprentice to Journeyworker Ratio: 1:1

ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 41 ELEVATOR CONSTRUCTORS LOCAL 41	1/1/2025	$46.49	$16.28	$10.96	$10.40	$0.00	$84.13
	1/1/2026	$48.46	$16.38	$11.06	$10.70	$0.00	$86.60
	1/1/2027	$50.56	$16.48	$11.16	$11.00	$0.00	$89.20
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	6/1/1999	$18.84	$4.80	$4.10	$0.00	$0.00	$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	6/1/1999	$21.33	$4.80	$4.10	$0.00	$0.00	$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	6/1/1999	$22.33	$4.80	$4.10	$0.00	$0.00	$31.23
FIRE ALARM INSTALLER ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"							
FIREMAN OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: FIREMAN

Effective Date: 12/1/2023

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$23.42	$13.78	$12.15	$3.00	$0.00	$52.35
2	70.00	$27.32	$13.78	$12.15	$3.00	$0.00	$56.25
3	80.00	$31.22	$13.78	$12.15	$3.00	$0.00	$60.15
4	90.00	$35.13	$13.78	$12.15	$3.00	$0.00	$64.06

Apprentice to Journeyworker Ratio: 1:6

FLAGGER & SIGNALER (HEAVY & HIGHWAY)	12/1/2025	$28.09	$10.15	$9.50	$6.56	$0.00	$54.30
LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	6/1/2026	$29.21	$10.15	$9.50	$6.56	$0.00	$55.42
	12/1/2026	$29.21	$10.15	$9.50	$6.56	$0.00	$55.42
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
FLOORCOVERER	9/1/2025	$43.44	$8.56	$11.25	$6.90	$0.00	$70.15
FLOORCOVERERS LOCAL 2168 FLOORCOVERERS LOCAL 2168 ZONE III	3/1/2026	$44.34	$8.56	$11.25	$6.90	$0.00	$71.05
	9/1/2026	$45.29	$8.56	$11.25	$6.90	$0.00	$72.00
	3/1/2027	$46.19	$8.56	$11.25	$6.90	$0.00	$72.90

Apprentice: FLOORCOVERER

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.55	$8.56	$0.00	$1.38	$0.00	$29.49
2	45.00	$19.55	$8.56	$0.00	$1.38	$0.00	$29.49
3	55.00	$23.89	$8.56	$0.00	$2.76	$0.00	$35.21
4	55.00	$23.89	$8.56	$0.00	$2.76	$0.00	$35.21
5	70.00	$30.41	$8.56	$11.25	$4.14	$0.00	$54.36
6	70.00	$30.41	$8.56	$11.25	$4.14	$0.00	$54.36
7	80.00	$34.75	$8.56	$11.25	$5.52	$0.00	$60.08
8	80.00	$34.75	$8.56	$11.25	$5.52	$0.00	$60.08

Apprentice: FLOORCOVERER

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.95	$8.56	$0.00	$1.38	$0.00	$29.89
2	45.00	$19.95	$8.56	$0.00	$1.38	$0.00	$29.89
3	55.00	$24.39	$8.56	$0.00	$2.76	$0.00	$35.71
4	55.00	$24.39	$8.56	$0.00	$2.76	$0.00	$35.71
5	70.00	$31.04	$8.56	$11.25	$4.14	$0.00	$54.99
6	70.00	$31.04	$8.56	$11.25	$4.14	$0.00	$54.99
7	80.00	$35.47	$8.56	$11.25	$5.52	$0.00	$60.80
8	80.00	$35.47	$8.56	$11.25	$5.52	$0.00	$60.80

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice Notes Steps are 750 hrs.							
Apprentice to Journeyworker Ratio: 1:1							
FORK LIFT OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$39.25	$13.78	$12.15	$3.00	$0.00	$68.18
GENERATORS/LIGHTING PLANTS OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98 For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/1/2023	$35.80	$13.78	$12.15	$3.00	$0.00	$64.73
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) GLAZIERS LOCAL 1333 GLAZIERS LOCAL 1333	6/1/2025	$43.13	$10.80	$8.25	$5.50	$0.00	$67.68
	6/1/2026	$44.73	$11.20	$8.40	$6.05	$0.00	$70.38
	6/1/2027	$46.73	$11.60	$8.55	$6.60	$0.00	$73.48
	6/1/2028	$48.73	$12.00	$8.70	$7.20	$0.00	$76.63

Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

Effective Date: 6/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$21.57	$10.80	$8.25	$5.50	$0.00	$46.12
2	56.25	$24.26	$10.80	$8.25	$5.50	$0.00	$48.81
3	62.50	$26.96	$10.80	$8.25	$5.50	$0.00	$51.51
4	68.75	$29.65	$10.80	$8.25	$5.50	$0.00	$54.20
5	75.00	$32.35	$10.80	$8.25	$5.50	$0.00	$56.90
6	81.25	$35.04	$10.80	$8.25	$5.50	$0.00	$59.59
7	87.50	$37.74	$10.80	$8.25	$5.50	$0.00	$62.29
8	93.75	$40.43	$10.80	$8.25	$5.50	$0.00	$64.98

Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.37	$11.20	$8.40	$6.05	$0.00	$48.02
2	56.25	$25.16	$11.20	$8.40	$6.05	$0.00	$50.81
3	62.50	$27.96	$11.20	$8.40	$6.05	$0.00	$53.61
4	68.75	$30.75	$11.20	$8.40	$6.05	$0.00	$56.40
5	75.00	$33.55	$11.20	$8.40	$6.05	$0.00	$59.20
6	81.25	$36.34	$11.20	$8.40	$6.05	$0.00	$61.99
7	87.50	$39.14	$11.20	$8.40	$6.05	$0.00	$64.79
8	93.75	$41.93	$11.20	$8.40	$6.05	$0.00	$67.58

Apprentice to Journeyworker Ratio: 3:1

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
GRADER/TRENCHING MACHINE/DERRICK OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 7 ELECTRICIANS LOCAL 7	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER) PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.31	$10.85	$7.10	$0.00	$81.27
	3/17/2026	$55.01	$10.31	$10.85	$7.10	$0.00	$83.27
	9/17/2026	$57.01	$10.31	$10.85	$7.10	$0.00	$85.27
	3/17/2027	$59.01	$10.31	$10.85	$7.10	$0.00	$87.27
	9/17/2027	$61.01	$10.31	$10.85	$7.10	$0.00	$89.27
	3/17/2028	$63.01	$10.31	$10.85	$7.10	$0.00	$91.27
	9/17/2028	$65.01	$10.31	$10.85	$7.10	$0.00	$93.27
	3/17/2029	$67.01	$10.31	$10.85	$7.10	$0.00	$95.27
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$37.49	$10.15	$9.50	$6.56	$0.00	$63.70
	6/1/2026	$38.79	$10.15	$9.50	$6.56	$0.00	$65.00
	12/1/2026	$40.08	$10.15	$9.50	$6.56	$0.00	$66.29
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
INSULATOR (PIPES & TANKS)	9/1/2025	$48.27	$14.75	$9.52	$10.09	$0.00	$82.63

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
HEAT & FROST INSULATORS LOCAL 6	9/1/2026	$51.01	$14.75	$9.52	$10.09	$0.00	$85.37
HEAT & FROST INSULATORS LOCAL 6 (SPRINGFIELD)							

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$24.14	$14.75	$9.27	$5.05	$0.00	$53.21
2	60.00	$28.96	$14.75	$9.32	$6.05	$0.00	$59.08
3	70.00	$33.79	$14.75	$9.37	$7.06	$0.00	$64.97
4	80.00	$38.62	$14.75	$9.42	$8.07	$0.00	$70.86

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$25.51	$14.75	$9.27	$5.05	$0.00	$54.58
2	60.00	$30.61	$14.75	$9.32	$6.05	$0.00	$60.73
3	70.00	$35.71	$14.75	$9.37	$7.06	$0.00	$66.89
4	80.00	$40.81	$14.75	$9.42	$8.07	$0.00	$73.05

Apprentice to Journeyworker Ratio: 1:4

IRONWORKER/WELDER	3/16/2024	$40.66	$8.25	$12.70	$10.00	$0.00	$71.61
IRONWORKERS LOCAL 7							
IRONWORKERS LOCAL 7 (SPRINGFIELD AREA)							

Apprentice: IRONWORKER/WELDER

Effective Date: 3/16/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$24.40	$8.25	$12.70	$10.00	$0.00	$55.35
2	70.00	$28.46	$8.25	$12.70	$10.00	$0.00	$59.41
3	75.00	$30.50	$8.25	$12.70	$10.00	$0.00	$61.45
4	80.00	$32.53	$8.25	$12.70	$10.00	$0.00	$63.48
5	85.00	$34.56	$8.25	$12.70	$10.00	$0.00	$65.51
6	90.00	$36.59	$8.25	$12.70	$10.00	$0.00	$67.54

Apprentice to Journeyworker Ratio: 1:4

JACKHAMMER & PAVING BREAKER OPERATOR	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
LABORERS	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
LABORERS - ZONE 3 (BUILDING & SITE)	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62

For apprentice rates see "Apprentice- LABORER"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORER	12/1/2025	$36.75	$10.15	$9.50	$8.57	$0.00	$64.97
LABORERS	6/1/2026	$38.05	$10.15	$9.50	$8.57	$0.00	$66.27
LABORERS - ZONE 3 (BUILDING & SITE)	12/7/2026	$39.35	$10.15	$9.50	$8.57	$0.00	$67.57
	6/7/2027	$40.75	$10.15	$9.50	$8.57	$0.00	$68.97
	12/6/2027	$42.15	$10.15	$9.50	$8.57	$0.00	$70.37
	6/5/2028	$43.65	$10.15	$9.50	$8.57	$0.00	$71.87
	12/4/2028	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37

Apprentice: LABORER

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$22.05	$9.90	$9.25	$8.32	$0.00	$49.52
2	70.00	$25.73	$9.90	$9.25	$8.32	$0.00	$53.20
3	80.00	$29.40	$9.90	$9.25	$8.32	$0.00	$56.87
4	90.00	$33.08	$9.90	$9.25	$8.32	$0.00	$60.55

Apprentice: LABORER

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$22.83	$10.15	$9.50	$8.57	$0.00	$51.05
2	70.00	$26.64	$10.15	$9.50	$8.57	$0.00	$54.86
3	80.00	$30.44	$10.15	$9.50	$8.57	$0.00	$58.66
4	90.00	$34.25	$10.15	$9.50	$8.57	$0.00	$62.47

Apprentice to Journeyworker Ratio: 1:5

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORER (HEAVY & HIGHWAY)	12/1/2025	$36.74	$10.15	$9.50	$6.56	$0.00	$62.95
LABORERS	6/1/2026	$38.04	$10.15	$9.50	$6.56	$0.00	$64.25
LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2026	$39.33	$10.15	$9.50	$6.56	$0.00	$65.54

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 12/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$22.04	$9.90	$9.25	$6.31	$0.00	$47.50
2	70.00	$25.72	$9.90	$9.25	$6.31	$0.00	$51.18
3	80.00	$29.40	$9.90	$9.25	$6.31	$0.00	$54.86
4	90.00	$33.07	$9.90	$9.25	$6.31	$0.00	$58.53

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: LABORER (HEAVY & HIGHWAY)

Effective Date: 6/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	$22.82	$10.15	$9.50	$6.56	$0.00	$49.03
2	70.00	$26.63	$10.15	$9.50	$6.56	$0.00	$52.84
3	80.00	$30.43	$10.15	$9.50	$6.56	$0.00	$56.64
4	90.00	$34.24	$10.15	$9.50	$6.56	$0.00	$60.45

Apprentice to Journeyworker Ratio: 1:5

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$36.75	$10.15	$9.50	$8.57	$0.00	$64.97
	6/1/2026	$38.05	$10.15	$9.50	$8.57	$0.00	$66.27
	12/7/2026	$39.35	$10.15	$9.50	$8.57	$0.00	$67.57
	6/7/2027	$40.75	$10.15	$9.50	$8.57	$0.00	$68.97
	12/6/2027	$42.15	$10.15	$9.50	$8.57	$0.00	$70.37
	6/5/2028	$43.65	$10.15	$9.50	$8.57	$0.00	$71.87
	12/4/2028	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37
For apprentice rates see "Apprentice- LABORER"							
LABORER: CEMENT FINISHER TENDER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$36.75	$10.15	$9.50	$8.57	$0.00	$64.97
	6/1/2026	$38.05	$10.15	$9.50	$8.57	$0.00	$66.27
	12/7/2026	$39.35	$10.15	$9.50	$8.57	$0.00	$67.57
	6/7/2027	$40.75	$10.15	$9.50	$8.57	$0.00	$68.97
	12/6/2027	$42.15	$10.15	$9.50	$8.57	$0.00	$70.37
	6/5/2028	$43.65	$10.15	$9.50	$8.57	$0.00	$71.87
	12/4/2028	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$36.67	$10.15	$9.50	$8.70	$0.00	$65.02
	6/1/2026	$37.97	$10.15	$9.50	$8.70	$0.00	$66.32
	12/7/2026	$39.27	$10.15	$9.50	$8.70	$0.00	$67.62
	6/7/2027	$40.67	$10.15	$9.50	$8.70	$0.00	$69.02
	12/6/2027	$42.07	$10.15	$9.50	$8.70	$0.00	$70.42
	6/5/2028	$43.57	$10.15	$9.50	$8.70	$0.00	$71.92
	12/4/2028	$45.07	$10.15	$9.50	$8.70	$0.00	$73.42
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$39.75	$10.15	$9.50	$8.57	$0.00	$67.97
	6/1/2026	$41.05	$10.15	$9.50	$8.57	$0.00	$69.27
	12/7/2026	$42.35	$10.15	$9.50	$8.57	$0.00	$70.57
	6/7/2027	$43.75	$10.15	$9.50	$8.57	$0.00	$71.97
	12/6/2027	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37
	6/5/2028	$46.65	$10.15	$9.50	$8.57	$0.00	$74.87
	12/4/2028	$48.15	$10.15	$9.50	$8.57	$0.00	$76.37
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
LABORER: MULTI-TRADE TENDER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$36.75	$10.15	$9.50	$8.57	$0.00	$64.97
	6/1/2026	$38.05	$10.15	$9.50	$8.57	$0.00	$66.27
	12/7/2026	$39.35	$10.15	$9.50	$8.57	$0.00	$67.57
	6/7/2027	$40.75	$10.15	$9.50	$8.57	$0.00	$68.97
	12/6/2027	$42.15	$10.15	$9.50	$8.57	$0.00	$70.37
	6/5/2028	$43.65	$10.15	$9.50	$8.57	$0.00	$71.87
	12/4/2028	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$36.75	$10.15	$9.50	$8.57	$0.00	$64.97
	6/1/2026	$38.05	$10.15	$9.50	$8.57	$0.00	$66.27
	12/7/2026	$39.35	$10.15	$9.50	$8.57	$0.00	$67.57
	6/7/2027	$40.75	$10.15	$9.50	$8.57	$0.00	$68.97
	12/6/2027	$42.15	$10.15	$9.50	$8.57	$0.00	$70.37
	6/5/2028	$43.65	$10.15	$9.50	$8.57	$0.00	$71.87
	12/4/2028	$45.15	$10.15	$9.50	$8.57	$0.00	$73.37
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$45.56	$11.49	$15.10	$5.68	$0.00	$77.83
	2/1/2026	$46.64	$11.49	$15.10	$5.68	$0.00	$78.91
	8/1/2026	$48.40	$11.49	$15.10	$5.68	$0.00	$80.67
	2/1/2027	$49.52	$11.49	$15.10	$5.68	$0.00	$81.79

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$22.78	$11.49	$15.10	$5.68	$0.00	$55.05
2	60.00	$27.34	$11.49	$15.10	$5.68	$0.00	$59.61
3	70.00	$31.89	$11.49	$15.10	$5.68	$0.00	$64.16
4	80.00	$36.45	$11.49	$15.10	$5.68	$0.00	$68.72

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
5	90.00	$41.00	$11.49	$15.10	$5.68	$0.00	$73.27

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$23.32	$11.49	$15.10	$5.68	$0.00	$55.59
2	60.00	$27.98	$11.49	$15.10	$5.68	$0.00	$60.25
3	70.00	$32.65	$11.49	$15.10	$5.68	$0.00	$64.92
4	80.00	$37.31	$11.49	$15.10	$5.68	$0.00	$69.58
5	90.00	$41.98	$11.49	$15.10	$5.68	$0.00	$74.25

Apprentice to Journeyworker Ratio: 1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANIC/WELDER/BOOM TRUCK OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3) MILLWRIGHTS LOCAL 1121	1/6/2025	$43.42	$10.08	$11.47	$9.75	$0.00	$74.72
MILLWRIGHTS LOCAL 1121 - Zone 3	1/5/2026	$45.70	$10.08	$11.47	$9.75	$0.00	$77.00

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/6/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$23.88	$10.08	$0.00	$5.36	$0.00	$39.32
2	65.00	$28.22	$10.08	$0.00	$6.34	$0.00	$44.64
3	75.00	$32.57	$10.08	$11.47	$7.31	$0.00	$61.43
4	85.00	$36.91	$10.08	$11.47	$8.29	$0.00	$66.75

Apprentice: MILLWRIGHT (Zone 3)

Effective Date: 1/5/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	$25.14	$10.08	$0.00	$5.36	$0.00	$40.58

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: MILLWRIGHT (Zone 3)							
Effective Date: 1/5/2026							
Step / Percent		**Apprentice Base Wage**					
2 / 65.00		$29.71	$10.08	$0.00	$6.34	$0.00	$46.13
3 / 75.00		$34.28	$10.08	$11.47	$7.31	$0.00	$63.14
4 / 85.00		$38.85	$10.08	$11.47	$8.29	$0.00	$68.69
Apprentice Notes							
Step 1&2 Appr. indentured after 1/6/2020 receive no pension,							
Apprentice to Journeyworker Ratio: 1:4							
MORTAR MIXER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
OILER OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$35.02	$13.78	$12.15	$3.00	$0.00	$63.95
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OTHER POWER DRIVEN EQUIPMENT - CLASS VI OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$32.74	$13.78	$12.15	$3.00	$0.00	$61.67
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$58.51	$10.30	$11.95	$12.50	$0.00	$93.26
	1/1/2026	$59.56	$10.35	$12.00	$12.60	$0.00	$94.51
Apprentice: PAINTER (BRIDGES/TANKS)							
Effective Date: 7/1/2025							
Step / Percent		**Apprentice Base Wage**					
1 / 50.00		$29.26	$10.30	$0.00	$0.00	$0.00	$39.56
2 / 55.00		$32.18	$10.30	$0.00	$6.88	$0.00	$49.36
3 / 60.00		$35.11	$10.30	$0.00	$7.50	$0.00	$52.91
4 / 65.00		$38.03	$10.30	$0.00	$8.13	$0.00	$56.46
5 / 70.00		$40.96	$10.30	$11.95	$8.75	$0.00	$71.96
6 / 75.00		$43.88	$10.30	$11.95	$9.38	$0.00	$75.51
7 / 80.00		$46.81	$10.30	$11.95	$10.00	$0.00	$79.06
8 / 90.00		$52.66	$10.30	$11.95	$11.25	$0.00	$86.16

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: PAINTER (BRIDGES/TANKS)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$29.78	$10.35	$0.00	$0.00	$0.00	$40.13
2	55.00	$32.76	$10.35	$0.00	$6.93	$0.00	$50.04
3	60.00	$35.74	$10.35	$0.00	$7.56	$0.00	$53.65
4	65.00	$38.71	$10.35	$0.00	$8.19	$0.00	$57.25
5	70.00	$41.69	$10.35	$12.00	$8.82	$0.00	$72.86
6	75.00	$44.67	$10.35	$12.00	$9.45	$0.00	$76.47
7	80.00	$47.65	$10.35	$12.00	$10.08	$0.00	$80.08
8	90.00	$53.60	$10.35	$12.00	$11.34	$0.00	$87.29

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	7/1/2025	$41.13	$10.30	$11.95	$8.25	$0.00	$71.63
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	1/1/2026	$42.03	$10.35	$12.00	$8.35	$0.00	$72.73
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 3							

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$20.57	$10.30	$0.00	$0.00	$0.00	$30.87
2	55.00	$22.62	$10.30	$0.00	$4.54	$0.00	$37.46
3	60.00	$24.68	$10.30	$0.00	$4.95	$0.00	$39.93
4	65.00	$26.73	$10.30	$0.00	$5.36	$0.00	$42.39
5	70.00	$28.79	$10.30	$11.95	$5.78	$0.00	$56.82
6	75.00	$30.85	$10.30	$11.95	$6.19	$0.00	$59.29
7	80.00	$32.90	$10.30	$11.95	$6.60	$0.00	$61.75
8	90.00	$37.02	$10.30	$11.95	$7.43	$0.00	$66.70

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) *

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$21.02	$10.35	$0.00	$0.00	$0.00	$31.37
2	55.00	$23.12	$10.35	$0.00	$4.59	$0.00	$38.06
3	60.00	$25.22	$10.35	$0.00	$5.01	$0.00	$40.58
4	65.00	$27.32	$10.35	$0.00	$5.43	$0.00	$43.10
5	70.00	$29.42	$10.35	$12.00	$5.85	$0.00	$57.62
6	75.00	$31.52	$10.35	$12.00	$6.26	$0.00	$60.13
7	80.00	$33.62	$10.35	$12.00	$6.68	$0.00	$62.65
8	90.00	$37.83	$10.35	$12.00	$7.52	$0.00	$67.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice to Journeyworker Ratio: 1:1							
PAINTER (SPRAY OR SANDBLAST, REPAINT)	7/1/2025	$38.45	$10.30	$11.95	$8.25	$0.00	$68.95
PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	1/1/2026	$39.35	$10.35	$12.00	$8.35	$0.00	$70.05

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$19.23	$10.30	$0.00	$0.00	$0.00	$29.53
2	55.00	$21.15	$10.30	$0.00	$4.54	$0.00	$35.99
3	60.00	$23.07	$10.30	$0.00	$4.95	$0.00	$38.32
4	65.00	$24.99	$10.30	$0.00	$5.36	$0.00	$40.65
5	70.00	$26.92	$10.30	$11.95	$5.78	$0.00	$54.95
6	75.00	$28.84	$10.30	$11.95	$6.19	$0.00	$57.28
7	80.00	$30.76	$10.30	$11.95	$6.60	$0.00	$59.61
8	90.00	$34.61	$10.30	$11.95	$7.43	$0.00	$64.29

Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$19.68	$10.35	$0.00	$0.00	$0.00	$30.03
2	55.00	$21.64	$10.35	$0.00	$4.59	$0.00	$36.58
3	60.00	$23.61	$10.35	$0.00	$5.01	$0.00	$38.97
4	65.00	$25.58	$10.35	$0.00	$5.43	$0.00	$41.36
5	70.00	$27.55	$10.35	$12.00	$5.85	$0.00	$55.75
6	75.00	$29.51	$10.35	$12.00	$6.26	$0.00	$58.12
7	80.00	$31.48	$10.35	$12.00	$6.68	$0.00	$60.51
8	90.00	$35.42	$10.35	$12.00	$7.52	$0.00	$65.29

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice to Journeyworker Ratio: 1:1							
PAINTER / TAPER (BRUSH, NEW) *	7/1/2025	$39.73	$10.30	$11.95	$8.25	$0.00	$70.23
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	1/1/2026	$40.63	$10.35	$12.00	$8.35	$0.00	$71.33

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$19.87	$10.30	$0.00	$0.00	$0.00	$30.17
2	55.00	$21.85	$10.30	$0.00	$4.54	$0.00	$36.69
3	60.00	$23.84	$10.30	$0.00	$4.95	$0.00	$39.09

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PAINTER / TAPER (BRUSH, REPAINT) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 3	7/1/2025	$37.05	$10.30	$11.95	$8.25	$0.00	$67.55
	1/1/2026	$37.95	$10.35	$12.00	$8.35	$0.00	$68.65

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	65.00	$25.82	$10.30	$0.00	$5.36	$0.00	$41.48
5	70.00	$27.81	$10.30	$11.95	$5.78	$0.00	$55.84
6	75.00	$29.80	$10.30	$11.95	$6.19	$0.00	$58.24
7	80.00	$31.78	$10.30	$11.95	$6.60	$0.00	$60.63
8	90.00	$35.76	$10.30	$11.95	$7.43	$0.00	$65.44

Apprentice: PAINTER / TAPER (BRUSH, NEW) *

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$20.32	$10.35	$0.00	$0.00	$0.00	$30.67
2	55.00	$22.35	$10.35	$0.00	$4.59	$0.00	$37.29
3	60.00	$24.38	$10.35	$0.00	$5.01	$0.00	$39.74
4	65.00	$26.41	$10.35	$0.00	$5.43	$0.00	$42.19
5	70.00	$28.44	$10.35	$12.00	$5.85	$0.00	$56.64
6	75.00	$30.47	$10.35	$12.00	$6.26	$0.00	$59.08
7	80.00	$32.50	$10.35	$12.00	$6.68	$0.00	$61.53
8	90.00	$36.57	$10.35	$12.00	$7.52	$0.00	$66.44

Apprentice to Journeyworker Ratio: 1:1

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$18.53	$10.30	$0.00	$0.00	$0.00	$28.83
2	55.00	$20.38	$10.30	$0.00	$4.54	$0.00	$35.22
3	60.00	$22.23	$10.30	$0.00	$4.95	$0.00	$37.48
4	65.00	$24.08	$10.30	$0.00	$5.36	$0.00	$39.74
5	70.00	$25.94	$10.30	$11.95	$5.78	$0.00	$53.97
6	75.00	$27.79	$10.30	$11.95	$6.19	$0.00	$56.23
7	80.00	$29.64	$10.30	$11.95	$6.60	$0.00	$58.49
8	90.00	$33.35	$10.30	$11.95	$7.43	$0.00	$63.03

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$18.98	$10.35	$0.00	$0.00	$0.00	$29.33
2	55.00	$20.87	$10.35	$0.00	$4.59	$0.00	$35.81
3	60.00	$22.77	$10.35	$0.00	$5.01	$0.00	$38.13
4	65.00	$24.67	$10.35	$0.00	$5.43	$0.00	$40.45
5	70.00	$26.57	$10.35	$12.00	$5.85	$0.00	$54.77
6	75.00	$28.46	$10.35	$12.00	$6.26	$0.00	$57.07
7	80.00	$30.36	$10.35	$12.00	$6.68	$0.00	$59.39
8	90.00	$34.16	$10.35	$12.00	$7.52	$0.00	$64.03

Apprentice to Journeyworker Ratio: 1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.74	$10.15	$9.50	$6.56	$0.00	$62.95
	6/1/2026	$38.04	$10.15	$9.50	$6.56	$0.00	$64.25
	12/1/2026	$39.33	$10.15	$9.50	$6.56	$0.00	$65.54
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$40.78	$15.57	$21.78	$0.00	$0.00	$78.13
	1/1/2026	$40.78	$16.17	$21.78	$0.00	$0.00	$78.73
	6/1/2026	$41.78	$16.17	$21.78	$0.00	$0.00	$79.73
	12/1/2026	$41.78	$16.17	$23.52	$0.00	$0.00	$81.47
	1/1/2027	$41.78	$16.77	$23.52	$0.00	$0.00	$82.07
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56
For apprentice rates see "Apprentice- PILE DRIVER"							
PILE DRIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 3)	8/1/2024	$49.19	$10.08	$11.62	$12.67	$0.00	$83.56

Apprentice: PILE DRIVER

Effective Date: 8/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$22.14	$10.08	$0.00	$2.53	$0.00	$34.75
2	55.00	$27.05	$10.08	$0.00	$5.07	$0.00	$42.20
3	70.00	$34.43	$10.08	$11.62	$7.60	$0.00	$63.73
4	80.00	$39.35	$10.08	$11.62	$10.14	$0.00	$71.19

Apprentice to Journeyworker Ratio: 1:5

PIPELAYER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
PLUMBER & PIPEFITTER	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 9/17/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$23.85	$10.35	$10.85	$0.00	$0.00	$45.05
2	50.00	$26.51	$10.35	$10.85	$0.00	$0.00	$47.71
3	55.00	$29.16	$10.35	$10.85	$0.00	$0.00	$50.36
4	60.00	$31.81	$10.35	$10.85	$0.00	$0.00	$53.01
5	65.00	$34.46	$10.35	$10.85	$0.00	$0.00	$55.66
6	70.00	$37.11	$10.35	$10.85	$0.00	$0.00	$58.31
7	75.00	$39.76	$10.35	$10.85	$0.00	$0.00	$60.96
8	80.00	$42.41	$10.35	$10.85	$0.00	$0.00	$63.61
9	85.00	$45.06	$10.35	$10.85	$7.10	$0.00	$73.36
10	85.00	$45.06	$10.35	$10.85	$7.10	$0.00	$73.36

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 3/17/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$24.75	$10.35	$10.85	$0.00	$0.00	$45.95
2	50.00	$27.51	$10.35	$10.85	$0.00	$0.00	$48.71
3	55.00	$30.26	$10.35	$10.85	$0.00	$0.00	$51.46
4	60.00	$33.01	$10.35	$10.85	$0.00	$0.00	$54.21
5	65.00	$35.76	$10.35	$10.85	$0.00	$0.00	$56.96
6	70.00	$38.51	$10.35	$10.85	$0.00	$0.00	$59.71
7	75.00	$41.26	$10.35	$10.85	$0.00	$0.00	$62.46
8	80.00	$44.01	$10.35	$10.85	$0.00	$0.00	$65.21

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: PLUMBER & PIPEFITTER

Effective Date: 3/17/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
9	85.00	$46.76	$10.35	$10.85	$7.10	$0.00	$75.06
10	85.00	$46.76	$10.35	$10.85	$7.10	$0.00	$75.06

Apprentice Notes

**1:1,2:5,3:9,4:12

Apprentice to Journeyworker Ratio: 1:1

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 104 PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
	3/17/2026	$55.01	$0.00	$10.85	$7.10	$0.00	$72.96
	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWDERMAN & BLASTER LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.75	$10.15	$9.50	$8.57	$0.00	$65.97
	6/1/2026	$39.05	$10.15	$9.50	$8.57	$0.00	$67.27
	12/7/2026	$40.35	$10.15	$9.50	$8.57	$0.00	$68.57
	6/7/2027	$41.75	$10.15	$9.50	$8.57	$0.00	$69.97
	12/6/2027	$43.15	$10.15	$9.50	$8.57	$0.00	$71.37
	6/5/2028	$44.65	$10.15	$9.50	$8.57	$0.00	$72.87
	12/4/2028	$46.15	$10.15	$9.50	$8.57	$0.00	$74.37
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2025	$37.74	$10.15	$9.50	$6.56	$0.00	$63.95
	6/1/2026	$39.04	$10.15	$9.50	$6.56	$0.00	$65.25
	12/1/2026	$40.33	$10.15	$9.50	$6.56	$0.00	$66.54
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.56	$13.78	$12.15	$3.00	$0.00	$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
READY-MIX CONCRETE DRIVER TEAMSTERS 404 - Construction Service (Northampton) TEAMSTERS 404 - Construction Service (Northampton)	5/1/2024	$26.14	$11.82	$7.25	$0.00	$0.00	$45.21
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS LABORERS - ZONE 3 (BUILDING & SITE)	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							
ROLLER OPERATOR OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
ROOFER (Coal tar pitch) ROOFERS LOCAL 248 ROOFERS LOCAL 248	10/2/2025	$44.73	$10.60	$8.70	$10.00	$0.00	$74.03
	7/16/2026	$46.73	$10.60	$8.70	$10.00	$0.00	$76.03
For apprentice rates see "Apprentice- ROOFER"							
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) ROOFERS LOCAL 248 ROOFERS LOCAL 248	10/2/2025	$44.23	$10.60	$8.70	$10.00	$0.00	$73.53
	7/16/2026	$46.23	$10.60	$8.70	$10.00	$0.00	$75.53
ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 248 ROOFERS LOCAL 248	10/2/2025	$44.73	$10.60	$8.70	$10.00	$0.00	$74.03
	7/16/2026	$46.73	$10.60	$8.70	$10.00	$0.00	$76.03
For apprentice rates see "Apprentice- ROOFER"							
SCRAPER OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$39.03	$13.78	$12.15	$3.00	$0.00	$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
SELF-PROPELLED POWER BROOM OPERATING ENGINEERS LOCAL 98 OPERATING ENGINEERS LOCAL 98	12/1/2023	$35.80	$13.78	$12.15	$3.00	$0.00	$64.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 63 SHEETMETAL WORKERS LOCAL 63	7/1/2025	$43.48	$12.94	$11.01	$8.72	$2.13	$78.28
	7/1/2026	$43.48	$13.24	$11.01	$9.92	$2.13	$79.78
	1/1/2027	$43.48	$13.54	$11.01	$11.12	$2.13	$81.28
	7/1/2027	$44.98	$13.54	$11.01	$11.12	$2.13	$82.78
	1/1/2028	$46.48	$13.54	$11.01	$11.12	$2.13	$84.28

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.57	$5.82	$4.95	$0.00	$0.85	$31.19
2	50.00	$21.74	$6.47	$5.51	$0.00	$0.94	$34.66
3	55.00	$23.91	$7.12	$9.91	$0.00	$1.15	$42.09
4	60.00	$26.09	$7.76	$9.91	$0.00	$1.23	$44.99
5	65.00	$28.26	$8.41	$9.91	$0.00	$1.31	$47.89
6	70.00	$30.44	$9.06	$9.91	$0.00	$1.39	$50.80
7	75.00	$32.61	$9.71	$9.91	$0.00	$1.47	$53.70
8	80.00	$34.78	$10.35	$9.91	$8.72	$1.78	$65.54
9	85.00	$36.96	$11.00	$9.91	$8.72	$1.86	$68.45
10	90.00	$39.13	$11.65	$9.91	$8.72	$1.94	$71.35

Apprentice: SHEETMETAL WORKER

Effective Date: 7/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	$19.57	$5.96	$4.95	$0.00	$0.85	$31.33
2	50.00	$21.74	$6.62	$5.51	$0.00	$0.94	$34.81
3	55.00	$23.91	$7.28	$9.91	$0.00	$1.15	$42.25
4	60.00	$26.09	$7.94	$9.91	$0.00	$1.23	$45.17
5	65.00	$28.26	$8.60	$9.91	$0.00	$1.31	$48.08
6	70.00	$30.44	$9.27	$9.91	$0.00	$1.39	$51.01
7	75.00	$32.61	$9.93	$9.91	$0.00	$1.47	$53.92
8	80.00	$34.78	$10.59	$9.91	$9.92	$1.78	$66.98
9	85.00	$36.96	$11.25	$9.91	$9.92	$1.86	$69.90
10	90.00	$39.13	$11.92	$9.91	$9.92	$1.94	$72.82

Apprentice to Journeyworker Ratio: 1:3

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	$41.53	$15.57	$21.78	$0.00	$0.00	$78.88
	1/1/2026	$41.53	$16.17	$21.78	$0.00	$0.00	$79.48
	6/1/2026	$42.53	$16.17	$21.78	$0.00	$0.00	$80.48
	12/1/2026	$42.53	$16.17	$23.52	$0.00	$0.00	$82.22
	1/1/2027	$42.53	$16.77	$23.52	$0.00	$0.00	$82.82
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 669 SPRINKLER FITTERS LOCAL 669	10/1/2025	$53.25	$12.40	$7.40	$9.41	$0.00	$82.46
	1/1/2026	$53.25	$13.60	$7.45	$9.41	$0.00	$83.71
	4/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	7/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	10/1/2026	$56.54	$13.60	$7.45	$9.41	$0.00	$87.00
	1/1/2027	$56.54	$14.55	$7.50	$9.41	$0.00	$88.00
	4/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	7/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	10/1/2027	$59.83	$14.55	$7.50	$9.41	$0.00	$91.29
	1/1/2028	$59.83	$15.50	$7.55	$9.41	$0.00	$92.29

Apprentice: SPRINKLER FITTER

Effective Date: 10/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	43.00	$26.94	$12.40	$0.00	$0.00	$0.00	$39.34
2	48.00	$30.08	$12.40	$0.00	$0.00	$0.00	$42.48
3	52.00	$32.58	$12.40	$7.40	$1.15	$0.00	$53.53
4	56.00	$35.09	$12.40	$7.40	$1.15	$0.00	$56.04
5	59.00	$36.97	$12.40	$7.40	$1.40	$0.00	$58.17
6	64.00	$40.10	$12.40	$7.40	$1.40	$0.00	$61.30
7	68.00	$42.61	$12.40	$7.40	$1.40	$0.00	$63.81
8	72.00	$45.12	$12.40	$7.40	$1.40	$0.00	$66.32
9	76.00	$47.62	$12.40	$7.40	$1.40	$0.00	$68.82
10	80.00	$50.13	$12.40	$7.40	$1.40	$0.00	$71.33

Apprentice: SPRINKLER FITTER

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	43.00	$26.94	$9.64	$0.00	$0.00	$0.00	$36.58
2	48.00	$30.08	$9.64	$0.00	$0.00	$0.00	$39.72
3	52.00	$32.58	$13.60	$7.45	$1.15	$0.00	$54.78
4	56.00	$35.09	$13.60	$7.45	$1.15	$0.00	$57.29
5	59.00	$36.97	$13.60	$7.45	$1.40	$0.00	$59.42
6	64.00	$40.10	$13.60	$7.45	$1.40	$0.00	$62.55
7	68.00	$42.61	$13.60	$7.45	$1.40	$0.00	$65.06
8	72.00	$45.12	$13.60	$7.45	$1.40	$0.00	$67.57
9	76.00	$47.62	$13.60	$7.45	$1.40	$0.00	$70.07
10	80.00	$50.13	$13.60	$7.45	$1.40	$0.00	$72.58

Apprentice to Journeyworker Ratio: 1:1

TELECOMMUNICATION TECHNICIAN	6/29/2025	$52.16	$13.50	$8.31	$6.90	$0.00	$80.87
TELECOMMUNICATION TECHNICIAN	12/28/2025	$53.26	$13.75	$8.40	$6.96	$0.00	$82.37
ELECTRICIANS LOCAL 7	6/28/2026	$54.41	$14.00	$8.43	$7.03	$0.00	$83.87
ELECTRICIANS LOCAL 7	1/3/2027	$55.56	$14.25	$8.47	$7.09	$0.00	$85.37

For apprentice rates and ratios see "Apprentice- ELECTRICIAN"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$66.89	$11.49	$15.57	$8.02	$0.00	$101.97
	2/10/2026	$68.24	$11.49	$15.57	$8.02	$0.00	$103.32
	8/1/2026	$70.44	$11.49	$15.57	$8.02	$0.00	$105.52
	2/1/2027	$71.84	$11.49	$15.57	$8.02	$0.00	$106.92

Apprentice: TELECOMMUNICATION TECHNICIAN

Effective Date: 6/29/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$20.86	$7.50	$0.63	$0.00	$0.00	$28.99
2	45.00	$23.47	$7.50	$0.70	$0.00	$0.00	$31.67
3	50.00	$26.08	$13.50	$7.53	$0.00	$0.00	$47.11
4	55.00	$28.69	$13.50	$7.61	$0.00	$0.00	$49.80
5	65.00	$33.90	$13.50	$9.84	$0.00	$0.00	$57.24
6	70.00	$36.51	$13.50	$11.30	$0.00	$0.00	$61.31

Apprentice: TELECOMMUNICATION TECHNICIAN

Effective Date: 12/28/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	$21.30	$7.65	$0.63	$0.00	$0.00	$29.58
2	45.00	$23.97	$7.65	$0.70	$0.00	$0.00	$32.32
3	50.00	$26.63	$13.75	$7.53	$0.00	$0.00	$47.91
4	55.00	$29.29	$13.75	$7.61	$0.00	$0.00	$50.65
5	65.00	$34.62	$13.75	$9.84	$0.00	$0.00	$58.21
6	70.00	$37.28	$13.75	$11.30	$0.00	$0.00	$62.33

Apprentice to Journeyworker Ratio: 1:1

Apprentice: TERRAZZO FINISHERS

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.45	$11.49	$15.57	$8.02	$0.00	$68.53
2	60.00	$40.13	$11.49	$15.57	$8.02	$0.00	$75.21
3	70.00	$46.82	$11.49	$15.57	$8.02	$0.00	$81.90
4	80.00	$53.51	$11.49	$15.57	$8.02	$0.00	$88.59
5	90.00	$60.20	$11.49	$15.57	$8.02	$0.00	$95.28

Apprentice: TERRAZZO FINISHERS

Effective Date: 2/10/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.12	$11.49	$15.57	$8.02	$0.00	$69.20

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Apprentice: TERRAZZO FINISHERS

Effective Date: 2/10/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	60.00	$40.94	$11.49	$15.57	$8.02	$0.00	$76.02
3	70.00	$47.77	$11.49	$15.57	$8.02	$0.00	$82.85
4	80.00	$54.59	$11.49	$15.57	$8.02	$0.00	$89.67
5	90.00	$61.42	$11.49	$15.57	$8.02	$0.00	$96.50

Apprentice to Journeyworker Ratio: 1:5

TERRAZZO MECHANIC BRICKLAYERS LOCAL 3 BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	8/1/2025	$67.97	$11.49	$15.57	$7.99	$0.00	$103.02
	2/1/2026	$69.32	$11.49	$15.57	$7.99	$0.00	$104.37
	8/1/2026	$71.52	$11.49	$15.57	$7.99	$0.00	$106.57
	2/1/2027	$72.92	$11.49	$15.57	$7.99	$0.00	$107.97

Apprentice: TERRAZZO MECHANIC

Effective Date: 8/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$33.99	$11.49	$15.57	$7.99	$0.00	$69.04
2	60.00	$40.78	$11.49	$15.57	$7.99	$0.00	$75.83
3	70.00	$47.58	$11.49	$15.57	$7.99	$0.00	$82.63
4	80.00	$54.38	$11.49	$15.57	$7.99	$0.00	$89.43
5	90.00	$61.17	$11.49	$15.57	$7.99	$0.00	$96.22

Apprentice: TERRAZZO MECHANIC

Effective Date: 2/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	$34.66	$11.49	$15.57	$7.99	$0.00	$69.71
2	60.00	$41.59	$11.49	$15.57	$7.99	$0.00	$76.64
3	70.00	$48.52	$11.49	$15.57	$7.99	$0.00	$83.57
4	80.00	$55.46	$11.49	$15.57	$7.99	$0.00	$90.51
5	90.00	$62.39	$11.49	$15.57	$7.99	$0.00	$97.44

Apprentice to Journeyworker Ratio: 1:5

TEST BORING DRILLER LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$52.70	$10.15	$9.50	$9.80	$0.00	$82.15
	6/1/2026	$54.25	$10.15	$9.50	$9.80	$0.00	$83.70
	12/1/2026	$55.75	$10.15	$9.50	$9.80	$0.00	$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER LABORERS LABORERS - FOUNDATION AND MARINE	12/1/2025	$48.82	$10.15	$9.50	$9.80	$0.00	$78.27
	6/1/2026	$50.37	$10.15	$9.50	$9.80	$0.00	$79.82
	12/1/2026	$51.87	$10.15	$9.50	$9.80	$0.00	$81.32

For apprentice rates see "Apprentice- LABORER"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TEST BORING LABORER	12/1/2025	$48.70	$10.15	$9.50	$9.80	$0.00	$78.15
LABORERS	6/1/2026	$50.25	$10.15	$9.50	$9.80	$0.00	$79.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	$51.75	$10.15	$9.50	$9.80	$0.00	$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS	12/1/2023	$38.42	$13.78	$12.15	$3.00	$0.00	$67.35
OPERATING ENGINEERS LOCAL 98							
OPERATING ENGINEERS LOCAL 98							
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	12/1/2025	$41.82	$15.57	$21.78	$0.00	$0.00	$79.17
TEAMSTERS JOINT COUNCIL NO. 10	1/1/2026	$41.82	$16.17	$21.78	$0.00	$0.00	$79.77
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2026	$42.82	$16.17	$21.78	$0.00	$0.00	$80.77
	12/1/2026	$42.82	$16.17	$23.52	$0.00	$0.00	$82.51
	1/1/2027	$42.82	$16.77	$23.52	$0.00	$0.00	$83.11
TUNNEL WORK - COMPRESSED AIR	12/1/2025	$60.93	$10.15	$9.50	$10.25	$0.00	$90.83
LABORERS	6/1/2026	$62.48	$10.15	$9.50	$10.25	$0.00	$92.38
LABORERS (COMPRESSED AIR)	12/1/2026	$63.98	$10.15	$9.50	$10.25	$0.00	$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	12/1/2025	$62.93	$10.15	$9.50	$10.25	$0.00	$92.83
LABORERS	6/1/2026	$64.48	$10.15	$9.50	$10.25	$0.00	$94.38
LABORERS (COMPRESSED AIR)	12/1/2026	$65.98	$10.15	$9.50	$10.25	$0.00	$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	12/1/2025	$53.00	$10.15	$9.50	$10.25	$0.00	$82.90
LABORERS	6/1/2026	$54.55	$10.15	$9.50	$10.25	$0.00	$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	$56.05	$10.15	$9.50	$10.25	$0.00	$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	12/1/2025	$55.00	$10.15	$9.50	$10.25	$0.00	$84.90
LABORERS	6/1/2026	$56.55	$10.15	$9.50	$10.25	$0.00	$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	$58.05	$10.15	$9.50	$10.25	$0.00	$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	12/1/2025	$41.24	$15.57	$21.78	$0.00	$0.00	$78.59
TEAMSTERS JOINT COUNCIL NO. 10	1/1/2026	$41.24	$16.17	$21.78	$0.00	$0.00	$79.19
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	6/1/2026	$42.24	$16.17	$21.78	$0.00	$0.00	$80.19
	12/1/2026	$42.24	$16.17	$23.52	$0.00	$0.00	$81.93
	1/1/2027	$42.24	$16.77	$23.52	$0.00	$0.00	$82.53
WAGON DRILL OPERATOR	12/1/2025	$37.00	$10.15	$9.50	$8.57	$0.00	$65.22
LABORERS	6/1/2026	$38.30	$10.15	$9.50	$8.57	$0.00	$66.52
LABORERS - ZONE 3 (BUILDING & SITE)	12/7/2026	$39.60	$10.15	$9.50	$8.57	$0.00	$67.82
	6/7/2027	$41.00	$10.15	$9.50	$8.57	$0.00	$69.22
	12/6/2027	$42.40	$10.15	$9.50	$8.57	$0.00	$70.62
	6/5/2028	$43.90	$10.15	$9.50	$8.57	$0.00	$72.12
	12/4/2028	$45.40	$10.15	$9.50	$8.57	$0.00	$73.62
For apprentice rates see "Apprentice- LABORER"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	$36.99	$10.15	$9.50	$6.56	$0.00	$63.20
LABORERS	6/1/2026	$38.29	$10.15	$9.50	$6.56	$0.00	$64.50
LABORERS - ZONE 3 (HEAVY & HIGHWAY)	12/1/2026	$39.58	$10.15	$9.50	$6.56	$0.00	$65.79
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
WATER METER INSTALLER	9/17/2025	$53.01	$10.35	$10.85	$7.10	$0.00	$81.31
PLUMBERS & PIPEFITTERS LOCAL 104	3/17/2026	$55.01	$10.35	$10.85	$7.10	$0.00	$83.31
PLUMBERS & PIPEFITTERS LOCAL 104	9/17/2026	$57.01	$10.35	$10.85	$7.10	$0.00	$85.31
	3/17/2027	$59.01	$10.35	$10.85	$7.10	$0.00	$87.31
	9/17/2027	$61.01	$10.35	$10.85	$7.10	$0.00	$89.31
	3/17/2028	$63.01	$10.35	$10.85	$7.10	$0.00	$91.31
	9/17/2028	$65.01	$10.35	$10.85	$7.10	$0.00	$93.31
	3/17/2029	$67.01	$10.35	$10.85	$7.10	$0.00	$95.31
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Additional Apprentice Information

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

SECTION 011000

SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Time of Completion.
5. Work under separate contracts.
6. Access to site.
7. Contractor use of premises.
8. Work restrictions.
9. Specification and drawing conventions.
10. Miscellaneous provisions.

1.3 PROJECT INFORMATION

A. Project Identification: Pioneer Valley Transit Authority (PVTA) Paratransit Administration and Maintenance Building and Bus Wash and Storage Building.

1. Project Location: 2840 Main Street, Springfield, MA.
2. Owner: Pioneer Valley Transit Authority (PVTA).

B. Architect: STV Incorporated

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Project consists of façade repairs to two existing masonry and concrete buildings.
2. More specifically, repairs include replacing damaged brick, CMU, cutting and pointing, and replacement of window lintels and flashings where indicated on the drawings. Cutting and pointing occurs throughout the building, but the upper elevations include extensive work.
3. At the Bus Maintenance Building, the scope also includes rebuilding the upper 4’ of the brick chimney and concrete repairs at the ramp.
4. At the Bus Wash and Storage Building, the scope includes extensive work to the west façade along I-91. This includes cutting and pointing damaged joints and coating the entire elevation with an elastomeric waterproofing. At the bus wash wing, the scope includes epoxy injection of cracks.
5. Alternates: An alternate price is requested for the following: At the bus wash and storage building-Add coating of CMU on east elevations.

B. Type of Contract:

1. Project will be constructed under a MGL Chapter 149 lump sum single prime contract. Prime contractor to be certified in masonry and waterproofing and caulking. A filed subbid is requested for painting, including the Main Street windows and doors located throughout both buildings.

1.5 TIME OF COMPLETION

A. Successful bidder shall begin the Work on or about April 2026 and after receipt of the Notice to Proceed and shall complete the Work within the Contract Time of 90 days. All work shall be substantially complete within 75 days from mobilization on site.

1.6 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

1.7 CONTRACTORS USE OF PREMISE

A. General: Contractor's use of Project site is limited only by Owner's operations. Buildings will be occupied by the Owner during construction. Contractor to coordinate all work with Owner.

B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to areas of disturbance as required by contract documents.

1.8 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

B. On-Site Work Hours: Limit work on the site according to requirements of authorities having jurisdiction.

C. Existing Utility Interruptions: Do not interrupt utilities unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than two weeks in advance of proposed utility interruptions.
2. Obtain Architect and Owner written permission before proceeding with utility interruptions.

D. Nonsmoking Building: Smoking is not permitted on the project site at any time. There will be no exceptions.

E. Controlled Substances: Use of tobacco products and other controlled substances on the Project site is not permitted.

F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

G. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

H. The Contractor shall coordinate all work to be performed with the PVTA Bus operations staff. Contractor is not allowed to block PVTA operations on site. The contractor shall notify the Operations staff of any anticipated downtime dates of any portion of the facility so the Operations staff can modify their daily operation and coordinate the use of the facility and site with the contractor. These dates and downtime shall be clearly identified in the contractor’s schedule.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents are abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
3. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.10 MISCELLANEOUS PROVISIONS

A. Copies of Drawings and Project Manuals: The Contractor is required to obtain the number of copies of the Drawings and Project Manual it requires for construction of the project. The Owner will not reimburse the Contractor for these copies.

B. Licensed Contractors/Subcontractors: All Subcontractors must be licensed to work in Hampden County, Massachusetts in each of their perspective fields of work on the Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012200

UNIT PRICES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 REQUIREMENTS INCLUDED

A. Unit pricing shall be performed by the General Contractor or Filed Sub-Bid Subcontractor as applicable.

B. Unit price work will be paid for in accordance with unit prices listed by the General Contractor or Filed Sub-Bid Subcontractor, as accepted by PVTA, based on estimated quantities calculated by the Designer.

C. All unit prices shall include their pro-rata share of all costs, including but not limited to, overhead, profit, bond, labor, materials, disposal, and equipment to perform the work item complete, as identified.

D. Unit Price Proposal Sheets shall be included with Filed Sub-Bid form for bid when applicable.

E. The total amount of all unit price work shall be included in the amount to be entered in applicable bid forms.

F. Unit Prices shall provide for a variance in quantities of plus or minus 100 percent of those listed on the Unit Price Proposal Sheet.

G. If quantities exceed the units established in the contract, including the aforesaid overage percentage, an equitable unit price adjustment will be determined by the PVTA Project Manager.

H. A change order will be initiated by the PVTA Project Manager to adjust the contract price resulting from the final quantities of the unit price work.

1.3 UNIT PRICES

A. Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those required by the Contract Documents, by authorization of PVTA, the below unit prices shall, at the option of PVTA, be the basis of payment to the General Contractor or credit to PVTA, for such increase or decrease

in the work. The Unit Prices shall represent the exact net amount per unit to be paid the General Contractor (in the case of additions or increases) or to be refunded PVTA (in the case of decreases). No additional adjustment will be allowed for overhead, profit, insurance, or other direct or indirect expenses of the General Contractor or Subcontractors. No additional adjustments will be allowed for over excavation, over-blasting, or other work without the prior written approval of the PVTA Project Manager.

B. The following sections include Unit Price work and General Contractors and Filed Sub-Bid Subcontractors submitting bids for work for these sections must submit Unit Price sheets with their bids and include the total of unit price work in their total bid price for all work.

Sections with Unit Price work:

	Item Description	**Quantity at Admin/Maintenance**	**Quantity at Wash/Storage**
1.	Section 030130: Structural Concrete Repairs: Patching of existing concrete at ramp at Admin/Maintenance Building and Piers at Wash/Storage Building	100 SF	84 SF
2	Section 040120: Masonry Restoration and Cleaning: Window Lintel Replacement-complete assembly, including demolition, new lintel, flashing, brick.	8 Lintels	0
3.	Section 040120: Masonry Restoration and Cleaning: Cutting and pointing of brick mortar joints.	1428 SF Note: 825 SF is at upper walls above low roof.	145 SF
4.	Section 040120: Masonry Restoration and Cleaning: At chimney-rebuilding of upper 4’ of chimney.	100 SF	0
5.	Section 040120: Masonry Restoration and Cleaning: Replacement of spalled or loose brick.	63 SF	0
6.	Section 040120: Masonry Restoration and Cleaning: Resetting of loose or displaced cast stones.	2 SF	0
7.	Section 040120: Masonry Restoration and Cleaning: Cast Stone Medallion+ Window Sill: Replacement of existing in kind.	2 Units	0
8.	Section 040120: Masonry Restoration and Cleaning: Cut and Point CMU	103 SF	408 SF

9.	Section 040120: Masonry Restoration and Cleaning: Repair/Replace CMU	0	173 SF

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

PVTA PROJECT NO. CONTRACT NO. .

PVTA
Admin and Bus Maintenance Building and Bus Wash and Storage Building
2840 Main Street
Springfield, MA

UNIT PRICES

A. The following unit prices as defined in the specifications are designated for items of work on the basis of quantities estimated by the Designer. These unit prices will be used to add to or deduct from the dollar amounts shown, depending on whether the actual amount is greater or less than the estimated amount.

SECT.	ITEM	ESTIMATED QUANTITY	UNIT MEASURE	UNIT PRICE DOLLARS/CENTS	TOTAL AMOUNT DOLLARS/CENTS
030130	Concrete patching	184	SF	$_____	$_____
040120	Lintel Re-placement	8	Each	$_____	$_____
040120	Cutting and Pointing of brick	1,428 (note: 825 SF is at up-per walls above low roof)	SF	$_____	$_____
040120	Chimney Rebuilding	100	SF	$_____	$_____
040120	Brick Re-placement	63	SF	$_____	$_____
040120	Resetting of loose stones		SF	$_____	$_____
040120	Cutting and Pointing of CMU	103	SF	$_____	$_____
040120	CMU re-placement	173	SF	$_____	$_____
040120	Replacement of cast me-dallions or window sills	2	Units	$_____	$_____
				TOTAL OF UNIT PRICE WORK	

1. The unit prices as requested herein shall include their pro-rata share of all costs, including, but not limited to, overhead, profit, bond, labor, materials and equipment costs and all other work incidental thereto, including disposal of materials.
2. Any unit price proposal that contains a unit price which is unduly high or low may be rejected as unbalanced, and thereby affect the total cost proposal of this contract.
3. Unit price proposal sheets must be submitted with the respective Filed Sub-Bid bid form as applicable.
4. The total amount above shall be added into the total bid price amount to be entered into the applicable bid form.

END OF FORM

SECTION 012300

ALTERNATES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 REQUIREMENTS INCLUDED

A. Definition: "Alternates" are alternate products, materials, equipment, systems, methods, units of work or major elements of the construction, which may, at the Awarding Authority's option and under the terms established by the Contract or Agreement, be selected for the work in addition to or in lieu of the corresponding requirements of the Contract Documents.

B. Alternate Requirements: A Schedule of Alternates is included at the end of this Section. Each alternate is defined using abbreviated language, recognizing that the Contract Documents define the requirements. Coordinate work related and/or adjacent to the alternate to ensure that all work affected by each alternate is complete and properly interfaced with work of each selected alternate.

C. For scopes of work identified in this section below that include alternate work, provide requested pricing for each alternate on the Form of Bid for the Awarding Authority's consideration. Each alternate price amount shall include the entire cost of the alternate portion of the work including overhead, profit, taxes, insurance, and other costs including cost of interfacing, coordination, other work associated with the alternate, and related and/or adjacent work.

D. Selection of Alternates: Selection of alternates to be included in the work will be made by the Awarding Authority. Alternates must be taken in order; the first alternate before the second alternate, and the first and second before the third, etc.

E. Notification: Awarding Authority will make the final determination on alternates, and notify the successful bidders accordingly.

1.3 DESCRIPTION OF ALTERNATES

A. Alternate No. 1:

1. At the Bus Storage/Wash Building: Add the east elevation to be coated with elastomeric waterproof coating, similar to the west elevation. Refer to Section 071600.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within 14 calendar days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
e. Quotation Form: Use forms acceptable to Architect.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect .

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Proposal Request Form: Use form acceptable to Architect.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

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

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.

c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Sub-schedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide sub schedules showing values coordinated with each element.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

a. Provide Davis Bacon Wages payrolls and certifications.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

a. Differentiate between items stored on-site and items stored off-site. Provide evidence of insurance.

6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

8. Retainage

a. In the construction phase of this contract a 5% retainage will be withheld from each payment of invoice until the maximum retained amount equals five (5) percent of the total GMP.

9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Submit Application for Payment to Architect on date specified by Owner of each month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance and evidence of transfer of title to Owner, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit three 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 about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of values.
4. Contractor's construction schedule (preliminary if not final).
5. Products list (preliminary if not final).
6. Submittal schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. Davis Bacon Wages and Commonwealth of MA Prevailing Wage Rates payrolls and certification.
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.

I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing (100) percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. AIA Document G707A, “Consent of Surety to Final Reduction in or Partial Release of Retainage.”
8. Evidence that claims have been settled.

9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
10. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Requests for Information (RFIs).
3. Project meetings.

B. Each contractor shall cooperate and participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Description of work to be performed.

B. Key Personnel Names: Within (21) calendar days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including, office, and cellular telephone numbers and e-mail addresses. Provide names and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Always keep list current.
2. Provide resumes of management personnel including dates of employment and project lists. The resumes of management personnel will be subject to the Owner's approval. The Owner reserves the right to remove individuals from the Project.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
3. Architect will not review RFI’s submitted via fax or verbal requests.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Form provided by the Architect.

1. Attachments shall be electronic files in PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five business days for Architect's response for each RFI. Architect will review each RFI determine action required and respond. RFIs received by Architect after 1:00 p.m. will be considered as received the following business day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.

e. Requests for adjustments in the Contract Time or the Contract Sum.
f. Requests for interpretation of Architect's actions on submittals.
g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within (10) business days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five business days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Where indicated, the contractor shall schedule and conduct [meetings and conferences at Project site unless otherwise indicated.

1. Attendees: The Contractor shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: The Contractor Construction Manager shall prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: The Contractor shall be responsible for conducting meeting and will record significant discussions and agreements achieved. The Contractor shall distribute the meeting minutes to everyone concerned, including Owner**,** and Architect, within three business days of the meeting.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than (15) business days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner**,** Owner's Commissioning Authority, if applicable Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFIs.
    h. Procedures for testing and inspecting.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures.
    l. Preparation of record documents.
    m. Use of the premises and existing building.
    n. Work restrictions.
    o. Working hours.
    p. Owner's occupancy requirements.
    q. Responsibility for temporary facilities and controls.
    r. Procedures for moisture and mold control.
    s. Procedures for disruptions and shutdowns.
    t. Construction waste management and recycling.
    u. Parking availability.
    v. Office, work, and storage areas.
    w. Equipment deliveries and priorities.
    x. First aid.
    y. Security.
    z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: The General Contractor shall conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction. Preinstallation conferences shall include conferences identified in individual Specification Sections.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, and Owner's Commissioning Authority if applicable of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility requirements.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written instructions.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: The General Contractor shall schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than (30) calendar days prior to the scheduled date of Substantial Completion.

1. Contractor shall conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority if applicable, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.

c. Submittal of written warranties.
d. Requirements for preparing operations and maintenance data.
e. Requirements for delivery of material samples, attic stock, and spare parts.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Coordination of separate contracts.
k. Owner's partial occupancy requirements.
l. Installation of Owner's furniture, fixtures, and equipment.
m. Responsibility for removing temporary facilities and controls.

4. Minutes: Contractor shall record and distribute meeting minutes.

E. Progress Meetings: Architect will conduct progress meetings at biweekly intervals minimally.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority, if applicable, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Three week look-ahead schedule.
2) Interface requirements.
3) Sequence of operations.
4) Status of submittals.
5) Deliveries.
6) Off-site fabrication.
7) Access.
8) Site utilization.
9) Temporary facilities and controls.

10) Progress cleaning.
11) Quality and work standards.
12) Status of correction of deficient items.
13) Field observations.
14) Status of RFIs.
15) Status of proposal requests.
16) Pending changes.
17) Status of Change Orders.
18) Pending claims and disputes.
19) Documentation of information for payment requests.

4. Minutes: The Architect shall record and distribute the meeting minutes to each party present and to parties requiring information.

   a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Coordination Meetings: Contractor shall conduct Project coordination meetings at weekly intervals, minimally. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority if applicable, 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 meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

   a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
   b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
   c. Review present and future needs of each contractor present, including the following:

      1) Interface requirements.
      2) Sequence of operations.
      3) Status of submittals.

4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

CONTRACTOR RFI: _____ DATE: _____

TITLE: _____ JOB: _____

PROJECT: *Pioneer Valley Transit Authority*
Bus Maintenance Facility – Façade Repairs

REQUIRED: _____

TO: STV Incorporated
One Financial Center, Boston, MA 02110

ATTN:

QUESTION:

ANSWER:

Note:
The response to this RFI is for clarification of the contract documents. The response is NOT authorization to proceed with additional work.

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including but not limited to, the following. **Please note that a simple bar or gantt chart will be acceptable, unless construction progress is not maintained, in which case a full CPM schedule may be required.**

1. Preliminary construction schedule.
2. Contractor's construction schedule.
3. Submittal schedule.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Special reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time belongs to Owner.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.

B. Qualification Data for Scheduling Consultant: For consultant or in-house persons specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

C. Preliminary construction schedule.

1. Approval of startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

D. Submittals Schedule: Submit submittals schedule, conforming to dates on the Contractor’s Construction Schedule. Include any required submittals not included on the schedule. Arrange the following information in a tabular format:

1. Scheduled dates for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational)
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect’s and Owner’s final release or approval.

E. Contractor's Construction Schedule: Submit on 11”x17” paper for review as required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

F. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.

G. Daily Construction Reports: Submit at weekly intervals.

H. Material Location Reports: Submit at monthly intervals.

I. Site Condition Reports: Submit at time of discovery of differing conditions.

J. Special Reports: Submit at time of unusual event.

K. Three Week Look-Ahead Schedules: Submit at weekly intervals.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination" review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review submittal requirements and procedures.
7. Review time required for review of submittals and resubmittals.
8. Review requirements for tests and inspections by independent testing and inspecting agencies.
9. Review time required for Project closeout and Owner startup procedures, including commissioning activities.

10. Review and finalize list of construction activities to be included in schedule.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required per construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor’s Construction Schedule.
2. Initial Submittal: Submit within (10) business days of Notice to Proceed. Include submittals required during the first 60 calendar days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor’s Construction Schedule. Update monthly as required.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

1. Contract completion date(s) shall not be changed by submission of a schedule that shows a late completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Include the following:

1. Activity Duration
2. Procurement Activities
3. Submittal Review Time
4. Startup and Testing Time
5. Commissioning
6. Substantial Completion
7. Punch List and Final Completion

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work Under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:

    a. Coordination with existing adjacent construction.
    b. Uninterruptible services.
    c. Use of premises restrictions.
    d. Provisions for future construction.
    e. Seasonal variations.
    f. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Mockups.
    e. Fabrication.
    f. Sample testing.
    g. Deliveries.
    h. Installation.
    i. Tests and inspections.
    j. Adjusting.

k. Curing.
l. Building flush-out.
m. Startup and placement into final use and operation.
n. Commissioning

8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

a. Structural completion.
b. Temporary enclosure and space conditioning.
c. Permanent space enclosure.
d. Completion of mechanical installation.
e. Completion of electrical installation.
f. Substantial Completion.
g. Final Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion and the following interim milestones:

1. Temporary enclosure and space conditioning.

E. Recovery Schedule: When periodic update indicates the Work is (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within (30) calendar days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately.

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) calendar days of date

established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately.

2.5 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than (30) calendar days after date established for the Notice to Proceed.

    a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.

C. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

    a. Preparation and processing of submittals.
    b. Mobilization and demobilization.
    c. Purchase of materials.
    d. Delivery.
    e. Fabrication.
    f. Utility interruptions.
    g. Installation.
    h. Work by Owner that may affect or be affected by Contractor's activities.

i. Startup Testing and commissioning.
j. Punch list and final completion.
k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path.

D. 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.

E. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Main events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.

F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.

2.6 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (see special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests, commissioning, and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.
20. Locations of Work.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.7 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

C. Three Week Look-Ahead Schedules: Contractor will submit a 3 week look-ahead schedule each week on a specific day of the week to be determined at the Preconstruction meeting. Each schedule will show specific work activities over that 3 week period and also areas of coordination required with other contractors and involved entities. These schedules will also show delivery dates of critical material or equipment items.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Owner with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Digital Camera: Minimum sensor resolution of 8 megapixels.
2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description in file metadata tag:

    a. Name of Project.
    b. Name and contact information for photographer.
    c. Name of Architect.
    d. Name of Contractor.
    e. Date photograph was taken.
    f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
    g. Unique sequential identifier keyed to accompanying key plan.

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 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 JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. 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.

C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in file name for each image.
2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.

D. Preconstruction Photographs: Before commencement of excavation, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.

1. Flag construction limits before taking construction photographs.
2. Take (40) photographs to show existing conditions adjacent to property before starting the Work.

3. Take (40) photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

E. Periodic Construction Photographs: Take (40) photographs monthly, with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

F. Final Completion Construction Photographs: Take (100) color photographs after date of Substantial Completion for submission as project record documents. Architect will inform photographer of desired vantage points.

G. Additional Photographs: Architect may request photographs in addition to periodic photographs specified.

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within (24) hours of request.
3. Circumstances that could require additional photographs include, but are not limited to, the following:

    a. Special events planned at Project site.
    b. Immediate follow-up when on-site events result in construction damage or losses.
    c. Photographs to clarify Contractor’s “Request for Information.”
    d. Photographs to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
    e. Substantial Completion of a major phase or component of the Work.
    f. Owner's request for special publicity photographs.

END OF SECTION 013233

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

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.

B. Related Requirements:

1. Section 01300 “Construction Progress Documentation” for submitting schedules and reports, including Contractor’s construction schedules.

2. Shop drawings, product data, samples, submittal logs (shop drawings and samples, RFI, NOI, PCO, CO and SK drawings), weather protection (if applicable), schedule of values, and schedule of submittals (within 10 days of NTP with construction).

1.3 SCHEDULE OF VALUES

A. Prior to the first request for payment, the Contractor shall submit to the Designer and the PVTA Project Manager, a Schedule of Values of the various portions of the Work in sufficient detail to reflect various major components of each trade, including quantities when requested, aggregating the total contract sum, and divided to facilitate payments based upon the progress of the work among other things under each Section.

1.4 DEFINITIONS

A. Action Submittals: Written and graphic information, and physical samples that require Architect’s responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information, and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

D. Portable Document Format (PDF): An open standard for electronic documents, licensed by Adobe Systems, used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

E. Cloud-Based Construction Management Software Application (CMSA): Any of a number of proprietary file management collaborative systems intended for internet-connected device use. The intent of these applications is to enable dispersed users access to shared documents for storage, organization, retrieval, editing, tracking, reporting or other functions, with such access usually controlled by invitation and security protocols. More than one such application type or specific programs may be used, depending on Owner preferences.
   1. Project preferred CMSA: Procore.

1.5 SUBMITTAL PROCEDURES

A. General:

   1. Review and submit to the Designer and were outlined below to the PVTA Project Manager, shop drawings, project data and samples required by Specifications Sections in hard and electronic copies.
   2. No submissions made by FAX will be accepted.

B. Shop Drawings:

   1. Original drawings shall be prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the Work, showing fabrication, layout, setting, or erection of details.
      a. Shop drawings shall be prepared by a qualified detailer.
      b. Details shall be identified by reference to sheet and detail numbers indicated on Contract Drawings.
      c. Maximum sheet size shall be 36-inch by 24-inch.
   2. Submit the information listed above in both hard and electronic format.

C. Product Data:

1. Manufacturers' catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Provide manufacturer's catalogue sheet, specification for each product and other pertinent data as required under the individual specification.
    a. Modify product data submittals to delete information which is not applicable to the project.
    b. Supplement standard information to provide additional information applicable to the project.
    c. Clearly mark each copy to identify pertinent materials, products, or models.
    d. Show dimensions and clearances required.
    e. Show performance characteristics and capacities.
    f. Show wiring diagrams and controls.
2. All such data shall be specific, and identification of material or equipment submitted shall be clearly made in ink. Data of general nature will not be accepted.
3. Product Data shall be accompanied by transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself.
4. Submit the information listed above in both hard and electronic format.

D. Samples: Provide samples of finishes at the project as required by individual Specification sections. Install sample complete and finished.

1. Physical samples shall illustrate materials, equipment, or workmanship, and shall establish standards by which work is judged. After review and approval, samples may be used in construction of project if not retained for comparison
    a. Office samples of sufficient size and quantity shall clearly illustrate:
        1) Functional characteristics of product or material, with integrally related parts and attachment devices.
        2) Full range of color samples (including standard and premium ranges).
        3) After review and approval by Designer and the PVTA Project Manager, samples may be used in construction of project if not retained for comparison.
    b. Field Samples and Mock-ups:
        1) Erect at project site at locations acceptable to the Designer and the PVTA Project Manager.
        2) Construct each sample of mock-up complete, including work of all trades required in finished work. Samples shall be incorporated into a larger mock-up with varied products and trades if required.
2. Unless otherwise specified in the individual Section, the Contractor shall submit two labeled specimens of each Sample.
3. Samples shall be of adequate size to permit proper evaluation of material. Where variations in color or in other characteristics are to be expected, samples shall

show the maximum range of variation. Materials exceeding the variation of the approved samples will not be approved on the Work.

4. Samples which can be conveniently mailed shall be sent directly to the Designer, accompanied by transmittal notice. On the transmittal notice the Contractor shall stamp his approval of samples submitted.
5. All other samples shall be delivered at the field office of the PVTA Resident Engineer with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval, shall be mailed concurrently to the Designer and the PVTA Project Manager to confirm their receipt thereof.
6. If sample is rejected by the Designer, a new sample shall be resubmitted in a timely manner as specified above. This procedure shall be repeated until the sample is approved in writing by the Designer.
7. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether specified in the Specifications or not, at no additional cost to the Commonwealth.

E. Mock-ups: Erect at project site at location acceptable to Designer and the PVTA Project Manager, a mock-up complete, including work of all trades required in finished work as applicable to mock-up.

1.6 SUBMISSION REQUIREMENTS

A. General: All submittals shall be made to the Designer’s Office. The quantity and make-up of submittals shall be as established by the Designer; however, two (2) additional copies of all submittals shall be transmitted to the PVTA Project Manager at the same time that such submittals are transmitted to the Designer. The Designer will log and distribute submittals for review by his consultant engineers. The Contractor shall distribute all shop drawings directly to the Designer. All submittals shall be in hard and electronic versions.

B. Make submittals promptly in accordance with approved schedules, and in such sequence as to cause no delay in the work.

C. Submit number of samples specified in each Section of the Specifications.

D. Submittals shall include:

1. Date and revision dates.
2. Project title and number.
3. The names of:
   a. Designer;
   b. Contractor;
   c. Subcontractor;

d. Supplier;
e. Manufacturer;
f. Separate detailer when pertinent.

4. Identification of product or material.
5. Location of work and relation to adjacent structure or materials.
6. Field dimensions clearly identified as such.
7. Specification Section number and specific paragraph under which item is specified.
8. Submission number.
9. Applicable standards, such as ASTM number.
10. A blank space, five-inch by four-inch, for the Designer's stamp.
11. Contractor's remarks. Identify exceptions or deviations from Contract Documents and reasons for them.
    a. If shop drawings submitted by the Contractor indicate a departure from the Contract and the Designer deems it to be minor adjustment in the interest of PVTA (subject to concurrence by the Contractor stating it does not involve a change in Contract Price or extension of time), the Designer may approve the submission, but the approval shall be subject to PVTA review and acceptance of the Designer's recommendation.
    b. The approval of PVTA shall be inferred to contain in substance the following: The change is so ordered with the understanding that it does not involve any change in the Contract Price or Time, and that it is subject generally to all contract stipulations and covenants, and is without prejudice to any and all rights of PVTA under the Contract.
12. Contractor's stamp, initialed or signed certifying review and approval of submittal.
13. For each product include the following:
    a. Manufacturer's Instructions
    b. Certificates of Compliance
    c. Warranties/Guarantees
    d. Any other items as required in the applicable Specification
14. Any other items as called for by the Designer, the PVTA Project Manager or required by the manufacturers.
15. The Designer reserves the right to ask for shop drawings for any or all items on the project, whether or not requested in individual specification sections, at no additional cost to the Commonwealth.

E. Manufacturer's Instruction: When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing, in quantities specified for product data to the Designer, with one (1) copy submitted to the PVTA Project Manager. These copies are in addition to those materials required at Contract Closeout.

F. Certificates of Compliance: Submit certificates of compliance with the associated Shop Drawings, Product Data, and Samples required for the product in quantities specified for certificates of compliance to the Designer, with one (1) copy submitted to the PVTA

Project Manager and one (1) copy to the PVTA Resident Engineer. These copies are in addition to those materials required at Contract Closeout.

G. Field Samples: Provide field samples of finishes at the project as required by individual Specification Section. Install sample complete and finished.

H. Patterns and Colors: Submit accurate color charts and pattern charts to the Designer for review and selection whenever a choice of color or pattern is available in a specified product, unless the exact color and pattern of a product are indicated in the Contract Documents. Color and Pattern charts shall represent the manufacturer's complete standard offerings, except where Specifications limit the offerings by defining a particular series or product type which is normally limited in color and pattern availability. Color and Pattern charts shall be submitted in quantities specified with two (2) additional copies submitted to the PVTA Project Manager and one (1) copy to the PVTA Resident Engineer.

1.7 ARCHITECT'S DIGITAL DATA FILES

A. Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project Record Drawings.

a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
b. Digital Drawing Software Program: The Contract Drawings are available in an AutoCAD & PDF format. Contact Architect to determine exact format available for each discipline.
c. Contractor shall execute a data licensing agreement in the form included in Project Manual.

1) To request electronic files, complete "Request Form for Electronic Files".
2) Include "Processing Fee" in amount as indicated in section 013100 "Project Management and Coordination".

1.8 COORDINATION

A. 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. Identify long lead time submittals and products early on and notify Owner and Architect. Plan this into the submittal and delivery process.
3. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
4. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
5. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserve(s) the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence upon Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow (10) business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow (10) business days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow (10) additional business days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow (15) business days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
6. Transmittal for Sample Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor. Transmit each submittal using the transmittal form at the end of this section.

C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.

    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01).

    b. Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software acceptable to Owner and Architect, containing the following information:

    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Names of subcontractor, manufacturer, and supplier.
    g. Category and type of submittal.
    h. Submittal purpose and description.
    i. Specification Section number and title.
    j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Related physical samples submitted directly.
    n. Indication of full or partial submittal.
    o. Transmittal number numbered consecutively.
    p. Submittal and transmittal distribution record.
    q. Other necessary identification.
    r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

    a. Project name.
    b. Number and title of appropriate Specification Section.
    c. Manufacturer name.
    d. Product name.

D. Options: Identify options requiring selection by Architect.

E. 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.

1.9 RESUBMISSION REQUIREMENTS

A. Resubmission: Resubmission procedure shall follow the same procedures as the initial submittal with the following exceptions:

B. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp[s].

C. Shop Drawings:

1. Transmittal shall contain the same information as the first transmittal except that the submission number shall change sequentially. The drawing number/description shall be identical as the first transmittal, but the date shall be the revised date for that submission.
2. No new material should be included on the same transmittal for the resubmission.
3. Indicate on drawings any changes which may have been made other than those requested by the Designer.

D. Product Data and Samples:

1. Submit any new data and samples as required from previous submittal.

1.10 THE DESIGNER'S REVIEWS AND DISTRIBUTION OF SUBMISSIONS

A. The review period, for the Designer will not exceed twenty-one (21) calendar days from the established date of each submission indicated on the Schedule of Shop Drawings, Product Data and Samples, plus the additional time, if any, for distribution by the Contractor and receipt of submissions by the Designer and with copies to PVTA. After the Designer's (and its consultant engineers) review, distribution shall be as stated herein.

B. Designer's Review Procedure:

1. Stamped REVIEWED, "NO EXCEPTIONS TAKEN":
   a. No corrections or resubmissions required; fabrication may proceed.
2. Stamped REVIEWED, "MAKE CORRECTIONS NOTED":
   a. If Contractor complies with noted corrections, fabrication may proceed. Submit corrected print for final review.
   b. If, for any reason, the Contractor cannot comply with the noted corrections, fabrication shall not proceed and Contractor shall resubmit, following procedures outlined in this Section.
3. Stamped REVIEWED, "REVISE AND RESUBMIT" OR "REJECTED":
   a. Contractor shall revise and resubmit for review. Fabrication shall not proceed.

C. Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

D. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp[s].

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's written recommendations.
   b. Manufacturer's product specifications.
   c. Color charts showing full range of available colors.
   d. Manufacturer catalog cuts.
   e. Wiring diagrams showing factory-installed wiring.
   f. Printed performance curves.

g. Operational range diagrams.
h. Mill reports.
i. Standard product operating and maintenance manuals.
j. Compliance with recognized trade association standards.
k. Compliance with recognized testing agency standards.
l. Application of testing agency labels and seals.
m. Notation of coordination requirements.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shop work manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least (8-1/2”) by (11”) inches but no larger than sheet size used for Contract Document Drawings.
4. Number of Copies: Submit two black-line prints and one electronic file copy of each submittal. Architect will return the one print marked with action taken to the Contractor for distribution. Contractor shall make necessary copies from the returned print.

D. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
    a. Generic description of Sample.
    b. Product name or name of manufacturer.
    c. Sample source.
4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
    b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.
5. Number of Samples for Initial Selection: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
6. Number of Samples for Verification: Submit two full sets of Samples. Architect will retain one Sample set; remainder will be returned marked with action taken to the Contractor for distribution.
    a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
7. Disposition: Contractor to maintain one set of approved Samples at Project site, available for quality-control comparisons throughout the course of construction

activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

E. Submittals requiring compliance with other sections in the Project Manual.

1. Contractor's Construction Schedule.
2. Submittals Schedule.
3. Application for Payment.
4. Schedule of Values.
5. Subcontract List.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by individual Specification Sections and elsewhere in the Contract Documents.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies, unless they are rejected for noncompliance with the Contract Documents.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."

B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

I. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.

J. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.

L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

M. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment.

O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

Q. Manufacturers Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

S. Material Safety Data Sheets: Keep on site and submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

2.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file of certificate, signed and sealed by the responsible design professional licensed in the jurisdiction of the Project for each product, assembly or system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal

with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Architect's Action:
    a. Final Unrestricted Release: When the Architect marks a submittal "No Exceptions Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
    b. Final-But-Restricted Release: When the Architect marks a submittal "Provide as Corrected," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
    c. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.
        1) Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
    d. Returned for Resubmittal: When the Architect marks a submittal "Rejected", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.
    e. Other Action: If the submittal is primarily for information purposes, record purposes, special processing, or other contractor activity, the submittal will be returned marked "Reviewed for General Conformance Only". These submittals have been received and processed for information only and not approved or disapproved by the architect.

C. Informational Submittals: Architect will review each submittal and will not return it or will reject and return it if it does not comply with Contract Document requirements.
D. Submittals not required by the Contract Documents will not be reviewed and will be discarded or returned without action.

END OF SECTION 013300

PROJECT:_____ PROJECT #:

OWNER: Pioneer Valley Transit Authority (PVTA) A/E: STV Incorporated

CONTRACT # & NAME_____

CONTRACTOR: _____
(NAME, ADDRESS, TELEPHONE & FAX NUMBERS)

_____

□ NEW SUBMITTAL □ RESUBMITTAL Date: _____

This submittal is: □ AS SPECIFIED REMARKS:_____

NUMBER OF COPIES SUBMITTED: (8 maximum) _____

TYPE OF SUBMITTAL: ***(CHECK ALL THAT APPLY)***

( ) SHOP DRAWINGS
( ) SAMPLE
( ) COLOR SELECTION
( ) SCHEDULE
( ) WARRANTY
( ) TEST REPORT
( ) PRODUCT DATA/CATALOG CUT
( ) RECORD DOCUMENT
( ) PERFORMANCE DATA
( ) OPERATIONS & MAINTENANCE DATA
( ) OTHER _____

SPEC. SECTION: _____

PARAGRAPH(S): _____

DWG. REF. NO.:_____

CONTRACTOR CERTIFICATION

CONTRACTOR CERTIFIES THAT THE INFORMATION SUBMITTED COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS.

By: _____

Date: _____

NOTE: Contractor shall apply an approval stamp to each copy of each submittal.

DESCRIPTION OF SUBMITTAL:_____

PRODUCT NAME:_____

MANUFACTURER:_____

ADDRESS:_____ TEL. NO.:_____

CONTRACTOR or SUBCONTRACTOR:_____ TEL. NO.:_____

SUPPLIER:_____ TEL. NO.:_____

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the FTA Buy America requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.

Date_____
Signature_____
Company_____
Name_____
Title_____

Certificate of Non-Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7.

Date_____
Signature_____
Company_____
Name_____
Title_____

SECTION 013543

ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 – GENERAL REQUIREMENTS that are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. For the purpose of this Section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health, welfare or the environment.

B. The control of environmental pollution requires consideration of air, water, and land, and involves management of runoff, dust, noise, and solid waste, as well as other pollutants. Work shall include installing, maintaining, and removing sedimentation and erosion control components within the Limits of Work.

1.3 SECTION INCLUDES

A. Applicable Regulations.

B. Notifications.

C. Protection of Groundwater.

D. Protection of Streams And Wetlands.

E. Protection of Land Resources.

F. Protection of Air Quality.

G. Maintenance of Pollution Control Facilities During Construction.

H. Noise Control.

I. Diesel Equipment Emission Controls.

J. Spill And Discharge Control.

1.4 RELATED SECTIONS

A. NA

1.5 APPLICABLE REGULATIONS

A. The Contractor shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.

B. Fines and related costs resulting from failure to provide adequate protection against any environmentally objectionable acts and corrective action to be taken are the obligations of the Contractor.

1.6 NOTIFICATIONS

A. PVTA may notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements may notify the Contractor in writing, through PVTA, of any non-compliance with State or local requirements. After receipt of such notice from PVTA or from the regulatory agency through PVTA, the Contractor shall immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the Work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, PVTA may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

PART 2 - PRODUCTS

2.1 WATER

A. Water used for dust control and equipment washes shall be clean and free of salt, oil, and other injurious materials. The Contractor shall provide all necessary water.

2.2 ONSITE SPILL KIT

A. The Contractor shall provide the following minimum equipment to be kept onsite at all times during site work activities for any unexpected spills or discharges:

1. Sand, clean fill and absorbent pillows,shovels.

PART 3 - EXECUTION

3.1 PROTECTION OF GROUNDWATER

A. Care shall be taken to prevent, or reduce to a minimum, any discharges to the ground of liquids that may infiltrate to the underlying groundwater or enter on-site waterways. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the groundwater or waterway shall not be discharged from the Site. Such waters shall be collected and disposed of by the Contractor in accordance with all applicable laws.

3.2 PROTECTION OF STREAMS AND WETLANDS

A. Care shall be taken to prevent, or reduce to a minimum, any damage to any wetland from pollution by debris, sediment, or other material. Manipulation of equipment and/or materials in delineated wetland areas is prohibited. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the water in downstream waters of the State, shall not be discharged from the Site. Such waters shall be collected and disposed of by the Contractor in accordance with all applicable laws.

3.3 PROTECTION OF LAND RESOURCES

A. Land resources within the project boundaries and outside the limits of permanent work shall be restored to a condition, after completion of remediation activities that will appear to be natural and not detract from the appearance of the project. Confine all construction activities to Limits of Work areas shown on the Drawing.

B. Outside of the Limits of Work as shown on the Drawing, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. Snow fence or other approved equal shall be erected at the “fall line” of the tree canopy, and no vehicles or storage will be permitted within, to prevent damage to trees.

C. The locations of storage and other facilities, required in the performance of the Work, shall not be within wetlands or resource areas.

3.4 PROTECTION OF AIR QUALITY

A. Burning – The use of burning at the project site for the disposal of refuse and debris will not be permitted.

B. Dust Control – Maintain all demolition excavations, stockpiles, waste areas, and all other work areas within or without the project boundaries free from dust which could cause regulatory standards for air pollution to be exceeded or cause a hazard or nuisance to others.

C. The Contractor shall provide adequate means for the purpose of preventing dust and odor caused by construction operations throughout the period of the construction contract. If PVTA or the Architect indicates that the level of dust or odors is unacceptable, the Contractor shall employ measures necessary to reduce dust or odors to an acceptable level.

D. The Contractor shall implement engineering controls (e.g. watering, misting) to control dust whenever required by the Architect or PVTA.

3.5 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

A. During the life of this Contract, maintain all facilities constructed for pollution, erosion, and sedimentation control as long as the operations creating the particular pollutant are being carried out.

3.6 NOISE CONTROL

A. The Contractor shall develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum. Local noise ordinances shall govern.

B. The Contractor shall execute construction work by methods and by use of equipment which will reduce excess noise.

C. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with applicable laws.

D. The Contractor shall manage vehicular traffic and scheduling to reduce noise.

3.7 SPILL AND DISCHARGE CONTROL

A. The Contractor shall provide equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage. The collected spill material shall be properly disposed of in accordance with applicable laws at the Contractor's expense.

B. Costs to provide the above spill and discharge control materials shall be included in the contract base bid price.

END OF SECTION 013543

SECTION 014000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

D. Experienced: Unless otherwise indicated in individual Specification sections, when used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 REPORTS AND DOCUMENTS

A. 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.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 014000

SECTION 014200

REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect or Owner Construction Manager. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

J. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

K. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations.

E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 014339

MOCKUPS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. This Section specifies requirements for mockups. Provide and coordinate mockup assemblies at Project site for Designer's and the PVTA's Project Manager's review and acceptance, in accordance with requirements of the Contract Documents. Refer also to individual specification sections for mockup requirements. Generally, without limitation, mockups on site include the following:

1. Mockups of individual pieces of the work, as specified within individual specification section. Primary mockups include: concrete repair, sample of cutting and pointing, rebuilding of chimney, lintel replacement, cast stone repair or replacement, and epoxy injection.

B. It shall be the responsibility of the Contractor to coordinate the work of the related Specification Sections so that each mockup meets the specified requirements.

C. Examine Contract Documents for requirements that affect Work of this Section.

1.3 DEFINITIONS

A. Freestanding Mockups: Not required.

B. In-Place Mockups: Full-size, physical assemblies that are constructed in-place and remain part of final construction.

1. In-place mockups will be used to verify selections made under sample submittals, to demonstrate aesthetic effects, qualities of materials and execution, and to review construction, coordination, testing, or operation.
2. Approved in-place mockups establish the standard by which the Work will be judged.
3. Approved mockups remain part of the completed Work.

1.4 SUBMITTALS

A. Submittal Samples: Refer to individual Specification Sections for submittal requirements of mockup components and coordinate accordingly.

1.5 QUALITY ASSURANCE

A. Mockup Modifications: Make design modifications to work only as required to meet performance requirements and to coordinate the work. Indicate proposed design modifications on shop drawings. Maintain original design concept without altering profiles and alignments indicated.

PART 2 - PRODUCTS

2.1 MATERIALS AND PRODUCTS

A. Provide materials, components, and products for mockups as specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to individual specification sections for specific requirements regarding condition of surfaces, erection, and erection tolerances.

3.2 OTHER MOCKUPS

A. Provide mockups of types and sizes required by individual Specification Sections to evaluate and set the standard of quality for that work. Obtain Designer's acceptance of visual qualities prior to commencing work that individual mockup is intended to represent. Protect and maintain approved mockups throughout the work of the Contract. Locate mockups at the Project site as directed by the Designer.

1. Provide as many mockups as required until Designer's approval has been received.
2. When indicated in individual Specification Sections, approved mockups may be incorporated into the finish work.

3.3 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as non-visible as possible.

B. Protect construction exposed by or for quality-control service activities.

END OF SECTION

SECTION 014339

MOCKUPS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

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1. Mockups of individual pieces of the work, as specified within individual specification section. Primary mockups include: sample of cutting and pointing, rebuilding of chimney, lintel replacement, cast stone repair or replacement, and epoxy injection.

B. It shall be the responsibility of the Contractor to coordinate the work of the related Specification Sections so that each mockup meets the specified requirements.

C. Examine Contract Documents for requirements that affect Work of this Section.

1.3 DEFINITIONS

A. Freestanding Mockups: Not required.

B. In-Place Mockups: Full-size, physical assemblies that are constructed in-place and remain part of final construction.

1. In-place mockups will be used to verify selections made under sample submittals, to demonstrate aesthetic effects, qualities of materials and execution, and to review construction, coordination, testing, or operation.
2. Approved in-place mockups establish the standard by which the Work will be judged.
3. Approved mockups remain part of the completed Work.

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A. Submittal Samples: Refer to individual Specification Sections for submittal requirements of mockup components and coordinate accordingly.

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A. Mockup Modifications: Make design modifications to work only as required to meet performance requirements and to coordinate the work. Indicate proposed design modifications on shop drawings. Maintain original design concept without altering profiles and alignments indicated.

PART 2 - PRODUCTS

2.1 MATERIALS AND PRODUCTS

A. Provide materials, components, and products for mockups as specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to individual specification sections for specific requirements regarding condition of surfaces, erection, and erection tolerances.

3.2 OTHER MOCKUPS

A. Provide mockups of types and sizes required by individual Specification Sections to evaluate and set the standard of quality for that work. Obtain Designer's acceptance of visual qualities prior to commencing work that individual mockup is intended to represent. Protect and maintain approved mockups throughout the work of the Contract. Locate mockups at the Project site as directed by the Designer.

1. Provide as many mockups as required until Designer's approval has been received.
2. When indicated in individual Specification Sections, approved mockups may be incorporated into the finish work.

3.3 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as non-visible as possible.

B. Protect construction exposed by or for quality-control service activities.

END OF SECTION

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities. Please note that the site has heavy bus traffic at all times and the work must allow the main travel lanes to remain open at all times.

B. Provide barriers at ground level when work is overhead, such as for the chimney rebuild.

C. A field office for meetings will not be required. A large gang box or Conex box can be located on the site.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations and return to original configuration upon completion of construction.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations and return to original configuration upon completion of construction.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
   1. HVAC intake protection.
   2. Waste handling procedures.
   3. Other dust-control measures.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.

B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

2.2 TEMPORARY FACILITIES

A. Contractor’s Field Office: Not required.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

D. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.

a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.

3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

G. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

H. Telephone Service:

1. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

3.3 SUPPORT FACILITIES INSTALLATION

A. Temporary Use of Permanent Roads and Paved Areas: Maintain existing roads and paved areas adequate for construction operations.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Provide temporary parking areas for construction personnel. Parking on site is limited, but street parking is available.

D. Project Identification and Temporary Signs: Prepare Project identification and other signs in sizes indicated. Install signs to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.

1. Engage an experienced sign painter to apply graphics for Project identification signs. Comply with details indicated, or if not indicated, provide 4 foot by 8 foot sign comprised of ¾ inch exterior grade plywood mounted on 4 x 4 preservative treated wood posts set 4 feet into the ground. Sign content and layout as directed by Architect. Submit shop drawings for approval prior to fabrication and installation.
2. Prepare temporary signs to provide directional information to construction personnel and visitors.
3. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.

4. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer.
5. Maintain and touchup signs so they are legible at all times.

E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project, product delivery, storage, handling, manufacturers' standard warranties on products, special warranties and comparable products.

B. Products include material, equipment, and systems.

C. Comply with Specifications and referenced standards as minimum requirements.

D. Components required to be supplied in quantity within a Specification Section shall be the same and shall be interchangeable.

E. Do not use materials and equipment removed from existing structures, except as specifically required, or allowed, by the Contract Documents.

F. In the case of an inconsistency between Drawings and the Project Manual, or within either document which is not clarified by addendum, the product of greater quality or greater quantity of work shall be provided in accordance with the Designer’s interpretation.

1.3 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

B. Perform work by persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.4 MANUFACTURERS' INSTRUCTIONS

A. When work is specified to comply with manufacturers' instructions, submit copies as specified in Section 013300 - SUBMITTAL REQUIREMENTS, distribute copies to persons involved, and maintain one set in field office.

B. Perform work in accordance with details of instructions and specified requirements.

1.5 TRANSPORTATION AND HANDLING

A. Refer to the Contract and General Conditions and Specifications Sections for requirements pertaining to transportation and handling of materials and equipment.

B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturers labeled and unopened containers or packaging, dry

C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct, and products are undamaged.

1.6 STORAGE AND PROTECTION

A. Refer to the Contract and General Conditions and Specifications Sections for requirements pertaining to storage and protection of materials and equipment.

B. Store products in accordance with manufacturers' instruction, with seals and labels intact and legible. Store sensitive products in weather tight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.

C. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

D. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.

E. Arrange storage to provide access for inspection. Periodically inspect to assure that products are undamaged and are maintained under required conditions.

F. Protect masonry and stone products from damage and staining.

G. Protect finished materials, including window frames and doors, with protection acceptable to the PVTA Project Manager.

1.7 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system" and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged, reused or repurposed from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics that are equivalent or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis of design" or "basis of design product" including make, model number or other designation to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.8 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) business days of receipt of request, or five business days of receipt of additional information or documentation, whichever is later.

a. Form of Approval: As specified in Section 013300 Submittal Procedures.

b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis of Design Product Specification Submittal: Comply with requirements in Section 013300 Submittal Procedures. Show compliance with requirements.

1.9 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.

1.10 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, and with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment by covering construction.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage, and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location and security procedures with Owner.

1.11 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 Closeout Procedures.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products for Contractor's convenience will not be considered.
3. Products:

a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products for Contractor's convenience will not be considered unless otherwise indicated.
b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

    a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products for Contractor's convenience will not be considered unless otherwise indicated.
    b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis of Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, and that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Architects and Owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300

EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

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. Installation of the Work.
3. Cutting and patching.
4. Correction of work.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. 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. 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
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
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.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

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 work, investigate and verify the existence and location of under slab utilities, mechanical and electrical systems, and other construction affecting the Work.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings If discrepancies are discovered, notify Architect promptly.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties' involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

3.5 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. Temporary Support: Provide temporary support of work to be cut.

C. 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.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

E. 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. Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

F. 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.

G. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 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.

3.7 PROGRESS CLEANING

A. General: Maintain and clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

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.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

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.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of (10) business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of (10) business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
2. Complete final cleaning requirements, including touchup painting.
3. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of (10) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of (10) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Contractor shall prepare Punch List to include the following: name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Submit list of incomplete items in the following format:

a. PDF electronic file. Architect will return annotated file.

1.9 AS-BUILT DRAWINGS

A. As-built Drawings shall be prepared and maintained by the Contractor for each Contract Drawing. As-built Drawings shall be kept up-to-date. Information from on-going Work shall be recorded on As-built Drawings within (48) hours of Work being performed.

B. The General Contractor` and each Subcontractor shall be required to maintain one set of As-built Drawings, as the work relates to their Sections of the Specifications, at the site.

C. The As-built Drawings shall be stored and maintained in the field office apart from other documents used for construction. The As-built Drawings shall be maintained in a clean, dry, and legible condition.

D. As-built Drawings, as submitted by the Contractor shall be reviewed in the field by the Designer or its Consultants and shall occur during the construction process and prior to the related work being completed and covered up.

E. The As-built Drawings shall always be available for inspection by the PVTA Project Manager or Designer. All deficiencies noted shall be promptly corrected.

F. The following information shall be indicated on the As-Built Drawings:

1. Record all changes, including, but not limited to, change orders, in the location, size, number and type both horizontally and vertically of all elements of the Project which deviate from those indicated on all the Contract Drawings.

1.10 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) business days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

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. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
m. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner’s property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. 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.

2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
3. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

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.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of (10) business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of (10) business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
2. Complete final cleaning requirements, including touchup painting.
3. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of (10) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect 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.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of (10) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Contractor shall prepare Punch List to include the following: name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Submit list of incomplete items in the following format:

a. PDF electronic file. Architect will return annotated file.

1.9 AS-BUILT DRAWINGS

A. As-built Drawings shall be prepared and maintained by the Contractor for each Contract Drawing. As-built Drawings shall be kept up-to-date. Information from on-going Work shall be recorded on As-built Drawings within (48) hours of Work being performed.

B. The General Contractor` and each Subcontractor shall be required to maintain one set of As-built Drawings, as the work relates to their Sections of the Specifications, at the site.

C. The As-built Drawings shall be stored and maintained in the field office apart from other documents used for construction. The As-built Drawings shall be maintained in a clean, dry, and legible condition.

D. As-built Drawings, as submitted by the Contractor shall be reviewed in the field by the Designer or its Consultants and shall occur during the construction process and prior to the related work being completed and covered up.

E. The As-built Drawings shall always be available for inspection by the PVTA Project Manager or Designer. All deficiencies noted shall be promptly corrected.

F. The following information shall be indicated on the As-Built Drawings:

1. Record all changes, including, but not limited to, change orders, in the location, size, number and type both horizontally and vertically of all elements of the Project which deviate from those indicated on all the Contract Drawings.

1.10 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) business days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

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. 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.
j. Remove labels that are not permanent.

k. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
l. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. 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.

2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
3. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included:

1. Demolition and removal of selected masonry and cast stone and steel lintels as required for repairs or new work.

2. Note that some materials are to be removed and re-installed, such as at the chimney top reconstruction and stone or brick resetting.

3. Refer to the Drawings for additional requirements.

4. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the facility, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at her/his expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
5. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.

B. Items To Be Installed Only: Not Applicable.

C. Items To Be Furnished Only: Not Applicable.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.

C. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate the following:
   1. Coordination of User Agency's continuing occupancy of portions of existing building and of User Agency's partial occupancy of completed Work.
   2. Means of protection for items to remain and items in path of waste removal from building.

1.5 QUALITY ASSURANCE

A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Designer.

C. Engage a professional engineer registered in the Commonwealth of Massachusetts to survey 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 demolition operations.

D. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished

.

1. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Always maintain adequate passage to and from all exits. Before any work is done which significantly alters access or egress patterns, consult with the Designer and obtain approval of code required egress. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.

B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.
2. Remove temporary shoring, bracing and structural supports when no longer required.
3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.

C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).

1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
2. Protect existing site improvements, appurtenances, and landscaping to remain.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
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 fire watch and portable fire-suppression devices during and after flame-cutting operations.
4. Maintain adequate ventilation when using cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Designer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

C. Items for Re-use and Preservation of Existing Surfaces to Remain:

1. The Contractor shall inspect closely each item specifically designated to be relocated, re-used, or turned over to the Owner prior to its removal, and immediately report damages and defects to the Designer and PVTA Project Manager. The Contractor shall be responsible for any subsequent damage to the same other than latent defects not readily apparent from close inspection and shall bear responsibility for its repair or same replacement as directed by the Designer, to the satisfaction of the PVTA Project Manager.
2. Unless special surface preparation is specified under other Specification Sections, leave existing surfaces that are to remain in a condition suitable to receive new materials and/or finishes.

3.5 PROTECTION OF PUBLIC AND PROPERTY

A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Commonwealth's employees during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.

B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Designer, and to the satisfaction of the PVTA Project Manager.

C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other cause and so as not to cause interference with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.

D. Every precaution shall be taken to protect against movement or settlement of the building, of adjacent buildings, structures, sidewalks, roads, streets, curbs and pavements. Provide and place at the Contractor's own expense, all necessary bracing and shoring in connection with demolition and removal work.

E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing and adjacent building structures, both internal and external of the particular work area.

F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress. Dust barriers shall prevent the dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.

G. Protect unaltered portions of existing construction, including finishes, furnishings and equipment

H. Provide secure weather protection where demolition has removed a portion of the exterior envelope.

3.6 DISCOVERY OF HAZARDOUS MATERIALS

A. If hazardous materials, such as chemicals, asbestos-containing materials, or other hazardous materials are discovered during the course of the work, cease work in affected area only and immediately notify the Designer and the PVTA Project Manager of such discovery. Do not proceed with work in such areas until instructions are issued by the Designer. Continue work in other areas.

B. If unmarked containers are discovered during the course of the work, cease work in the affected area only and immediately notify the Designer and the PVTA Project Manager of such discovery. Do not proceed with work in such areas until instructions are issued by the Designer. Take immediate precautions to prohibit endangering the containers integrity. Continue work in other areas.

3.7 CUTTING

A. Perform all cutting of existing surfaces in a manner which will ensure a minimal difference between the cut area and new materials when patched. Use extreme care when cutting existing surfaces containing concealed utility lines which are indicated to remain and bear full responsibility for repairing or replacement of all such utilities that are accidentally damaged.

B. Provide a flush saw cut edge where pavement, curb and concrete removals abut new construction work or existing surfaces to remain undisturbed.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

3.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

END OF SECTION

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included:

1. Demolition and removal of selected masonry and cast stone and steel lintels as required for repairs or new work. Some sealant materials have been identified as asbestos containing materials. Refer to Section 024200 Asbestos Abatement for their removal and handling.

2. Note that some materials are to be removed and re-installed, such as at the chimney top reconstruction and stone or brick resetting.

3. Refer to the Drawings for additional requirements.

4. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the facility, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at her/his expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
5. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.

B. Items To Be Installed Only: Not Applicable.

C. Items To Be Furnished Only: Not Applicable.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.

C. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate the following:
   1. Coordination of User Agency's continuing occupancy of portions of existing building and of User Agency's partial occupancy of completed Work.
   2. Means of protection for items to remain and items in path of waste removal from building.

1.5 QUALITY ASSURANCE

A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Designer.

C. Engage a professional engineer registered in the Commonwealth of Massachusetts to survey 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 demolition operations.

D. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished

.

1. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Always maintain adequate passage to and from all exits. Before any work is done which significantly alters access or egress patterns, consult with the Designer and obtain approval of code required egress. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.

B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.
2. Remove temporary shoring, bracing and structural supports when no longer required.
3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.

C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).

1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
2. Protect existing site improvements, appurtenances, and landscaping to remain.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
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 fire watch and portable fire-suppression devices during and after flame-cutting operations.
4. Maintain adequate ventilation when using cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Designer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

C. Items for Re-use and Preservation of Existing Surfaces to Remain:

1. The Contractor shall inspect closely each item specifically designated to be relocated, re-used, or turned over to the Owner prior to its removal, and immediately report damages and defects to the Designer and PVTA Project Manager. The Contractor shall be responsible for any subsequent damage to the same other than latent defects not readily apparent from close inspection and shall bear responsibility for its repair or same replacement as directed by the Designer, to the satisfaction of the PVTA Project Manager.
2. Unless special surface preparation is specified under other Specification Sections, leave existing surfaces that are to remain in a condition suitable to receive new materials and/or finishes.

3.5 PROTECTION OF PUBLIC AND PROPERTY

A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Commonwealth's employees during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.

B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Designer, and to the satisfaction of the PVTA Project Manager.

C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other cause and so as not to cause interference with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.

D. Every precaution shall be taken to protect against movement or settlement of the building, of adjacent buildings, structures, sidewalks, roads, streets, curbs and pavements. Provide and place at the Contractor's own expense, all necessary bracing and shoring in connection with demolition and removal work.

E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing and adjacent building structures, both internal and external of the particular work area.

F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress. Dust barriers shall prevent the dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.

G. Protect unaltered portions of existing construction, including finishes, furnishings and equipment

H. Provide secure weather protection where demolition has removed a portion of the exterior envelope.

3.6 DISCOVERY OF HAZARDOUS MATERIALS

A. If hazardous materials, such as chemicals, asbestos-containing materials, or other hazardous materials are discovered during the course of the work, cease work in affected area only and immediately notify the Designer and the PVTA Project Manager of such discovery. Do not proceed with work in such areas until instructions are issued by the Designer. Continue work in other areas.

B. If unmarked containers are discovered during the course of the work, cease work in the affected area only and immediately notify the Designer and the PVTA Project Manager of such discovery. Do not proceed with work in such areas until instructions are issued by the Designer. Take immediate precautions to prohibit endangering the containers integrity. Continue work in other areas.

3.7 CUTTING

A. Perform all cutting of existing surfaces in a manner which will ensure a minimal difference between the cut area and new materials when patched. Use extreme care when cutting existing surfaces containing concealed utility lines which are indicated to remain and bear full responsibility for repairing or replacement of all such utilities that are accidentally damaged.

B. Provide a flush saw cut edge where pavement, curb and concrete removals abut new construction work or existing surfaces to remain undisturbed.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

3.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

END OF SECTION

SECTION 024200

ASBESTOS ABATEMENT PART 1 ï GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 ï GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Remove to clean substrate any asbestos-containing materials (ACM) as described herein.

B. Dispose all ACM in accordance with governing laws and regulations; pay costs of permits and disposal.

C. Caution: asbestos-containing materials quantities as presented in Section 3.09 and as detailed in Table of Asbestos-Containing Materials to be Abated are for reference purposes only. It is the explicit responsibility of the Contractor to fully review the Site Plans and determine actual quantities and base the bidding on Contractorôs verified quantities. Based on the Consultantôs limited survey methods, no allowances for additional materials will be granted, except for materials that are clearly hidden behind fixed walls, above fixed ceilings, under fixed floors or otherwise were not or could not have been identified, e.g.; no visible pipe or conduit penetrations into said structure giving indication of a continuation of hazardous materials.

D. Contractor must comply with PVTA Specifications

1.3 RELATED WORK

A. Related Sections:
1. DIVISION 02 ï EXISTING CONDITIONS, Section 024100

1.4 CODES, REGULATIONS, AND STANDARDS - ASBESTOS ABATEMENT

A. Federal Requirements that govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:
   a. Respiratory Protection: Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
   b. Construction Industry: Title 29, Part 1926, of the Code of Federal Regulations.
   c. Hazard Communication: Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.
   d. Asbestos Construction Standard, 29 CFR 1926.1101, 29 CFR 1910.245, and 29 CFR 1910.1200

2. DOT: U.S. Department of Transportation, including but not limited to:
   a. Hazardous Substances: Title 29, Part 171 and 172 of the Code of Federal Regulations.

3. EPA: U.S. Environmental Protection Agency (EPA), including but not limited to:
   a. Asbestos Abatement Projects; Worker Protection Rule: Title 40 Part 763, Sub-part G of the Code of Federal Regulations.
   b. Asbestos Hazard Emergency Response Act (AHERA) Regulation: Asbestos Containing Materials in Schools Final Rule & Notice, Title 40, Part 763, Sub-part E of the Code of Federal Regulations.
   c. Training Requirements of (AHERA) Regulation: Asbestos Containing Materials in Schools Final Rule & Notice, Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
   d. National Emission Standard for Hazardous Air Pollutants (NESHAPS): National Emission Standard for Asbestos, Title 40, Part 61, Sub-part A, and Sub-Part M (Revised Sub-Part B) of the Code of Federal Regulations.

B. State Requirements that govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. Department of Environmental Protection Air Pollution Control (310 CMR 7.00) Latest Version

2. Department of Labor Standards (453 CMR 6.00)ð The Removal, Containment or Encapsulation of Asbestos

3. Department of Transportation

4. Massachusetts Solid Waste Management Regulations, 310 CMR 19.000.

C. Local requirements that govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. Building Inspector (project notification)

2. Police Department (project notification)

3. Fire Department (project notification)

D. Standards:

1. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith. All work under this contract shall be done in strict accordance with all applicable Federal, State, and local regulations, standards and codes governing asbestos abatement, and any other trade work done in conjunction with the abatement. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification.

2. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement(s) shall be utilized.

3. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Asbestos Abatement Contractor (Contractor) shall assume full responsibility and liability for compliance with all applicable Federal, State and Local regulations related to any and all aspects of the asbestos abatement project. The Contractor is responsible for providing and maintaining training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection including respirator fit testing, as required by applicable Federal, State and Local regulations. The Contractor shall hold the Owner and consultants harmless for any Contractorôs failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of himself, his employees, or his subcontractors.

4. Standards that apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following ANSI and ASTM standards.

5. American National Standards Institute (ANSI), 1430 Broadway, New York, New York 10018, (212) 354-3300.
   a. Fundamentals Governing the Design and Operation of Local Exhaust Systems, Publication Z9.2-79.
   b. Practices for Respiratory Protection Publication Z88.2-80.

6. American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103, (215) 299-5400
   a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos, ASTM E 849-82.

7. Occupational Safety and Health Administration (OSHA)
   1. Title 29 CFR 1926 - Construction Standard Requirements - Demolition Work.
   2. Title 29 CFR 1910.38(a);(b) - Emergency Action Plan.
   3. Title 29 CFR 1910.132 - Personal Protective Equipment.
   4. Title 29 CFR 1910.20 - Access to Employee Exposure and Medical Records.
   5. Title 29 CFR 1910.1200 - Hazard Communication.
   6. Title 29 CFR 1910.151 - Medical and First Aid.

E. EPA Guidance Documents: Discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

1. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024.

2. Title 40 CFR 61 Subpart A and M (Revised Subpart B) - National Emission Standard for Hazardous Air Pollutants - Asbestos.

3. Title 40 CFR 763 - Asbestos Hazard Emergency Response Act (AHERA) and Asbestos School Hazard Abatement Reauthorization Act (ASHARA).

4. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018.

5. Asbestos Waste Management Guidance. EPA 530-SW-85-007.

6. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

F. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.5 DEFINITIONS AND STANDARDS - ASBESTOS ABATEMENT

A. Definitions and explanations here are neither complete nor exclusive of all terms used in the contract documents but are general for the work to the extent they are not stated more explicitly in another element of the contract documents. Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated therein.

B. Air Lock: A mechanism or system of enclosures within the decontamination facility that does not allow air movement between clean and contaminated areas. Consists of three-foot wide space between each of the sections of the decontamination chamber segregated by full polyethylene barriers.

C. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

D. Asbestos: The asbestiform varieties of serpentine (Chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

E. Asbestos-Containing Material (ACM): Any material containing equal to or greater than 1% or asbestos by weight of asbestos of any type or mixture of types.

F. Asbestos-Containing Waste Material: Means any ACM removed during a demolition or renovation project, and anything contaminated with asbestos in the course of a demolition or renovation project including, but not limited to, asbestos waste from control devices, bags or containers that previously contained asbestos, contaminated clothing, materials used to enclose the work area during the demolition or renovation operation, and demolition or renovation debris. This definition shall also include ACM on and/or in facility components that are inoperable or have been taken out of service and any ACM that is damaged or deteriorated to the point where it is no longer attached as originally applied or is no longer serving the intended purpose for which it was originally installed.

G. Asbestos debris: Pieces of ACM or ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

H. Authorized Visitor: The Owner, the Owner's Technical Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.

I. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.

J. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

K. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

L. Decontamination Facility: A series of interconnected chambers, typically segregated by polyethylene barriers, which is used as the only means of worker ingress/egress to the work area. Interlocking barriers prevents contamination of areas outside the work area.

M. Disposal Bag: A properly labeled 6-mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.

N. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

1. Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in-situ asbestos matrix.

2. Penetrating Encapsulant: An encapsulant that is absorbed by the in-situ asbestos matrix without leaving a discrete surface layer.

O. Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.

P. Equipment Room: A contained room or chamber positioned immediately contiguous to the contaminated work area environment used for removal of protective clothing and decontamination of equipment.

Q. Friable Asbestos-Containing Material: Any ACM, that, when dry, can be crumbled, shattered, pulverized or reduced to powder by hand pressure or any non-friable ACM that has been subject to sanding, grinding, cutting, or abrading or has been crumbled, shattered or pulverized by mechanical means such as, but not limited to, the use of excavators, bull dozers, heavy equipment or power and or hand tools.

R. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.

S. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

T. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

U. Negative Pressure Ventilation System: A pressure differential and ventilation system.

V. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

W. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential within the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.

X. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Y Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

Z. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

AA. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

BB. Visible Debris: Any visually detectable particulate residue such as dust, dirt, or other extraneous material that may or may not contain asbestos.

CC. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

DD. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

EE. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.

1.6 STOP WORK

A. If the Owner's Technical Representative presents a written stop work order signed by the Owner, stop abatement work immediately. Do not recommence work until authorized in writing by the Owner.

1.7 SUBMITTALS

Submit the following for the Owner's Technical Representativeôs Information:

A. Telephone numbers and location of emergency services.

B. Develop an Alternate Work Practices Plan for potential exterior vapor barrier behind brick façade if warranted.

C. The Contractor shall notify in writing, the local fire and police departments of proposed asbestos abatement work. Advise the fire department of the nature of the asbestos abatement work, and the necessity that all firefighting personnel who may enter the work site in the case of fire wear self-contained breathing apparatus (SCBA). In writing, provide one copy of the notices to the Owner prior to commencing the project.

D. Resume of Supervisor for asbestos abatement.

E. Submit to the Asbestos Project Designer required permits, site location, and arrangements for transport and disposal of ACM or asbestos-contaminated materials.

F. Submit current certifications required under MGLC.149 S 44D and 453 CMR Part 6.00 to the Asbestos Project Designer for approval at least 10 business days prior to the project start.

G. Submit a valid copy of the Contractorôs Commonwealth of Massachusettsôs Asbestos Abatement Contractorôs License.

H. Submit a copy of the written respirator program to the Asbestos Project Designer.

I. Submit manufacturer's information that vacuums, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2.

J. Submit a detailed plan of the work procedures to be used in ACM abatement.

K. Permit: Submit evidence that asbestos waste transporter maintains a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transporting of asbestos-containing materials waste to a disposal site.

L. Waste disposal: Submit name, address, telephone number and asbestos waste permit information for landfill where asbestos waste will be disposed.

M. Should window abatement activities require the potential for interior work the Contractor shall submit to the Asbestos Project Designer and Owner's Project Manager the design of the negative pressure system. Do not begin work until the submittal is approved by the Asbestos Project Designer.

N. Accreditation and Certification: submit evidence in form of training course certificate of accreditation of Supervisor as an asbestos abatement supervisor and Workers as asbestos abatement workers. Also, submit applicable Massachusetts Department of Labor Standards (MA DLS) personnel certifications. All personnel must carry certifications on-site. Personnel without such certificates may not perform

any functions related to asbestos abatement. Provide proof of training compliance with requirements as specified US EPA and OSHA.

O. Submit to the Asbestos Project Designer a description of the plans for decontamination enclosure system construction and for work area isolation in compliance with this technical specification and applicable regulations.

P. Submit a copy of a valid insurance certificate to conduct asbestos abatement work in the Commonwealth of Massachusetts.

Q. Five days before removing asbestos materials, contractor shall inventory the quantity of asbestos materials in each area of work and submit the quantity for written approval to the Owner's Technical Representative. It shall include the location, date, quantity of asbestos material, and name of the authorized person conducting the quantification. The Ownerôs Air Monitoring Technician shall verify all asbestos material quantification before work is begun. No claims for additional materials will be considered without performing this inventory and submitting it within the proper time to the Owner's Technical Representative.

1.8 NOTIFICATIONS

A. Notify other entities at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.

B. Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

C. Notifications of Emergency: Any individual at the job site may notify emergency service agencies, if necessary, without effect on this Contract or the Contract Sum.

D. Notify federal, state, and local agencies having jurisdiction over the work including:

1. Environmental Protection Agency: In Massachusetts, the notification sent to the Massachusetts Department of Environmental Protection for asbestos removal will be sufficient to meet the EPA notification requirement under the National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61 Subpart M).

2. State and Local Agencies: Send written notification and pay fees, as applicable, as required by state and local regulations prior to beginning any work on asbestos-containing materials. In Massachusetts, notify the Department of Environmental Protection and MA DLS within 10 working days of beginning any asbestos abatement.

3. PVTA shall be notified within 10 working days of beginning the asbestos abatement.

Notify the local Building Inspector, Fire Department and Police Department within 10 days of beginning any asbestos abatement.

1.9 QUALITY ASSURANCE

A. Licenses: The Contractor conducting asbestos abatement activities must maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract, including a MA DLS license as an Asbestos Abatement Contractor.

B. Certifications: All personnel conducting asbestos abatement activities shall be certified by the MA DLS as Asbestos Abatement Workers and Asbestos Abatement Supervisors, as applicable, to their role on the project.

C. Continuously monitor and record the pressure differential between the Work Area and the building outside of the Work Area with a monitoring device.

1.10 PROJECT/SITE CONDITIONS

A. The disturbance or dislocation of ACM may cause asbestos fibers to be released into the buildingôs atmosphere, thereby creating a potential health hazard to workers and building occupants. Thus, to prevent ACM from becoming a hazard, the Contractor shall abate the ACM in the proper sequence of the project before the materials are disturbed by any renovation or demolition. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures that must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate precautionary measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Do not allow asbestos or suspect asbestos materials to be disturbed or cause dust to be created. Stop work activities immediately if any suspect material is encountered and notify the Owner's Technical Representative so testing may be conducted, if necessary, to determine the materialôs asbestos content. Additional measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

1.11 SCHEDULING

A. Asbestos abatement schedule shall be determined at a later date. Contractor shall assume that all work will be conducted during normal business hours unless otherwise indicated.

1.12 OWNERôS TESTING

The project does not require interior work resulting in airborne asbestos fibers. In the event that the work scope requires alteration such as cutting resulting in airborne fibers, the following sections A, B, C shall be implemented.

A. The Owner's Technical Representative will perform area air monitoring specified in this Article to verify that the engineering controls and work practices are not eliciting airborne asbestos fibers.

1. This Article also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

2. Analytical Methods: The following method will be used by the Ownerôs Testing and Inspection Agency in analyzing filters used to collect area air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.
   a. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method. This analysis will be carried out at the job site.
   b. Transmission electron microscopy (TEM), if timelier.

B. Air monitoring required by OSHA is work of the Contractor and is not covered in this section.

D. The Owner's Technical Representative will perform visual clearance of the work area looking for loose ACM related debris.

PART 2 - PRODUCTS

2.1 SHEET PLASTIC

A. Polyethylene Sheet: Provide flame-resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick, frosted or black as indicated.

B. Reinforced Polyethylene Sheet: Where plastic sheet constitutes the only barrier between the work area and the building exterior, provide translucent, nylon reinforced or woven polyethylene, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick, frosted or black as indicated.

2.2 MISCELLANEOUS MATERIALS

A. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive that is formulated to stick aggressively to sheet polyethylene.

B. Spray Glue: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

C. Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

1. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

2. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to

or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

D. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Article 3.08 of this Section.

E. Fiberboard Drums: Provide heavy-duty leak tight fiberboard drums with tight sealing locking metal tops.

F. Paper board Boxes: Provide heavy-duty corrugated paperboard boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

2.3 PROTECTIVE CLOTHING:

A. Coveralls: Provide disposable full-body coveralls and disposable head covers (Tyvek or approved equal) and require that workers in the Work Area wear them. Provide a sufficient number for required changes, for workers in the Work Area.

B. Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection, for workers. Provide boots at no cost to workers. Paint uppers of boots red with waterproof enamel. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos-contaminated waste at the end of the work.

C. Hard Hats: Provide head protection (hard hats) as required by OSHA for workers and provide 4 spares for use by Owner's Technical Representative, Project Administrator, and Owner. Label hats with same warning labels as used on disposal bags. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

D. Goggles: Provide eye protection (goggles) as required by OSHA for workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

E. Gloves: Provide construction grade work gloves to workers and require that they be worn at all times in the Work Area Do not remove gloves from Work Area and dispose of as asbestos-contaminated waste at the end of the work.

2.4 AIR PURIFYING RESPIRATORS

A. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2.

B. Do not use single use, disposable or quarter face respirators.

2.5 ADDITIONAL PROTECTIVE EQUIPMENT

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner's Technical Representative, Project Administrator, and other authorized representatives who may inspect the job site. Provide two respirators and six complete coveralls and, where applicable, six respirator filter changes per day.

2.6 FALL PROTECTION EQUIPMENT

A. All fall hazards should be identified at work sites with the potential for elevated work. Once an elevated fall hazard has been recognized, an appropriate control measure must be selected. Priority should be given to elimination of the fall hazard over the use of fall protection equipment. Approved safety harnesses and shock-absorbing lanyards or self-retracting lifelines (SRLs) shall be worn by employees whose work exposes them to falls of greater than six (6) feet. Anchorage points for lanyards or SRLs should be located at a level no lower than the employeeôs waist to limit the free fall distance to a maximum of 4 feet and to not allow the employee to contact the next lower work level, where practical. All fall protection devices should be used only in accordance with manufacturerôs recommendations. All fall protection devices shall be inspected daily before use. Any lifeline, harness, or lanyard actually subjected to in-service loading (a fall) should be immediately removed from service and not used again for employee fall protection. Anchor points and lanyards capable of supporting a minimum force of 5,400 pounds should be used. Employees who are required to wear fall protection must be trained in the use of the equipment, as well as in fall protection work practices.

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PART 3 ï EXECUTION

3.1 SCOPE OF WORK:

A. Material to be removed: materials previously identified are in the table below. The Contractor shall be responsible if selective demolition locates hidden and inaccessible materials and providing unit prices for abatement of such materials prior to the completion of that task.

3.2 MEASUREMENT AND PAYMENT

A. The Asbestos Project Monitor and Contractor shall record daily the ACM quantities abated. At the completion of the project, if quantities removed are less than those listed in the table below, the Contractor is to issue a credit to the Owner, based on Unit Prices listed in the Bid Form, or will be paid at the same Unit Prices should the quantities abated be greater than the quantities listed in the table below.

PVTA Bus Maintenance Facility

Material Description	Location	Est Quantity	Units	Reference
Gray Window Caulk	Upper Window Main Garage	5	EA	A2.110/B4 & B5/CDW-1

Material Description	Location	Est Quantity	Units	Reference
Gray Grout	Upper Window Sill	5	EA	A2.110/B4 & B5/CDW-1
Gray Window Caulk	Lower Window Main Garage	5	EA	A2.110/B4 & B5/CDW-1
Brown (and Gray) Window Caulk	ñCò (West Side)	23	EA	A2.101/A2 & B2/CDW-2
Black Chimney Caulk	Roof Top West Side	30	LF	A2.118/A4 &A5/CDW-2

EA = Each, LF= Liner Foot, SF=Square Foot

Reference = STV Drawing /Photo ID/CDW attached Figure

PVTA Bus Wash and Fueling Building

Material Description	Location	Est Quantity	Units	Reference
Window Caulking	SE Corner	2	EA	A3.108/B5/CDW 3 A3.111/A1/CDW 4
Upper Window Caulking	East Side	6	EA	A2.110/B4 & B5/CDW 4
Gray Caulk	Window Sills	2	EA	A3.108/B5/CDW 3 A3.111/A1/CDW 3

EA = Each, LF= Liner Foot, SF=Square Foot

Reference = STV Drawing /Photo ID/CDW attached Figure

B. All quantities are approximate. The Contractor shall also be responsible for the review of the demolition drawings, notes and phasing configurations. The contractor must include in their bid the entire scope of work listed in the above table.

1. The Contractor may have to provide limited demolition of exterior façade walls that may contain suspect ACM prior to abatement. The asbestos contractor shall remove identified ACM. If contractor fails to identify all concealed ACM and causes contamination, then said contamination (soil, building materials etc.) shall be abated/cleaned up at no cost to owner.
2. No Interior work will be completed during this project.

3. If applicable, Contractor shall remove and properly dispose the window, including, but not limited to, screens, windows, glass, frames, sashes, metal frames, casings, sills, caulking, shims, fasteners, anchors, sealants, flashings (window wall system). Remove and properly dispose caulk/debris identified on the floor of the building exterior. A single windowpane is not a window. Windows are defined by all within the opening.
4. Residual ACM window caulk abatement shall be performed using HEPA attachments or wet removal methods. No visible emissions or residual debris shall be permitted.
5. ACM debris identified shall be abated and disposed as ACM at no additional cost to the Owner. If soil is impacted, Contractor shall remove up to 2ò of soil within an area delineated by the Asbestos Project Monitor beyond depth of visible debris.
6. Contractor shall deliver the waste shipment records to the Owner within 35 days of when the waste leaves the Site, in accordance with NESHAPS.
7. The Contractor is responsible for ALL analytical testing for disposal. The analytical shall only be of the waste stream after removal from the building. No sampling of any medium for PCBs or other compounds is allowed.

3.3 PREPARATION

A. Sequence of Work: Carry out work of this section sequentially. Complete each activity before proceeding to the next.

B. General:

1. The work of this part is required for the removal of all types of ACM, includes nonfriable materials, unless otherwise noted.

2. Work Area: The location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. The work area will be at each exterior window location. A ñWork Areaò is considered contaminated during the work and must be isolated from the balance of the building and decontaminated at the completion of the asbestos-control work.

3. Completely isolate the Exclusion Zone at roof level by erecting barrier warning tape and attaching asbestos warning signs every 50' to exclude unauthorized personnel from inadvertently entering the work area.

4. Poly sheeting will be secured to the side of the building and extent 10 feet in each direction parallel to the window and extend 15 feet from the building wall Erect barrier warning tape with asbestos warning signs around the perimeter the work area. In addition, secure 6 mil polyethylene sheeting at the base of the building directly below the work area(s) extending out 15' to catch any debris that may fall from the windows.

5. Seal the interior side of all windows as a critical barrier with 6 mil polyethylene sheeting, secured with duct tape.

6. Provide warning signs as follows:

Legend	Notation
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH	14 Point Gothic

At exclusion zone barrier tape post an approximately 20-inch by 14-inch manufactured caution sign every 50' displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926.1101:

DANGER

ASBESTOS

MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

E. Alternate Methods of Enclosure: Alternate methods of containing the Work Area may be submitted to the Owner's Technical Representative for approval. Do not proceed with any such method(s) without approval of the Owner's Technical Representative.

F. Prepare Area:

1. Protect building and other surfaces in the Exclusion Zone from damage from water and high humidity and from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

2. Sheet Plastic: Utilize 6 mil reinforced fire-retardant polyethylene sheeting to cover surfaces in the exclusion zone.

a. The roof is not part of the project requiring poly sheeting protection. Poly sheeting shall be placed on the roof if ACM debris has the potential for falling onto the roof.

b. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting that has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.4 WORKER PROTECTION AND DECONTAMINATION PROCEDURES

A. The work of this part is required for the removal or other abatement of all types of ACM, includes nonfriable materials unless otherwise noted.

B. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

C. Each time Work Area is entered remove street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

D. Require workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

1. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

2. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

3. Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

4. With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay attention to seal between face and respirator and under straps.

5. Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

6. Carefully wash face piece of respirator inside and out.

7. If using PAPR, shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.

8. Dispose of wet filters from air purifying respirator.

9. Rinse thoroughly.

10. Rinse shower room walls and floor prior to exit.

11. Proceed from shower to Changing Room and change into street clothes or into new disposable work clothes.

E. Within Work Area: Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, and then dress in street clothes before entering the non-Work Areas of the building.

3.5 RESPIRATORY PROTECTION

A. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

B. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Article 1.10 of this Section.

C. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

D. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

E. Fit Testing:

1. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.

2. On a Weekly Basis, check the fit of each workerôs respirator by having irritant smoke blown onto the respirator from a smoke tube.

3. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure check in accordance with the manufacturerôs instructions or ANSI Z88.2.

F. Type of Respiratory Protection Required: Provide respiratory protection as indicated in accordance with OSHA requirements. In the event that an initial exposure assessment has previously been conducted, determine the proper level of protection by dividing the expected or actual airborne fiber count in the Work Area by the appropriate ñprotection factorsò specified by OSHA for various types of respirators. The level of respiratory protection that supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below the permissible exposure limit (PEL) is the minimum level of protection allowed.

3.6 REMOTE DECONTAMINATION UNITS

A. Remote Personnel Decontamination Unit: Provide a Remote Personnel Decontamination Unit to be constructed as close to the exclusion zone as practical and consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, Equipment Room with airlocks between spaces. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 100-foot candles.

1. Changing Room (clean room): Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

2. Airlocks: Provide an airlock between Clean Room and Shower Room and an airlock (3' minimum) between shower room and equipment room.

3. Shower Room: Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

4. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

B. Signs:

1. Post an approximately 20-inch by 14-inch manufactured caution sign at each entrance to the Exclusion Zone displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926.1101.

DANGER

ASBESTOS

MAY CAUSE CANCER

CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

a. Provide signs in both English and Spanish.

b. Provide spacing between respective lines at least equal to the height of the respective upper line.

2. Post an approximately 10-inch by 14-inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE WORK AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGING AREA	3/4" Block

3.7 ASBESTOS REMOVAL

A. Pre-work inspection

1. Do not begin any work in any abatement work area until the Ownerôs Technical Representative has performed a pre-work inspection. It is the Contractorôs responsibility to notify the Ownerôs Technical Representative of their schedule and anticipated dates for the pre-work inspection.
2. Inspection will be performed to assure all work area preparations are in place, as described herein. Any deficiencies in work area preparations will be corrected at this time. Work may not proceed until the Contractor receives written authorization from the on-site representative of the Ownerôs Technical Representative.

B. Wet Removal:

1. Thoroughly wet to satisfaction of Owner's Technical Representative Asbestos-Containing Materials to be removed prior to stripping to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturerôs written instructions.

2. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

3. Remove intact, saturated Asbestos-Containing Material in small sections from all areas. Do not allow material to dry out. Do not drop ACM from any height. As it is removed, simultaneously package material while still wet into disposal bags or other appropriate waste container. Twist neck of bags bend over and seal with minimum three wraps of duct tape.

4. Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

C. Clean substrate from which ACM was removed by wet wiping and using a HEPA vacuum until no visible debris remains.

D. Encapsulation of Substrate: Perform encapsulation of substrate to lockdown any nonvisible fibers that may be remaining.

3.8 WORK AREA DECONTAMINATION

A. General: Decontamination of the Work Area following asbestos abatement.

1. Once the affected substrates are deemed clean by Owner's Technical Representative, Contractor shall collect all polyethylene sheeting to be disposed of as ACM waste and HEPA vacuum the general area.

2. In both cases operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

3.9 Disposal of asbestos waste

A. Disposal Bags or Polyethylene Sheet Wrapping: Provide 12 mil thick, in total, leak-tight polyethylene bags or sheet wrapping, to contain all waste. On outermost layer, apply three labels with text as follows:

1. First Label:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

2. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST AVOID CREATING DUST

3. Third Label: Provide in accordance with U.S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule.

RQ HAZARDOUS
SUBSTANCE,
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

4. Fourth Label: Provide in accordance with US Environmental Protection Agency Regulation of the National Emission Standards for Hazardous Air Pollutants 40 CFR Part 61.150(v) Asbestos NESHAP Revision, Final rule.

Pioneer Valley Transit Authority
2840 Main Street

B. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate fully enclosed vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material.

1. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

2. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

C. Employ a waste hauler with required licenses from state and local authority with jurisdiction to haul the waste form the abatement work.

D. Dispose of waste in a landfill that accepts asbestos waste materials. Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered. All waste shall be delivered to only **one** landfill.

E. At disposal site unload containerized waste. At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, repair or re-bag materials. Clean entire truck and contents, as appropriate.

F. Retain receipts from landfill or processor for materials disposed.

G. At completion of hauling and disposal of each load, submit copy of waste shipment record (WSR) and landfill receipt to the Owner's Technical Representative. The WSR must be returned to the Building Owner in no more than 35 days.

3.10 REMOVAL OF WORK AREA ISOLATION:

A. Perform work specified in this article only after all requirements of this Section and Work Area Visual Clearance have been met:

B. Remove the warning barrier tape and asbestos warning signs separating the exclusion zone from adjacent spaces.

C. Remove equipment, materials, and debris from the work site.

D. Dispose of asbestos-containing waste material as specified in Article 3.07 of this Section.

3.11 SCHEDULE OF REMOVALS

A. Conduct asbestos abatement work as specified in accordance with lettered line items and Asbestos Abatement Summary Tables. Use appropriate engineering tools for exterior work such as windows, roofs, coping tar, flashings, or vapor barriers.

B. Because there is no way to guarantee that all ACM were identified during the building inspection conducted by CDW, it is possible that additional ACM is present other than that identified herein. If

any suspect materials are uncovered during abatement activities or demolition work that are not detailed in this design, stop work until suspect ACM has been analyzed by a laboratory.

END OF SECTION

DAMAGED MULLIONS IN KIND
PHOTO - B4/A2.111
PHOTO - B5/A2.111

T/O ROOF
22' - 2"

BRICK REPAIR:
REPOINT BRICK (INSIDE STAIR VESTIBULE)
(150) SF +/- VIF
PHOTO - A2/A2.111
PHOTO - A3/A2.111
PHOTO - A4/A2.111

CONCRETE FOUNDATION WALL REPAIR:
REPAIR WALL IN-KIND
(INSIDE STAIR VESTIBULE)
PHOTO - A1/A2.111
PHOTO - A5/A2.111
PHOTO - B2/A2.111
PHOTO - B3/A2.111

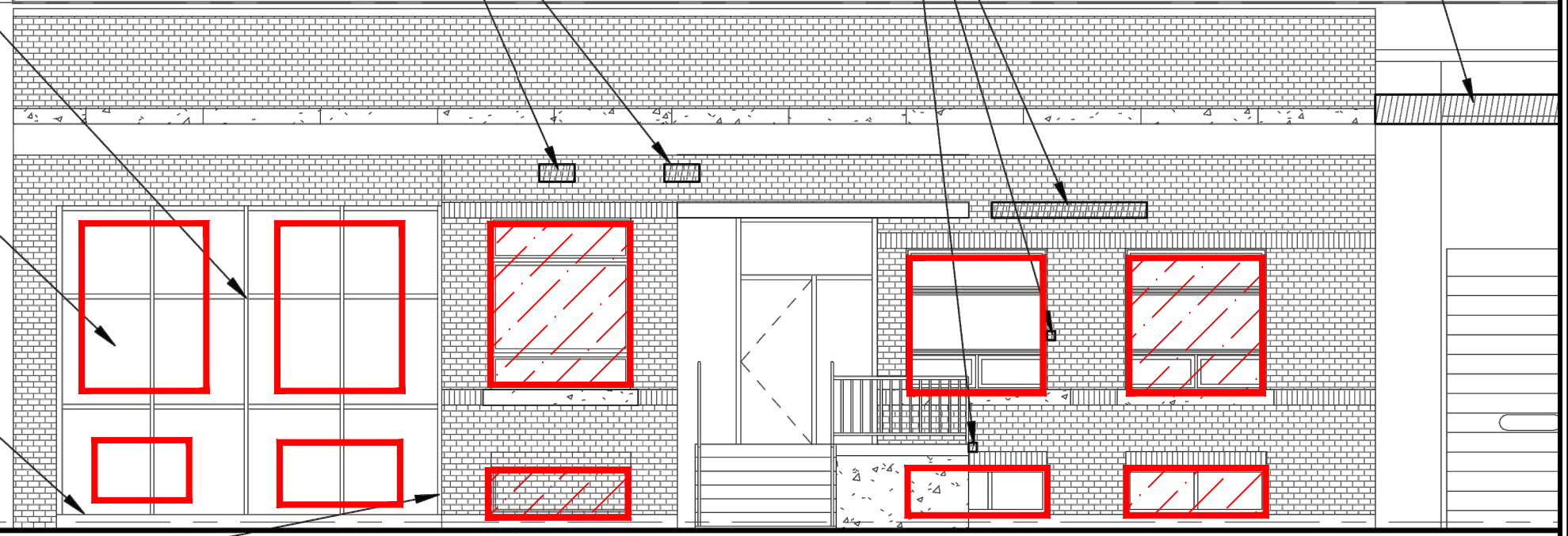
GROUND FLOOR
0"

SIGN REPLACEMENT:
REPLACE SIGN
(INSIDE STAIR VESTIBULE, ABOVE STAIRS)
PHOTO - B1/A2.111

R:
REPOINT BRICK
PHOTO - A2/A2.111
PHOTO - A3/A2.111

BRICK REPAIR:
(10) SF +/- VIF
REPOINT BRICK
PHOTO - C1/A2.111
PHOTO - C2/A2.111

CMU REPAIR:
REPOINT CMU
(15) LF +/- VIF
PHOTO C3/A2.111



B

B1
A1.101

SOUTH ELEVATION

1/8" = 1'-0"

Denotes ACM Positive window caulking between frame and concrete.

Denotes window area sampled

NO	DATE	REVISIONS

DATE : May 120, 2025
DRAWN : APH
SCALE : 1" = 20'

South Elevation ACM Locations
Bus Maintenance Facility
A2.110 from STV

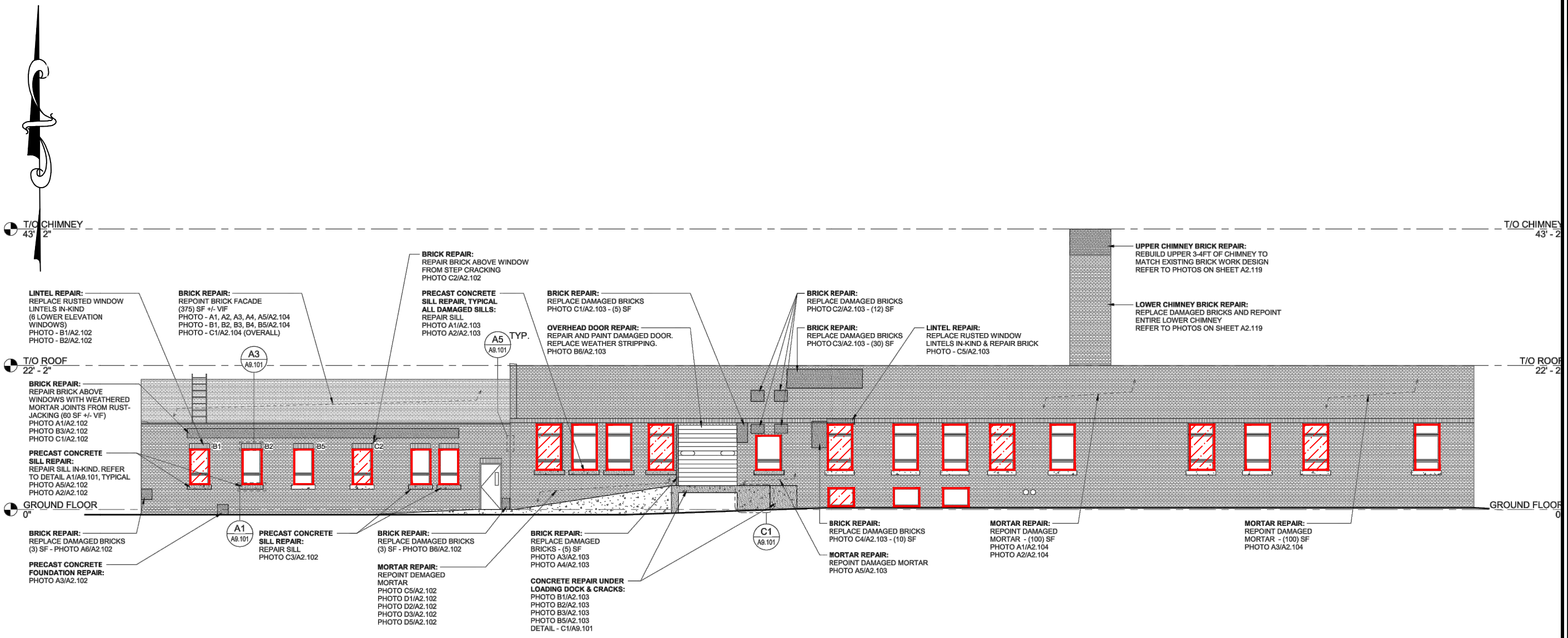
PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

CDW-1

2204.0



B1 / A1.101 **WEST ELEVATION**

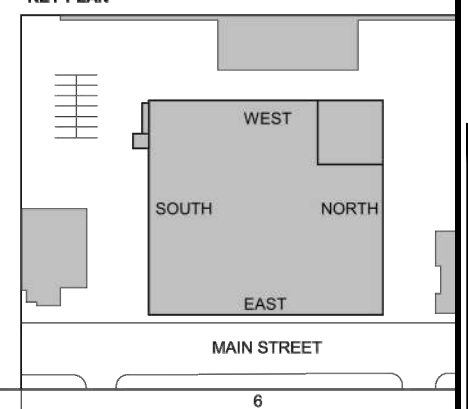
1/8" = 1'-0"

Denotes ACM Positive Caulking between window frame and concrete.

Denotes ACM sample location

Elevation Plan provided by STV

KEY PLAN



NO	DATE	REVISIONS

DATE :	May 120, 2025
DRAWN :	APH
SCALE :	1" = 20'

West Elevation ACM Locations Bus Maintenance Facility A2.101 from STV

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

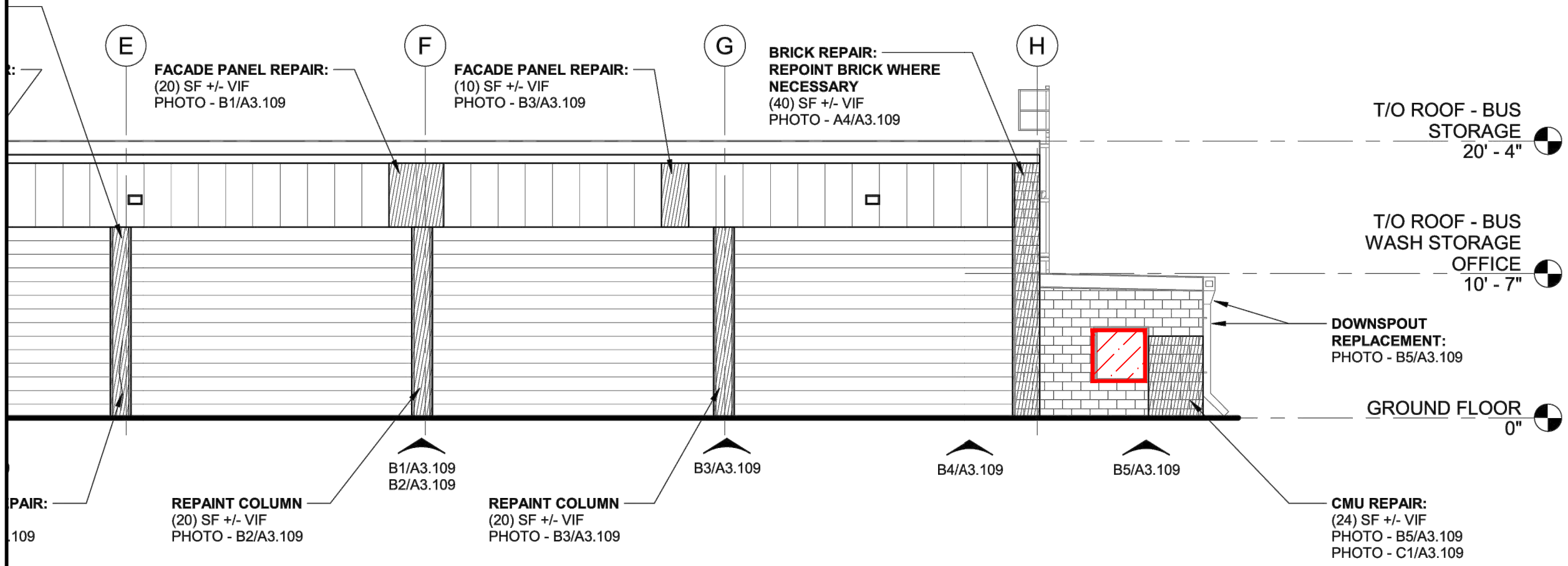
CDW-2

2204.0

BUS WASH - SOUTH ELEVATION

2
A1.102

1/8" = 1'-0"



Denotes ACM Positive caulking between framing and concrete

Denotes window sampled

BUS MAINTENANCE FACADE REPAIRS

NO	DATE	REVISIONS

DATE :	May 120, 2025
DRAWN :	APH
SCALE :	1" = 20'

South Elevation ACM Locations
Bus Wash/Fueling Building
A3-108

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

CDW-3

2204.0

NO	DATE	REVISIONS

DATE :	May 120, 2025
DRAWN :	APH
SCALE :	1" = 20'

3 4 5

Denotes ACM positive caulking between window frame and concrete

Denotes ACM positive caulking between window frame and concrete

1 2 3 4 5 6 7

DOOR REPAINTING:
PHOTO - A3/A3.112

A1/A3.112 A2/A3.112 A3/A3.112 A4/A3.112 A5/A3.112 B1/A3.112 B2/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - A2/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - A1/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - B3/A3.112

CMU REPAIR:
(20) SF +/- VIF
PHOTO - B3/A3.112
PHOTO - B4/A3.112

CMU REPAIR:
(2) SF +/- VIF
PHOTO - B5/A3.112

CMU REPAIR:
(5) SF +/- VIF
PHOTO - C1/A3.112

CMU REPAIR:
(8) SF +/- VIF
PHOTO - C2/A3.112

TORAGE - EAST
TION

8 9 B3 A9.101 10 11 12 13 14

T/O ROOF - BUS STORAGE
20' - 4"

PRECAST CRACK REPAIR

East Elevation ACM Locations
Bus Maintenance Facility
A3.111

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

CDW-4

2204.0

SECTION 029400

LEAD PAINT ABATEMENT

PART 1 - GENERAL

1.1 OVERVIEW

A. NOTE: No lead paint abatement is anticipated at this time, but this section is provided in the event that lead paint is encountered. The intent of this section is to:

1. Outline CONTRACTOR responsibilities for worker protection and to prevent the contamination of the air, soil, and water around the project site from lead based paint.
2. Specify the requirements for Lead Paint Abatement at all elements to be demolished for the PVTA Springfield Facade Repairs.
3. Specify the minimum work practice requirements for the recovery and disposal of leaded coatings and associated waste generated as a result of abatement and demolition activities. Lead containing paint may be encountered on painted structures and materials uncovered during the work.

B. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION I-GENERAL REQUIREMENTS which are hereby made a part of this Section.

C. In addition to the requirements specified herein, refer to all Contract Documents for complete description of work required to be performed under this Section.

D. The CONTRACTOR shall examine all drawings and all other Sections of the Specifications for requirements of related Sections affecting the work of this Section.

E. The work of this Section shall be performed as stated herein. The CONTRACTOR is responsible for the coordination of the work of this Section with related work. No delays in completion of the work may be claimed for lack of coordination.

F. The CONTRACTOR shall comply with all applicable Massachusetts, and federal guidelines and regulations regarding all work involving the presence of lead-containing paint.

1.2 RELATED WORK

A. Other specification sections that relate to the work include but are not limited to the following:

1 Section 024200– ASBESTOS ABATEMENT

1.3 DESCRIPTION OF WORK

A. The procedures described herein apply to all abatement and excavation work where a worker may be occupationally exposed to lead or lead-contaminated debris. The CONTRACTOR shall assume that any painted surface not tested under this specification contains lead paint, and it shall be the CONTRACTOR's responsibility to protect workers performing under this contract. This may require additional testing by X-ray Fluorescence (XRF) analysis by the CONTRACTOR to verify lead content. The CONTRACTOR must notify the PVTA (AUTHORITY) and obtain approval from the AUTHORITY prior to such testing. The CONTRACTOR shall assume full responsibility for the compliance with all applicable Federal,

Massachusetts, and local regulations pertaining to work practices, hauling and disposal of hazardous waste and protection of workers, site visitors, and persons occupying areas adjacent to the site. The CONTRACTOR shall hold the AUTHORITY harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or any other type of regulation on the part of themselves, their workers, or their subcontractors.

B. The CONTRACTOR is required to ensure the protection of workers performing any work that will affect surfaces coated with lead-containing paint as well as protecting the public and the environment from exposure to lead dust.

C. CONTRACTOR responsibilities established in this Section include the furnishing of all labor, materials, and equipment required to test, contain, recover, and dispose of lead coatings and associated waste as identified in these specifications:

1. Removal of paint from structural steel, where cutting/grinding is necessary;
2. Spot removal of paint from surfaces to facilitate demolition;
3. Excavation, segregation, and disposal of lead painted debris uncovered during the work;
4. Testing and disposal of all debris generated as a result of lead removal in accordance with requirements of this specification and federal and Massachusetts regulations on hazardous and solid waste;
5. Personal air sampling, as required by OSHA, for workers of the CONTRACTOR or the MBTA that have the potential for exposure to airborne lead dusts as outlined in this specification.

D. Codes and Standards

1. All work shall conform to the standards set by applicable federal, Massachusetts, and local laws, regulations, ordinances, and guidelines in such form in which they exist at the time of the work of the contract and as may be required by subsequent regulations.
2. In addition to any detailed requirements of the Specification, the CONTRACTOR shall at their own cost and expense comply with all laws, ordinances, rules, and regulations of federal, Massachusetts, and regional, authorities regarding handling and storing of lead waste material.
3. The following references are cited as applicable standards and regulations as amended, and may not include all applicable standards and regulations:
   a. Code of Federal Regulations (CFR) Publications:

29 CFR 1910	General Industry
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts and Mists
29 CFR 1926.57	Ventilation
29 CFR 1926.62	Lead in Construction
29 CFR 1926.200	Signs, Signals and Barricades
29 CFR 1926.354	Welding, Cutting and Heating in Way of Preservative Coatings
29 CFR Subpart T	Demolition

40 CFR 50	National Primary and Secondary Ambient Air Quality Standards for Lead
40 CFR 61 Subpart A	General Provisions
40 CFR 61.152	Standard for Waste Manufacturing, Demolition, Renovation, Spraying, and Fabricating Operations.
40 CFR 241	Guidelines for the Land Disposal of Solid Wastes
40 CFR 257	Criteria for Classification of Solid Waste
40 CFR 261 - 263	Waste Disposal Facilities and Practices

b. Massachusetts Regulations:

310 CMR 30.000	Massachusetts Hazardous Waste Regulations
310 CMR 40.0000	Massachusetts Contingency Plan
454 CMR 22.00	Deleading

c. American National Standards Institute (ANSI) Publications:

29.2-79	Fundamentals Governing the Design and Operation of Local Exhaust Systems
288.2-80	Practices for Respiratory Protection

d. National Institute of Occupational Safety and Health (NIOSH) Publications:

Manual of Analytical Methods, 4th Edition

e. Underwriters Laboratories, Inc. (UL) Fire Resistance Directory Publications:

586-77 (R 1982)	Test Performance of High Efficiency Particulate Air Filter Units

4. All regulations by the above and other governing agencies in their most current version are applicable throughout this project. Where there is a conflict between this Specification and the cited Massachusetts, Federal, or local (Attleboro, MA) regulations, the more restrictive or stringent requirements shall prevail.

E. THIS SECTION REFERS TO REQUIREMENTS FOUND IN THESE REFERENCES, BUT IN NO WAY IS IT INTENDED TO CITE OR REITERATE ALL PROVISIONS THEREIN OR ELSEWHERE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KNOW, UNDERSTAND, AND ABIDE BY ALL SUCH REGULATIONS AND COMMON PRACTICES.

1.4 DEFINITIONS

A. The following definitions apply to performance of the work of this project:

1. Action Level: An airborne concentration of lead above 30 micrograms per cubic meter ($\mu g/m^3$) as an 8-hour time-weighted average (TWA).

2. Area Monitoring: Sampling of lead concentrations *within* the demolition work area and outside the work area that is representative of the airborne concentrations of lead.

3. Clean Room: An uncontaminated change room, directly adjacent to the work area and having facilities for storage of employees' personal clothing and uncontaminated work

clothes, materials, and equipment provided when the airborne exposure to lead is above the Permissible Exposure Level (PEL).

4. CONTRACTOR or Demolition CONTRACTOR: The CONTRACTOR who is performing demolition involving lead-containing paint under this Section.
5. ENGINEER: Authorized representatives who are under contract with the AUTHORITY or AUTHORITY's Engineer to provide lead paint consulting or monitoring services.
6. Decontamination Area: A contained area adjacent to or connected to the abatement work area and consisting of an equipment room, shower area, and clean room which is used for decontamination of workers, materials, and equipment.
7. HEPA Filter Equipment: High efficiency particulate air (HEPA) filtered vacuuming or exhaust ventilation equipment with a UL 586 filter system. Filters shall be of 99.97 percent (%) efficiency for retaining particles 0.3 micrometer (µm) in diameter as determined by Dispersed Oil Particulate (DOP) testing.
8. Lead-Containing Paint or Coating: Paint, varnish, or stain that contains lead in excess of 0.1 milligrams per square centimeter (mg/cm^2)or 1.0 % lead by weight.
9. Lead Permissible Exposure Limit (PEL): 50 micrograms per cubic meter $\mu g/m^3$ of air, based upon an 8-hour TWA.
10. PM-10 Sampling: Sampling for suspended particulate matter particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (µm).
11. Sample Location: Area or place where an air sample is collected.
12. Surface Preparation: Paint removal such that surfaces are free of visible paint chips, dirt, and rust where cutting, torching, welding, etc. may be required to facilitate demolition.
13. Time-Weighted Average (TWA): The TWA is an 8-hour time-weighted average for the test of the concentration of lead for worker exposure.
14. TSP Sampling for Lead: Sampling for airborne total suspended particulate with lead analysis.
15. Wet Cleaning: The process of removing lead contamination from surfaces, equipment, and other objects by using cloths, mops, or other cleaning tools that have been dampened with water, and by afterwards disposing of these cleaning tools as lead contaminated wastes.
16. Work Area: A controlled-access work area that has plastic sheeting or other containment barriers erected to separate the trades.

1.5 SUBMITTALS

A. Notifications

1. The CONTRACTOR shall provide, in proper and timely fashion, all necessary notifications to relevant federal, Massachusetts, and local authorities, and obtain and comply with provisions of all permits or applications required by the work specified. Additionally, make all required submittals required under those auspices. The CONTRACTOR shall indemnify the AUTHORITY and the Engineer from, and pay for all

claims resulting from, failure to adhere to these provisions. Costs for all permits, applications, and the like are to be assumed by the CONTRACTOR.

B. The CONTRACTOR shall provide five (5) copies of the following submittals at the Pre-Construction Conference to the ENGINEER for review:

1. Copies of all notifications, permits, applications, licenses, and like documents required by Federal, Massachusetts, local regulations, and this specification obtained or submitted in proper fashion.
2. List of total number of supervisors and workers intended to be assigned to the project, including name and lead awareness qualifications.
3. Copies of written medical opinions for each employee who may be occupationally exposed to lead as required by Title 29 CFR, Part 1926.62 (j)(3)(v).
4. Record of successful respirator fit testing performed by a qualified individual within the previous 12 months for each employee to be used on this project, with the employee's name and social security number included in each record.
5. The CONTRACTOR's Lead Compliance Program as required by Title 29 CFR, Part 1926.62, including proposed respiratory protection program and medical monitoring for all employees throughout all phases of the job, including make, model, and NIOSH approval numbers of respirators to be used; worker orientation plan; written description of all proposed procedures, methods, and equipment to be utilized. In all instances, the CONTRACTOR must comply with all applicable federal, Massachusetts, and local regulations.
6. Safety Data Sheets (SDS's) on potentially hazardous chemicals to be used on the project.
7. Waste Disposal Plan which describes the wastestream and the disposal means (i.e., landfill, recycle, etc.) and includes the name, address, and ID number of the proposed hazardous waste hauler, waste transfer route, and proposed disposal reclamation or treatment facility.
8. Details of any proposed work platforms and or containment system design features including description and/or drawings of the following:
    a. Locations, sizes, elevations, and numbers of individuals work platforms and/or enclosure systems.
    b. Manner of construction, anticipated loads during operations, and load-bearing capacities for each work area platform and/or enclosure system designed by a Registered Professional Engineer (PE).
    c. Proposed use and engineering of any proposed contamination control features such as HEPA- filtered negative pressure systems and decontamination facilities.
    d. Special considerations used to protect the containment integrity from effects of the local climate (e.g., wind, rain, snow, etc.)
    e. Discussion of special permitting and construction code requirements applicable to installation of any work platform and containment system,
9. Name and address of the proposed recycler who will accept painted metal component construction debris, including letter stating that they will accept such waste.

10. Construction schedule, including sequence of critical work.
11. Submit the following to the AUTHORITY and ENGINEER as a Post-Construction submittal package:
    a. Copies of waste manifests and receipts acknowledging disposal of all lead waste material from the project, showing delivery date, quantity, and appropriate signature of landfill or other treatment, storage, or disposal facility's authorized representative;
    b. Summary report with quantities of lead painted wastes recycled;
    c. All personnel monitoring results; and
    d. All TCLP testing results.

1.6 REPORT OF FINDINGS

A. The CONTRACTOR must be thoroughly familiar with the lead paint conditions. The responsibilities established in this Section include the furnishing of all labor, materials, and equipment required to remove, contain, recover, and dispose of lead paint and associated waste identified in these specifications, including the spot-removal of paint from surfaces to facilitate demolition of metal structures.

B. The CONTRACTOR shall assume that all painted surfaces impacted by the work contain lead. Alternatively, the CONTRACTOR, at their expense, may conduct testing utilizing other approved methods.

C. All lead-containing painted surfaces associated with the work are included in the scope of work. It is the CONTRACTOR's responsibility to familiarize themselves with existing conditions and the extent of painted surfaces within the work zones that will need to be managed and disposed of as waste material.

1.7 GENERAL WORK PROCEDURES

A. Work requiring lead paint abatement shall be carried out in sequential phases. Inspection and approval of each phase by the ENGINEER shall be sought and gained before proceeding to the next phase and in accordance with the schedule agreed upon by the AUTHORITY. This shall include demolition requirements for work area clearance and work area release prior to the CONTRACTOR's work. As a contract requirement, any reasonable delay caused by this requirement will not constitute a basis for claim against the AUTHORITY or the ENGINEER. The CONTRACTOR must coordinate the work of this Section with the work of all other trades.

B. At no time will the AUTHORITY permit debris generated from abatement, excavation, or demolition activities to be stored inside buildings, and any storage of materials will be subject to the AUTHORITY's approval. Debris must be controlled and secure prior to off-site disposal.

1.8 SPECIAL CONSIDERATIONS

A. Work Affected – In general, the following activities are minimum requirements of this section and affect the demolition performed on the painted components:

1. No torch cutting, mechanical sanding, or stripping utilizing abrasive methods without the use of HEPA vacuum attachments and appropriate personal protection equipment for paint removal shall occur.

2. No demolition activities may occur which increase the workers' exposure above the Action Level. The CONTRACTOR shall fully comply with the OSHA lead standard at Title 29 CFR, Part 1926.62.
3. Workers shall be informed of the components to be demolished that have been identified as containing lead.
4. Separation of Trades: Unprotected, untrained workers or trades shall not perform any related work within the same vicinity as demolition involving components identified with lead.

1.9 FEES, PERMITS AND LICENSES

A. The CONTRACTOR shall pay all licensing fees, royalties, and other costs necessary for the use of any copyrighted or patented product, design, invention, or process in the performance of the work specified in this Section. The CONTRACTOR shall be solely responsible for costs, damages, or losses resulting from any infringement of these patent rights or copyrights. The CONTRACTOR shall hold the AUTHORITY harmless from any costs, damages, and losses resulting from any infringement of these patent rights or copyrights. If the contract Specification requests the use of any product, design, invention, or process that requires a licensing, patent, or royalty fee for use in the performance of the job, the CONTRACTOR shall be responsible for the fee or royalty fee and shall disclose the existence of such rights.

B. The CONTRACTOR shall be responsible for costs for all applicable licensing requirements, notification requirements, and all other fees related to the CONTRACTOR's ability to perform the work in this Section.

C. The CONTRACTOR shall secure all necessary permits for work under this Section, including hauling, removal, disposal, fire, materials usage, or any other permits required to perform this specified work.

1.10 CLEANUP

A. The CONTRACTOR shall maintain the worksite in a neat and orderly manner at all times, so as not to interrupt or infringe upon the work of other trades.

B. The CONTRACTOR shall comply with all requirements for release of work area as described in the project specification.

C. It is the prerogative of the ENGINEER or his authorized representatives to inspect whenever deemed necessary. The CONTRACTOR is responsible for meeting and correcting any deficiencies discovered which do not meet the current applicable regulations and the requirements of these Specifications.

1.11 COORDINATION

A. The CONTRACTOR shall extend full cooperation to the AUTHORITY in all matters involving the use of the AUTHORITY's facilities. At no time shall the CONTRACTOR cause or allow to be caused conditions that may cause risk or hazard to the general public or conditions that might impair safe use of the facilities.

B. The CONTRACTOR shall coordinate the work of this section with that of all other trades. Phasing and scheduling of this project will be subject to the approval of the AUTHORITY. The work of this Section shall be scheduled and performed so as not to impede the progress of the project as a whole. The CONTRACTOR shall be available within 24 (twenty-four) hours notice of additional work if, after acceptance of the work, it is determined that complete lead abatement was not achieved from the initial work effort as determined by the AUTHORITY or the ENGINEER.

C. Unless specifically authorized by the AUTHORITY, the work of this project shall be conducted according to the hours established in Division 1.

D. Inspections by the ENGINEER: The ENGINEER may perform visual inspections during the work of this Section, as described below. The CONTRACTOR shall not proceed with work until the CONTRACTOR has received the Engineer's approval at the stages identified below:

1. During: Prior to the commencement of a proposed alternative method other than specified.
2. Post Inspection: At the completion of work and final cleanup, prior to clearance or removal of any critical barriers and decontamination unit from the work area.
3. Waste Removal Inspection: Prior to removal of hazardous waste from the site, the AUTHORITY and the ENGINEER will inspect the quantity and type.

1.12 AUTHORITY TO STOP WORK

A. The AUTHORITY has the authority to stop the demolition work, at any time the AUTHORITY determines, either personally or through the services of the AUTHORITY's retained consultant, the ENGINEER, that conditions are not within the specification and applicable regulations. The stoppage of work shall continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the ENGINEER. Standby time required to resolve violations shall be at the CONTRACTOR's expense and shall not be cause for extending the completion date.

1.13 EMERGENCY PRECAUTIONS

A. The CONTRACTOR shall establish and maintain emergency and fire exits from the work area.

B. When an injury occurs, the CONTRACTOR shall stop work until the injured person has been removed from the work area.

1.14 DISPOSAL OF WASTE MATERIAL

A. General

1. The CONTRACTOR will be required to comply with the Resource Conservation and Recovery Act (RCRA) and all applicable Massachusetts and local regulations.
2. Lead paint waste shall be separated from other building components where possible prior to disposal as lead waste.
3. The demolition CONTRACTOR shall be responsible for disposing all waste determined by Toxicity Characteristics Leachate Procedure (TCLP) to be hazardous. If TCLP testing

has not been performed, the Demolition CONTRACTOR shall be responsible for testing the waste and the costs associated with the testing and analysis.

4. The demolition CONTRACTOR shall comply with all EPA regulations.
5. Appropriate disposal of all lead paint waste of this project shall be according to Title 40 CFR, Part 241, -261, and 262.
6. The CONTRACTOR shall separate all unpainted metal components removed under this contract for recycling. Submit proof of delivery to recycling facility.
7. The CONTRACTOR is required to recycle/reuse any other recovered materials in lieu of disposal if the material is of acceptable physical quality and chemical quality, and the CONTRACTOR can identify a facility willing and permitted to accept the material.

PART 2 – PRODUCTS

2.1 GENERAL REQUIREMENTS

A. The CONTRACTOR shall deliver all materials and equipment to the site in the original containers, bearing the name of the manufacturer and details for proper storage and use.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner that shall not interfere with other trades working in the area.

C. The AUTHORITY must approve unloading and temporary storage sites and transfer routes in advance.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material that becomes contaminated as part of abatement procedures shall be packaged and legally disposed of in an approved, secure landfill.

2.2 MATERIALS

A. All materials and equipment proposed to be used on this project shall be subject to the acceptance of the AUTHORITY and the ENGINEER. The list of required materials shall include, but not necessarily limited to the following:

1. Fire retardant polyethylene sheeting, minimum thickness of six (6) mil.
2. Plastic bags, minimum thickness of six (6) mil.
3. High quality duct tape.
4. Lead Warning Signs, as required by the Massachusetts Departments of Labor Standards (MADOLS) Regulations, and Occupational Safety and Health Administration (OSHA) Hazard Communication (HazComm) requirements.
5. Spray adhesive (fire retardant).
6. Personal Protective Equipment (PPE), NIOSH approved respirators and filters.
7. Ventilation units with HEPA filtration and exhaust fans.

8. HEPA vacuums.
9. Trisodium-Phosphate (TSP) and product data.
10. Cloth tarpaulin.
11. Chemical strippers, where applicable, not containing methylene chloride and/or flammable materials.
12. Other materials, tools, and equipment necessary for the work.

PART 3 – EXECUTION

3.1 SCHEDULE OF ABATEMENT

A. The CONTRACTOR shall coordinate all abatement scheduling with the AUTHORITY. A schedule of work shall be submitted to the AUTHORITY prior to contract performance.

3.2 UTILITIES

A. The CONTRACTOR shall provide all necessary connections for temporary utilities in the workplace during work. Shut down and disconnect all electrical power to the work area so that there is no possibility of reactivation and electrical shock during the work. The temporary electrical power shall be in accordance with all OSHA requirements.

3.3 IDENTIFICATION OF HAZARDS

A. Prior to any work involving lead abatement or excavation of lead-containing items, the CONTRACTOR shall identify all work activities in which a worker may be occupationally exposed to lead.

B. The CONTRACTOR shall initially determine if any worker may be exposed to lead above the action level.

3.4 BARRIERS, ISOLATION AREAS, AND INSTALLATION OF DECONTAMINATION FACILITIES

A. Containment controls, including critical barriers, protective coverings, HEPA-filtered ventilation, and decontamination facilities, may be required for paint removal work. The degree of containment shall be appropriate for the anticipated levels of airborne lead dust. The lower the level of airborne lead, the lesser the requirements necessary to control lead emissions at the job site.

B. Work Area Isolation During Abatement:

1. The CONTRACTOR shall isolate work areas for the duration of abatement work by completely sealing off all openings in the work area. Isolation sealing shall be accomplished by constructing critical barriers where necessary around the work area perimeter. The work area shall be sealed airtight to the greatest extent possible, subject to the approval of the Engineer.

2. The CONTRACTOR shall provide temporary power and lighting (with Ground Fault Circuit Interrupter (GFCI) protection) to the work areas, and ensure safe installation of temporary power sources and equipment, per applicable electrical code requirements and OSHA requirements for temporary lighting, in the environment normal to lead-containing paint abatement work areas.

C. Equipment and Services: The CONTRACTOR shall provide portable lighting, staging and scaffolding, utility hook-ups, portable fire extinguishers, first aid equipment, and all other equipment or items for the safe and efficient performance of work.

D. Decontamination Facility:

1. The CONTRACTOR shall erect one or more decontamination facilities (if applicable) to serve each work area. The facility will consist of a series of two or more connected chambers including, at minimum, a clean room and a shower/washroom, separated by an air lock. Unless otherwise specified, the shower/washroom shall be contiguous to the work area. Non-contiguous, remote, three-chamber decontamination facilities may be substituted with the Engineer's prior written approval. Three-chamber decontamination facilities shall include an equipment room to be used for removal and temporary storage of contaminated work clothing, equipment, and other items leaving the work area prior to decontamination in the shower/washroom of the decontamination facility.

2. In all cases, non-emergency access between contaminated and uncontaminated rooms or areas shall only be through the decontamination facility/washroom.

3. The CONTRACTOR shall ensure that barriers and linings are effectively sealed and taped at all times and that the shower/washroom floor is completely watertight. Repair damaged barriers, and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period.

E. All abatement or excavation work areas impacting materials containing lead paints shall remain isolated from all other trades on the project and remain inaccessible to the public. The CONTRACTOR shall monitor the access to these work areas. The below listed items are required to control the generation of lead-containing dust during demolition activities. The CONTRACTOR is ultimately responsible for cleaning all generated dust and paint debris and must maintain work areas free from lead dust generated from abatement or excavation activities.

1. Signs shall be posted at all approaches to the work areas warning that lead work is being conducted in the vicinity. Signs shall be in bold lettering not smaller than two inches tall.

2. Barriers shall not be removed until the work areas are thoroughly cleaned and approved by the Engineer.

3.5 LEAD PAINT ABATEMENT

A. Paint Removal: This shall include the removal of paint from all metal surfaces where torch cutting or welding is required to allow installation of new materials and/or modifications/demolition of existing materials as specified and/or where shown on the drawings. Paint removal shall follow the below listed requirements:

1. Paint removal shall occur to remove all visible paint down to the bare substrate. The paint shall be removed from an area of at least eight (8) inches from where cut lines or

welding is to occur at all surfaces of the member. The CONTRACTOR shall coordinate with the General CONTRACTOR where the cut lines and welding are to occur.

2. The following methods are prohibited for use in lead paint removal on this project:
   a. torch or flame burning;
   b. dry abrasive blasting using sand, grit or any other particulate;
   c. on-site use of methylene chloride or solutions containing methylene chloride; and
   d. machine sanding.
3. The CONTRACTOR shall seek AUTHORITY and ENGINEER approval for the use of chemical strippers/caustic paste on this project.
4. All paint chips, slurry, waste, and debris generated from paint removal shall be collected and removed upon generation during the work.
5. Paint removal shall occur only when proper barriers and protection are in place and approval has been given regarding barrier set-ups and methods of paint removal.

3.6 PERSONAL EXPOSURE AIR SAMPLING - CONTRACTOR

A. The CONTRACTOR shall perform personal exposure air sampling during all abatement work to determine worker exposure limits. Personal exposure sampling shall be conducted in accordance with the CONTRACTOR's written Lead Compliance Program and OSHA requirements. The results of such sampling shall be posted, provided to individual workers, and submitted to the AUTHORITY and the ENGINEER as described herein.

B. Air sampling results shall be transmitted to the AUTHORITY and individual workers available at the job site in written form no more than forty-eight (48) hours after the completion of a sampling cycle. The reporting document shall list each samples result, sampling duration, sample yield, cassette size, analyst's name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms/cubic meter ($\mu g/m^3$).

C. The CONTRACTOR's testing lab shall be American Industrial Hygiene Association (AIHA) accredited for analysis of metals. The CONTRACTOR shall submit, for the AUTHORITY's review and acceptance, the name and address of the laboratory, certification(s) of AIHA accreditation for metal analysis, listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control (QA/QC) program.

D. Air monitoring frequency will be established in accordance with the requirements set forth in Title 29 CFR., Part 1926.62.

3.7 ENVIRONMENTAL IMPACT TESTING AND FINAL INSPECTIONS

A. Ambient Air Monitoring:

1. The AUTHORITY and the CONTRACTOR shall be responsible for performance of all ambient air monitoring required in accordance with Title 40 CFR, Part 50.12, "National Primary and Secondary Ambient Air Quality Standards for Lead." The AUTHORITY and CONTRACTOR shall be responsible for retaining a qualified Industrial Hygiene firm for performance of the ambient air monitoring services in accordance with their Lead Compliance Program.

2. The AUTHORITY may choose to conduct ambient air monitoring to verify that dust particulates containing lead do not exceed ambient air standards outside of the work area. The CONTRACTOR will be responsible for corrective measures as necessary.

B. After a thorough cleanup, the ENGINEER will visually inspect the work area for the detection of visible debris or contamination. If the visual inspections do not reveal visible debris or contamination, the area shall be cleared. The AUTHORITY retains the right to take wipe samples to verify compliance with final cleaning requirements.

3.8 WORK PROCEDURES

A. The CONTRACTOR shall initiate and continue sufficient engineering and work practice control, as described in their Lead Compliance Program, the project Health and Safety Plan (HASP), and the Work Plan, to reduce and maintain worker exposures to lead at or below the Action Level.

B. The following work practices are specifically required by these specifications:

1. All persons, except those directly involved in the work, shall be excluded from the work area. Physical barriers shall be used, where necessary, to limit access to the work area for the duration of any abatement or demolition operations.

2. Provide hand-washing facilities, and assure that all workers thoroughly wash their hands and face upon exiting the work area. Workers shall pay careful attention to cleanse the hands and face when decontaminating.

3. Thoroughly wet the areas to be disturbed and mist the air to reduce the potential for creating airborne lead and dust.

4. All equipment used by the workers inside the work area shall be, either left in the work area, or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the CONTRACTOR) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

5. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or tobacco, or apply cosmetics in the work area; to do so shall be grounds for the ENGINEER to stop all demolition operations. Only in the case of a life-threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.9 STORAGE OF WASTE

A. The CONTRACTOR shall establish staging areas for the management and containment of lead paint debris.

B. Use of waste containers on site shall be controlled under the following requirements:

1. Location of waste containers on site shall be coordinated with the CONTRACTOR, subject to the AUTHORITY's approval.

2. For waste classified as hazardous based on TCLP testing, waste containers shall be lined with two layers of six (6) mil polyethylene sheeting, be solid, be enclosed, and be locked and sealed at all times.

3. The CONTRACTOR shall comply with all federal and Massachusetts, ordinances regarding lead waste storage.

END OF SECTION

SECTION 030130

STRUCTURAL CONCRETE REPAIRS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

B. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. At the admin/maintenance building, west elevation: loading dock/ramp, repair spalled, cracked or otherwise deteriorated concrete.

2. At the bus wash building walls: epoxy-inject cracks in precast concrete panels. Patch spalls

C. Work covered under this Section shall conform to the following sections of ACI 301, except as modified by these Contract Documents:

1. Section 1 – General Requirements.
2. Section 2 – Formwork and Formwork Accessories.
3. Section 3 – Reinforcement and Reinforcement Supports.
4. Section 4 – Concrete Mixtures.
5. Section 5 – Handling, Placing, and Constructing.

D. Hot weather concreting shall conform to ACI 305.1. Cold weather concreting shall conform to ACI 306R.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans,

ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 SUBMITTALS

A. Product Data: Submit product data for the following.

1. Bonding agents.
2. Packaged repair material.
3. Corrosion inhibitor.
4. Form release agent.
5. Admixtures.
6. Epoxy-coating repair material.
7. Curing compounds.
8. Corrosion-resisting coating.
9. Doweling bonding material.

B. Shop Drawings:

1. Shoring and Bracing: Ensure the adequacy of the structure and temporary supports to withstand the anticipated loads during construction, and the effect of demolition on the capacity of the structure. Submit design calculations in accordance with all applicable codes and standards, OSHA regulations and industry best practices, sealed by an Engineer licensed in Massachusetts, for shoring and bracing at all repair types. Submit shoring and bracing drawings, or documentation from the Shoring Engineer that none is required prior to the start of demolition on the structure.
2. Formwork: Ensure the adequacy of the formwork to withstand the anticipated pressures exerted by the wet concrete. Submit design calculations, sealed by an Engineer licensed in Massachusetts, for the formwork when required by the Engineer. Submit formwork drawings.
3. Reinforcement: Submit data and shop drawings in accordance with the requirements of ACI 301.
4. Form and Pump: Pumps and fittings used for the placement of concrete in sealed forms shall be submitted. The proposed spacing of fittings and the means for assuring proper vibration and complete filling of the repair cavity shall be demonstrated.

C. Repair Materials:

1. Packaged Materials: Packaged material submittals shall include all relevant manufacturers' literature, including technical data. Submit data on materials and limitations where aggregate extension is planned.
2. Include MSDS for all materials submitted.

D. Qualifications: Submit documentation demonstrating conformance with the qualification requirements for the concrete repair Contractor and the foreman for the concrete repair Contractor as described in the Quality Assurance section.

E. Quality Control Test Results: Submit copies of all quality control test results and inspection reports. Delivery tickets shall be submitted for all ready mixed concrete.

F. Equipment and Procedures for Concrete Removal: Submit a list of concrete removal equipment to be used on the project, and the locations and circumstances under which each piece of equipment will be used.

G. Equipment and Procedures for Surface Preparation: Submit a description of the equipment and procedures that will be used to achieve the required bond of the repair material.

H. Concrete Conveyance and Placement Methods: Submit a summary of conveyance equipment and placement methods for the repair Work such as the use of pumping equipment, Georgia Buggies, etc., and provisions which will be taken related to these activities.

I. Concrete Placement: Submit a Placement Plan that includes hot and cold weather provisions, methods to achieve Saturated Surface Dry (if applicable) or to apply bonding agent if specified, consolidation, finishing, and curing.

J. Pre-installation Conference: Prior to the start of work, the following personnel shall attend a preinstallation conference:

1. Contractor's Project Manager.
2. Contractor's Superintendent.
3. Concrete Repair Subcontractor (if used).
4. Inspectors.
5. Safety Supervisor.

1.5 QUALITY ASSURANCE

A. Contractor Qualifications:

1. Concrete Repair Contractor: Submit documentation demonstrating experience with previous projects of similar size and complexity. The documentation shall include references from Owners, Contractors, and Engineers on the previous projects.
2. Foreman for the Concrete Repair Contractor: Submit a résumé for the foreman demonstrating experience with previous projects of similar size and complexity. The documentation shall include references from Owners, Contractors, and Engineers on the previous projects.

B. Mockups: Provide mockups for concrete removal, surface preparation, and concrete repair material placement to demonstrate the quality and appearance of the repair Work. Mockups shall be constructed using the same personnel, equipment, and materials that will be used for the final work. Locate the mockups in areas designated by the Engineer. Notify the Engineer in writing at least 48 hours in advance of the mockup placement to allow for inspection and acceptance of the Work.

1. Accepted mockups are permitted to become part of the completed Work if undisturbed at the time of Substantial Completion.
2. The manufacturer's representative shall review the mockup when requested by the Engineer.

C. Notify the Engineer for scheduling purposes at least (24) hours in advance of when repair locations are ready for repair material placement and allow adequate time for inspection. Schedule all inspection Work with the Engineer. Any Work covered up without inspection is subject to rejection by the Engineer.

D. If ready-mix concrete is used, provide and maintain a facility or location for the safe storage and proper curing of freshly cast test specimens. The temporary storage area and access for the Engineer or independent testing agency to perform concrete testing during placement shall comply with the requirements of ASTM C31/C31M.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the project site in the manufacturer's original and unopened containers, label intact with type and name of products and manufacturers.

B. Comply with the manufacturer's written instructions for conditions for temperature requirements as well as other conditions for storage.

C. Do not use materials that have exceeded their stated expiration date.

D. Store all materials off the ground, under cover, and in a dry location. Protect from rain, water, freezing, excessive heat, foreign matter, and other damaging conditions until ready for use. If materials have frozen, obtain manufacturer's written approval prior to use. Do not stir liquids or mix materials until they are completely thawed. Do not force-thaw materials. Do not use damaged containers or broken bags.

E. Comply with the material manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

1.7 PROJECT CONDITIONS

A. Environmental Limitations and Requirements:

1. Execute demolition in a manner to limit unnecessary dust and noise. Enclose each phase of the Work with a minimum of a plastic or cloth barrier to maximize confinement of dust and debris inside the Work area. Enclosures shall be securely constructed and inspected by the Contractor each working day to ensure there are no holes or tears. Take other steps as required to keep dust and debris confined to the Work, such as providing air filtration equipment, the use of wet cutting equipment, and the use of wet abrasive cleaning equipment. Vent exhaust fumes from enclosed Work areas. If the exhaust fume level cannot be kept at an acceptable level, use other equipment or relocate the equipment so that the exhaust can be properly vented away from occupied areas.
2. Dispose of water from operations in a safe and lawful manner.

1.8 SAFETY

A. All Work shall be performed in accordance with the applicable provincial, local, state, and federal requirements for safety.

B. Maintain a copy of MSDS at the jobsite for all materials.

2.1 PACKAGED REPAIR MATERIAL Polymer-Modified Cementitious Proprietary Repair Material:

1. Packaged polymer-modified cementitious repair material shall have a minimum compressive strength of 5000 psi at 28 days.
2. Packaged polymer-modified cementitious repair material shall contain aggregate gradation appropriate for the depth of concrete repair specified. For repairs greater than 1 in. in depth unless stated otherwise by the manufacturer, coarse

aggregate shall be used. If coarse aggregate is to be added to a packaged repair mortar, the mixture ratio, gradation, and type must be in accordance with the manufacturer's specifications, and the following: Aggregate shall comply with ASTM C33/C33M and the manufacturer's requirements. Add only as permitted by the packaged repair mortar manufacturer.

3. Air-entraining admixtures shall conform to ASTM C260. Air entrainment shall conform to ACI 301 requirements for Exposure Class F3, very severe exposure, based on the coarse aggregate size, or evidence of equal freezing-and-thawing durability shall be submitted to the Engineer, along with the material data submittal for review and acceptance.
4. A corrosion-inhibiting admixture shall be included in the mixture.
5. Maximum Water-Soluble Chloride Content shall be 0.06% by weight of cement.
6. Maximum Shrinkage: 0.06% tested in accordance with ASTM C157.
7. For partial-depth and full-depth horizontal repairs, and overhead/vertical patch repairs (form and pour or pump):

    a. Sikacrete – 211 SCC Plus as manufactured by Sika Corp.
    b. Rapid Set Mortar Mix Plus as manufactured by CTS Cement Manufacturing Corp.
    c. EucoRepair SCC as manufactured by Euclid Chemical.
    d. Approved Equal.

8. For overhead and vertical patch repairs (trowel applied):

    a. MasterEmaco N 425 as manufactured by Sika Corp.
    b. Rapid Set V/O Repair Mix as manufactured by CTS Cement Manufacturing Corp.
    c. Planitop XS as manufactured by Mapei Corp.
    d. Approved Equal.
    e. Product to be applied in a single lift. Lift thickness per manufacturer recommendations.

2.2 FORM MATERIALS

A. Construct formwork to shapes, lines, and dimensions required, plumb and straight, secured and braced sufficiently rigid to prevent deformation under load, and sufficiently tight to prevent leakage, all in conformance with ACI Standard 347, "Recommended Practice for Concrete Formwork".

B. Formwork for exposed concrete shall be medium-density plastic overlaid plywood, 5/8 inch minimum thickness; for concealed concrete shall be plywood, 5/8 inch minimum thickness.

C. Chamfer Strips: Half-inch, 45 degree poplar wood strips, nailed six inches on center, and installed in inside corners of all forms, unless otherwise directed by the Engineer.

D. Form Ties and Spreaders: Wire ties shall not be used. Ties for foundation walls shall be snap-ties or type specified above with removal cones and shall incorporate water seal washer. Ties shall be arranged in a symmetrical manner.

E. Form Release Agent: Non-staining and non-emulsifiable type, or equal approved by the Engineer. Form release agent shall be biodegradable and shall not impart any stain to concrete nor interfere with adherence of any material to be applied to concrete surfaces.

2.3 REINFORCEMENT AND ACCESSORIES

A. Provide new reinforcing to replace reinforcing that is severely rusted. Reinforcing Steel Bars: shall be newly rolled billet steel conforming to ASTM A615 Grade 60. Bars shall be bent cold.

B. Welded Wire Fabric: shall conform to ASTM A185.

C. All structural steel reinforcement and accessories shall be epoxy coated conforming to ASTM A775.

2.4 MISCELLANEOUS MATERIALS

A. Curing Materials for Packaged Repair Material shall be either of the following:

1. Moisture Retention Cover Cure with polyethylene film or plastic covered fabric, including burlap. Sheets shall comply with ASTM C171.
2. Wet Cure with Absorbent Cover meeting AASHTO M182, Class 2, such as Burlap.
3. Moisture Retention Cure with a curing compound conforming to ASTM C309, Type 1, clear color:

    a. Thinfilm 420 as manufactured by Kaufman Products.
    b. SpecRez as manufactured by Specchem.
    c. 1100-Clear as manufactured by W.R. Meadows.
    d. Approved Equal.

4. Comply with manufacturer’s written requirements regarding repair materials with special curing instructions where wet cure or curing compounds could be detrimental to the material performance.

B. Doweling Bonding Material: Material for bonding reinforcement to the existing concrete:

1. Ultrabond HS-1cc as manufactured by Adhesive Technology Corporation.
2. HILTI HIT-RE 500 V3 as manufactured by Hilti, Inc.
3. SET-3G as manufactured by Simpson Strong-Tie.
4. Approved Equal.

C. Corrosion-inhibiting Coating: Corrosion-inhibiting coating for embedded steel elements:

1. Sika Armatec 1C as manufactured by Sika Corp.
2. Mapefer 1K as manufactured by Mapei Corp.
3. Duralprep A.C. by Euclid Chemical.
4. Approved Equal.

D. Mechanical Reinforcing Bar Couplers: Coating shall be consistent with the reinforcement to be spliced. Approved products are listed on MassDOT's website in the link below:

https://www.mass.gov/info-details/mechanical-reinforcing-bar-splicer-coated-and-uncoated-m8019

E. Closed Cell Foam Joint Fillers: Closed cell foam joint fillers shall have a compact closed cell structure composed of synthetic isomeric polymers and shall meet the requirements of Sections 5.1 through 5.4 of ASTM D1752, with the compression requirement modified to "10 psi minimum to 25 psi maximum."

1. CERAMAR as manufactured by W.R. Meadows.
2. Approved Equal.

2.5 EPOXY INJECTION MATERIALS

A. Epoxy for injection shall be one of the following: Sika's Sikadur 31 or Simpson Strong-Tie epoxy.

3.1 INSPECTION

A. Notify the Engineer at least (24) hours in advance of times when areas of deteriorated concrete will be located.

B. Locate areas of delamination using hammer sounding and/or chain-drag sounding in accordance with ASTM D4580, mark boundaries, and arrange for the Engineer to inspect and approve the layout geometry.

3.2 PROTECTION

A. Precautions: Protect pedestrians; motor vehicles; mechanical, electrical, and plumbing equipment; surrounding construction; project site; landscaping; and surrounding buildings from damage or injury resulting from concrete rehabilitation Work.

1. Neutralize and collect alkaline and acid wastes for proper disposal off-site in accordance with Local, State, and Federal regulations.
2. Dispose of runoff from wet operations in accordance with all local ordinances and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
3. Comply with local noise ordinances during demolition operations.
4. Protect all new repair Work from vibration, dust, and any deleterious environmental effects during the Work. Provide adequate cure time for concrete repairs to allow for compressive and bond strength gain prior to performing demolition adjacent to the repairs.

3.3 FORMWORK AND SHORING

A. General:

1. Construct forms to sizes, shapes, lines, and dimensions to match existing adjacent surfaces and textures.
2. Provide for openings, offsets, moldings, chamfers, anchorages, inserts, and other required features.
3. Construct forms to accommodate installation of products by other trades.
4. Provide for easy removal of form without damage to the concrete and adjacent surfaces.
5. Apply an appropriate form release coating over surfaces of formwork prior to erecting in-place before each concrete placement. Form release agents shall not be applied to or come in contact with the concrete substrate or reinforcement at any time.
6. Provide ports through slabs where required to install repair materials at soffits and beams and to vent air during concrete placement.
7. Provide ports through the sides of forms where required to install repair materials. Remove and patch ports immediately after removal of forms.

B. Shoring: Provide shoring and bracing in accordance with the shoring and bracing drawings prior to performing work.

3.4 PREPARATION AND BONDING

A. Partial-depth Concrete Removal: Removal of deteriorated concrete, surface preparation, and provisions for reinforcement in areas to be repaired shall be conducted in accordance with ICRI 310.2R. The surface of the repair area shall be roughened to a minimum surface profile of CSP 7, as described in ICRI 310.2.R. In addition, the following criteria shall be met within the repair locations:

1. Repair configurations should be kept as simple as possible and shall preferably have square corners.

2. The aspect ratio of the repair area for slabs shall be as square as possible, not exceeding 1.25:1 to 1.5:1. Odd shapes shall be avoided. If they cannot be avoided, re-entrant corners shall be mitered or reinforced to limit cracking at these locations.

B. Full-Depth Concrete Removal: Procedures described previously in the paragraphs for partial-depth removal shall be followed except that the depth of removal shall extend through the entire thickness of the concrete section. Saw cuts and chipped edges shall be provided at the perimeter of the repair. In the case of slabs, the saw cuts and chipped edges shall be provided at both the top and at the underside. Special care must be taken to provide shoring around the perimeter of the full-depth removal area in accordance with the approved shoring plan. Precautions regarding falling debris must be taken to prevent damage to structures or other property below the removal area.

C. Concrete Cavity Surface Preparation:

1. Saw-cut the perimeter of areas indicated for removal and beyond the corrosion on the reinforcement to a depth of approximately 0.5 in. (12.7 mm). All edges shall be straight. Care must be taken to avoid cutting reinforcing bars, including the adjustment of the 0.5 in. (12.7 mm) saw cut in areas with less than 0.5 in. (12.7 mm) concrete cover. Make cuts perpendicular to concrete surfaces, or slightly undercut, and no deeper than the existing cover over reinforcement. Provide chipped vertical edges for the full depth of the repair. Roughen saw-cut edges.
2. Remove bruised concrete substrate weakened by microcracking by abrasive blasting or high-pressure water blasting with or without abrasive. When water blasting, provide 5000 psi (34.5 MPa) water pressure or higher if required to

satisfy the tensile bond requirements. Keep nozzle not less than 6 in. (152.4 mm) and no more than 12 in. (304.8 mm) away from the surface.

D. Reinforcing Bar Preparation: Remove concrete fragments, corrosion product, mill scale, and other contaminants from reinforcing bars by commercial blast cleaning in accordance with SSPC-SP 6 until a bare metal finish has been achieved on the reinforcing bars. At areas where commercial blast cleaning is not practical, alternate cleaning methods such as hand tool cleaning (SSPC-SP 2) or power tool cleaning (SSPC-SP 3) may be considered on a case by case basis.

1. Where section loss of reinforcing bars is more than 20% of the cross-sectional area, splice replacement bars to existing bars as directed by the Engineer. Remove additional concrete as necessary to provide at least a 0.75 in. clearance beyond existing and replacement or supplemental bars. Splice replacement bars to existing bars according to ACI 301 by lapping, welding, or using noncorrosive mechanical couplings. Welding, when approved by the Engineer, shall be in accordance with AWS D1.4/D1.4M.
2. At areas around the repair perimeters where the development length cannot be achieved within the repair, drill into sound concrete as shown on the drawings or directed by the Engineer to provide the required bar development and splice length or remove additional concrete to allow for the splice. Reinforcement shall be bonded to the existing concrete with the dowel bonding material in accordance with the approved manufacturer’s recommendations.
3. Replace existing reinforcing bars where shown or directed by the Engineer.
4. Provide support chairs, slab spacers, and holding bars properly spaced and with sufficient strength to carry loads of reinforcement and deposited concrete without collapsing or allowing bars to sag. All accessories used at exposed concrete must have plastic tips capable of resisting concrete stains.
5. Place reinforcing bars accurately and tie firmly in place. Replace or supplement reinforcing bars in accordance with the size and spacing noted on the repair drawings.
6. Provide the minimum concrete cover as specified on the repair drawings. In areas where the minimum concrete cover for outer mat reinforcement cannot be achieved without mounding of the repair concrete, the outer mat reinforcing bars are permitted to be bent, if practical, to achieve the required cover. Alternately, the Contractor is permitted, with the Engineer’s acceptance, to extend the limits of concrete removal to expose the entire bar to allow for lowering of the bars.
7. All new and existing reinforcement shall be coated with the corrosion-resistant coating.
8. Any damage to epoxy-coated reinforcement shall be repaired by coating with an approved epoxy-coating repair material.

E. Protect prepared surfaces from the elements until ready to place repair materials.

F. Cleaning:

1. Remove bond-inhibiting materials (dirt, concrete slurry, loosely bonded aggregates, etc.) by abrasive blasting or low-pressure water blasting with or without abrasive. When water blasting, provide 3000 psi or greater water pressure. Keep nozzle not less than 6 in. and no more than 12 in. away from the surface to be cleaned.
2. Confine, collect, and dispose of broken concrete, sandblast grit, dust, debris, removed reinforcement, and other waste material resulting from removal operations and surface preparation in a safe and legal manner.
3. Check concrete surfaces after cleaning to ensure they are free of loose aggregate, microcracking, and additional delamination.

G. Bonding:

1. Proprietary Bonding Agent: Just prior to the installation of the bonding agent, thoroughly clean the repair area with oil-free compressed air. Install the bonding agent in accordance with the manufacturer's recommendations. The bonding agent shall be installed immediately prior to the placement of the repair material.

3.5 CONCRETE MIXING, CONVEYING, AND PLACEMENT

A. Mixing, conveying, and placement shall conform to the requirements of ACI 301, except as modified within these specifications.

B. Use placement methods suitable for each field situation.

C. Place repair materials within open time of any bonding agent.

D. Mix and place packaged repair materials in accordance with the manufacturer's written instructions.

E. Fully consolidate the concrete as required to encapsulate the reinforcement, fill all voids, and avoid honeycombing.

3.6 FINISHING AND CURING

A. Finishing: Finish concrete to match adjacent existing concrete surfaces.

B. Curing: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold weather protection and ACI 305R for hot-weather protection during placement. Keep concrete continually moist prior to final curing by evaporation retarder, misting, sprinkling, or using absorptive mat or fabric covering kept continually moist.

C. Curing Methods: Cure repairs in accordance with the manufacturer's written instructions or for a minimum of (72) hours unless otherwise specified. Cure formed and non-formed concrete either by wet-cure or by application of a curing compound.

1. Wet-cure all repair locations following placement and finishing in accordance with manufacturer's instructions.
2. Apply curing compound to the repair areas in accordance with the manufacturer's written instructions and at the minimum rates and number of applications specified by ACI 301.
3. Remove curing compound prior to installation of coatings or finishes in accordance with the manufacturer's specified procedures.

D. Formwork Removal: Removal of formwork and shoring shall not occur until both of the following criteria have been met:

1. Repair material has cured for a minimum of (72) hours unless otherwise permitted by the Engineer.
2. Repair material has attained a minimum compressive strength of 4000 psi as determined by testing of field-cured cylinder samples. Loading of the slab with design live loads shall not occur until the concrete has attained a minimum compressive strength of 5000 psi based on field-cured cylinder samples.

E. Grind the perimeter of all formed surfaces at the interface with the existing concrete to remove all loose material and provide a smooth transition from new to existing concrete.

1. Additional finishing shall be performed as required to match the existing concrete surface.

3.7 FIELD QUALITY CONTROL

A. Independent Testing Agency: Cooperate with the Independent Testing Agency engaged by PVTA at their discretion for field quality control activities for the Work of this Section.

B. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at concrete repair contractor's expense.

D. Steel Reinforcement: Provide (24) hour minimum notification to the Engineer to arrange for inspection of forms, reinforcement, reinforcement placement, and embedded items prior to any concrete placement.

E. Concrete Placement: Provide (24) hour minimum notification to the Engineer to arrange for inspection of concrete placement, finishing, and curing. Inspection, testing, and reports shall be in accordance with the requirements of ACI 301.

F. Packaged Repair Material Concrete: Sample and test according to the appropriate section of ASTM C387/C387M for standard setting materials and ASTM C928/C928M for rapid hardening materials.

1. Test slump of each sample used to mold cylinders in accordance with ASTM C143/C143M.
2. Test air content of each sample used to mold cylinders in accordance with ASTM C231 or ASTM C173/C173M.
3. Test temperature of each sample used to mold cylinders in accordance with ASTM C1064/C1064M.
4. Test density of each sample used to mold cylinders in accordance with ASTM C138/C138M.
5. Mortar compression tests shall be performed in accordance with ASTM C109/C109M.
6. Concrete compression tests shall be made and tested in accordance with ASTM C31/C31M and ASTM C39/C39M, respectively.
7. Mold one set of 6 cylinders on the first day that the concrete is placed. Additional testing may be performed at the discretion of the City or their designated Engineer. One set of three cylinders shall be tested at (7) days and one set at (28) days. The third set may be discarded if tests meet acceptance criteria.
8. Test length change of each sample used to mold cylinders in accordance with ASTM C157/C157M modified in accordance with the recommendations of ICRI 320.3R.

3.8 CLEANING

A. Concrete surfaces shall be cleaned of objectionable stains as determined by the Engineer. Materials containing acid in any form or methods which will damage "skin" of concrete surfaces shall not be employed, except where otherwise specified.

END OF SECTION

SECTION 040120

MASONRY RESTORATION AND CLEANING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Work will occur on two buildings: The Administration and Maintenance Building located along Main Street and the Bus Wash and Storage Building located to the west along I-91.

2. **At the Admin/Maintenance Building:** Replace rusted steel lintels with new galvanized steel, flashings, and matching brick.
3. Repointing mortar joints, removing existing mortar and replacing with new color mortar.

4. Repairing clay masonry, including replacing damaged units as indicated on the Drawings. Reset dislodged bricks and stones.
5. At chimney, disassemble and rebuild upper section as called for on drawings.
6. Repair or replace broken cast stone medallion and window sill where called out on drawings.
7. **At the Storage/Wash Building**, on the west elevation along I-91, repair damaged joints at existing ladder reinforcing. Repair by grinding ladder reinforcing and mortar back ¾" and pointing. Apply elastomeric waterproofing. Note that this cutting and pointing is not included in the brick cutting and pointing quantity.
8. At the storage/wash/fuel building, repair or replace damaged CMU units. Patch if surface damage is less than half a block. If damage is greater, remove and replace block.
9. Removing plant growth (vines).
10. Cleaning exposed clay masonry surfaces after repairs.

11. Provide for repair or replacement of clay masonry broken or damaged during disassembly and reconstruction. Contractor shall be responsible for damage resulting from work of this Section.
12. Provide shoring and bracing required to maintain stability of clay masonry during work of this Section.

B. Unit Prices: Refer to Section 012200 Unit Prices for quantities in Base Bid.

C. Alternates: Not Applicable.

D. Items To Be Installed Only: Not Applicable.

E. Items To Be Furnished Only: Not Applicable.

F. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 076200 - SHEET METAL FLASHING AND TRIM for metal flashing installed in or on restored clay masonry.
2. Section 079200 - JOINT SEALANTS for sealing joints in restored clay masonry.

1.3 DEFINITIONS

A. Low-Pressure Spray: 100 to 400 psi; 4 to 6 gpm.

B. Medium-Pressure Spray: 400 to 800 psi; 4 to 6 gpm.

C. High-Pressure Spray: 800 to 1200 psi; 4 to 6 gpm.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.

B. Samples for Verification: Before erecting mockup, submit samples of the following:

1. Each type of exposed masonry unit to be used for replacing existing units.
   a. For each brick type, provide straps or panels containing at least four bricks.
2. Each type of sand used for pointing mortar.
   a. For blended sands, provide samples of each component and blend.
   b. Identify sources, both supplier and quarry, of each type of sand.
3. Each type of pointing mortar in the form of sample mortar strips, 6 inches long by 1/2 inch wide, set in aluminum or plastic channels.

a. Include with each sample a list of ingredients with proportions of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.

4. Each type of masonry patching compound in the form of briquettes, at least 3 inches long by 1-1/2 inches wide. Document each sample with manufacturer and stock number or other information necessary to order additional material.

C. Qualification Data: For restoration specialists including field supervisors and chemical manufacturer.

D. Restoration Program: For each phase of restoration process, provide detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.

1. Include methods for keeping pointing mortar damp during curing period.
2. If materials and methods other than those indicated are proposed for any phase of restoration work, provide a written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.

E. Cleaning Program: Describe cleaning process in detail, including materials, methods, and equipment to be used and protection of surrounding materials on building and Project site, and control of runoff during operations.

1. If materials and methods other than those indicated are proposed for cleaning work, provide a written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.

1.5 QUALITY ASSURANCE

A. Restoration Specialist Qualifications: Engage an experienced, masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance.

1. At Contractor's option, work may be divided between two specialist firms: one for cleaning work and one for repair work.
2. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning are in progress. Supervisors shall not be changed during Project except for causes beyond the control of restoration specialist firm.
3. Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing.

B. Chemical Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project-site inspection and assistance at no additional cost.

C. Source Limitations: Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.

D. Preconstruction Testing Service: Contractor shall engage a qualified independent testing agency to test the following. Provide test specimens and assemblies as indicated.

1. Replacement Brick: For each proposed type of replacement brick, according to sampling and testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).
2. Existing Brick: For each type of existing brick indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, (24) hour cold-water absorption, (5) hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove existing bricks from locations designated by Designer.

E. Mockups: Prepare mockups of restoration and cleaning as follows to demonstrate aesthetic effects and qualities of materials and execution. Prepare mockups on existing walls under same weather conditions to be expected during remainder of the Work.

1. Repair an area approximately (36) inches high by (48) inches wide for each type of masonry material indicated to be rebuilt or replaced.
2. Patch three small areas at least (1) inch in diameter for each type of masonry material indicated to be patched.
3. Clean an area approximately 25 sq. ft. in area for each type of clay masonry and surface condition.
    a. Test cleaners and methods on samples of adjacent materials for possible adverse reactions unless cleaners and methods are known to have deleterious effect.
    b. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.
4. Rake out joints in two separate areas approximately (36) inches high by (72) inches wide for each type of repointing required and repoint one of the two areas.

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons.

B. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

E. Store lime putty covered with water in sealed containers.

F. Store sand where grading and other required characteristics can be maintained and contamination avoided. Sand shall not be stored in contact with the ground or pavement and shall be protected from precipitation.

1.7 PROJECT CONDITIONS

A. Repoint mortar joints and repair masonry only when air temperature is between and 40 and 90 degrees Fahrenheit and is predicted to remain so for at least (7) days after completion of work.

B. Cold-Weather Requirements: Comply with the following procedures for masonry repair and mortar-joint pointing:

1. When air temperature is below 40 degrees Fahrenheit, heat mortar ingredients, masonry repair materials, and existing masonry walls to produce temperatures between 40 and 120 degrees Fahrenheit.
2. When mean daily air temperature is below 40 degrees Fahrenheit, provide enclosure and heat to maintain temperatures above 32 degrees Fahrenheit within the enclosure for (7) days after repair and pointing.

C. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90 degrees Fahrenheit and above.

D. Patch masonry only when air and surface temperatures are between and 55 and 100 degrees Fahrenheit and are predicted to remain above 55 degrees Fahrenheit for at least (7) days after completion of work. On days when air temperature is predicted

to go above 90 degrees Fahrenheit, schedule patching work to coincide with time that surface being patched will be in shade or during cooler morning hours.

E. Clean masonry surfaces only when air temperature is 40 degrees Fahrenheit and above and is predicted to remain so for at least (7) days after completion of cleaning.

1.8 SEQUENCING AND SCHEDULING

A. Order replacement materials at earliest possible date, to avoid delaying completion of the Work.

B. Order sand for repointing mortar immediately after approval of [Samples] [mockups]. Take delivery of and store at Project site a sufficient quantity of sand to complete Project.

C. Perform masonry restoration work in the following sequence:

1. Remove plant growth.
2. Repair existing masonry, including replacing existing masonry with new masonry materials.
3. Rake out joints that are to be repointed.
4. Point mortar joints.
5. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
6. Remove paint.
7. Clean masonry surfaces.
8. Rake out joints that are to be repointed.
9. Point mortar joints.

D. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units to comply with Part 3 "Masonry Unit Patching" Article. Patch holes in mortar joints to comply with Part 3 "Repointing Masonry" Article.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

A. Face Brick and Accessories: Provide face brick and accessories, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work. Brick shall meet ASTM C216 for face brick.

1. Provide units with colors, surface texture, size, and shape to match existing brickwork and with physical properties not less than those determined from preconstruction testing of selected existing units.

a. For replacement brick at existing building provide brick to match existing as approved by Designer.
b. For existing brickwork that exhibits a range of colors, provide brick that matches that range rather than brick that matches an individual color within that range.

2. Provide units with colors, surface texture, and physical properties to match Designer's sample. Match existing units in size and shape.
   a. For sample that exhibits a range of colors, provide brick that matches that range rather than brick that matches an individual color within that range.
3. Provide specially molded shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
4. Provide specially ground units, shaped to match patterns, for arches and where indicated.

B. Concrete masonry units(CMU): ASTM C90, normal weight, manufactured to dimensions 3/8 inch less than nominal dimensions. Provide standard shapes. Assume 12” wide x 8” tall x 16” long.

2.2 MORTAR MATERIALS

A. Prebagged mortar mixes for Type N mortar, by Sakrete or equal. Prebagged mixes are only acceptable if color and texture match existing mortar. Otherwise, mortar mixes must be prepared using sand, cement, and pigment using materials described below.

B. Portland Cement: ASTM C 150, Type I or Type II.

1. Provide white cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.

C. Hydrated Lime: ASTM C 207, Type S.

D. Quicklime: ASTM C 5, pulverized lime.

E. Factory-Prepared Lime Putty: Screened, fully-slaked lime putty, prepared from pulverized lime complying with ASTM C 5.

F. Mortar Sand: ASTM C 144, unless otherwise indicated.

1. Color: Provide natural sand [or ground marble, granite, or other sound stone]; of color necessary to produce required mortar color.
2. For pointing mortar, provide sand with rounded edges.
3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands, if necessary, to achieve suitable match.

G. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.

H. Water: Potable.

2.3 LINTEL AND FLASHING

A. Steel lintel shall be A36 steel, hot-dipped galvanized, size as called for in details.

B. Through-wall flashing shall include both metal and membrane: 26 ga stainless steel on horizontal leg, turning min. 1” up vertical and forming end dams on each side.

C. Self adhering rubberized asphalt flashing shall be GCP Permabarrier TWF or equal. Terminate top edge with aluminum bar and pins.

2.4 PAINT REMOVERS

A. Alkaline Paste Paint Remover: Manufacturer's standard alkaline paste formulation for removing paint coatings from masonry.

1. Available Products:
    a. American Building Restoration Products, Inc.; 800 Brush Grade.
    b. Diedrich Technologies Inc.; 606/606X Extra Thick Multi-Layer Paint Remover.
    c. Hydrochemical Techniques, Inc.; Hydroclean Heavy Duty Paint Remover (HT-716).
    d. Price Research, Ltd.; Price Heavy Duty Paint Stripper.
    e. ProSoCo; Sure Klean Heavy-Duty Paint Stripper.
    f. Or equal.

B. Covered or Skin-Forming Alkaline Paint Remover: Manufacturer's standard covered or skin-forming alkaline formulation for removing paint coatings from masonry.

1. Available Products:
    a. American Building Restoration Products, Inc.; Grip 'N Strip 800 F.A.
    b. Diedrich Technologies Inc.; 404 Rip-Strip.
    c. Dumond Chemicals, Inc.; Peel Away 1 System.
    d. ProSoCo; Enviro Strip #2.
    e. Or equal.

C. Solvent-Type Paint Remover: Manufacturer's standard water-rinsable, solvent-type gel formulation for removing paint coatings from masonry.

1. Available Products:
    a. American Building Restoration Products, Inc.; No. 3 Grip 'N Strip.

b. Diedrich Technologies Inc.; 505 Special Coatings Stripper.
c. Dominion Restoration, Inc.; Dominion Multi-Layer Paint & Graffiti Remover.
d. Dumond Chemicals, Inc.; Peel Away 2.
e. Hydrochemical Techniques, Inc.; Hydroclean Solvent Paint Remover (HT-300).
f. Price Research, Ltd.; Price Strip-All.
g. ProSoCo; Sure Klean Fast Acting Paint Stripper.
h. Or equal.

D. Low-Odor, Solvent-Type Paint Remover: Manufacturer's standard low-odor, water-rinsable solvent-type gel formulation, containing no methanol or methylene chloride, for removing paint coatings from masonry.

1. Available Products:
a. American Building Restoration Products, Inc.; 800 No Lye Grip 'N Strip.
b. Dumond Chemicals, Inc.; Peel Away 6.
c. ProSoCo; Enviro Klean NMC.
d. Or equal.

2.5 CLEANING MATERIALS

A. Water for Cleaning: Potable.

B. Hot Water: Heat water to a temperature of 140 to 160 degrees Fahrenheit.

C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of trisodium phosphate (TSP), 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.

D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of triodium phosphate (TSP), 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gal. of solution required.

E. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents and chelating agents and is specifically formulated for cleaning masonry surfaces.

1. Available Products:
a. Price Research, Ltd.; Price Marble Cleaner-Gel.
b. ProSoCo; Sure Klean 942 Masonry Cleaner.
c. Or equal.

F. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.

1. Available Products:
    a. Dominion Restoration, Inc.; Bio-Cleanse.
    b. Dumond Chemicals, Inc.; Safe n' Easy Architectural Cleaner/Restorer.
    c. Price Research, Ltd.; Price Non-Acid Masonry Cleaner.
    d. ProSoCo; Enviro Klean Restoration Cleaner.
    e. Or equal.

G. Mild Acidic Cleaner: Manufacturer's standard mildly acidic cleaner containing no hydrochloric, hydrofluoric, or sulfuric acid; or chlorine bleaches.

1. Available Products:
    a. Diedrich Technologies Inc.; Envirorestore 100.
    b. Dominion Restoration, Inc.; DR-60 Stone and Masonry Cleaner.
    c. Dumond Chemicals, Inc.; Safe n' Easy Heavy Duty Restoration Cleaner.
    d. ProSoCo; Sure Klean Light-Duty Restoration Cleaner.
    e. Or equal.

H. Acidic Cleaner: Manufacturer's standard acidic masonry restoration cleaner composed of hydrofluoric acid blended with other acids, detergents, wetting agents, and inhibitors.

1. Available Products:
    a. American Building Restoration Products, Inc.; 801 Heavy Duty Masonry Cleaner.
    b. Diedrich Technologies Inc.; 101 Masonry Restorer.
    c. Hydrochemical Techniques, Inc.; Hydroclean Brick, Granite, Sandstone and Terra Cotta Cleaner (HT-626).
    d. ProSoCo; Sure Klean Heavy-Duty Restoration Cleaner, Sure Klean 1028 Restoration Cleaner or Sure Klean Restoration Cleaner.
    e. Or equal.

I. Two-Part Chemical Cleaner: Manufacturer's standard system consisting of potassium or sodium hydroxide based, alkaline prewash cleaner and acidic afterwash cleaner that does not contain hydrofluoric acid.

1. Available Products:
    a. ProSoCo; Sure Klean 766 Limestone & Masonry Prewash and Afterwash.

2.6 MISCELLANEOUS MATERIALS

A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry, is vapor- and water permeable, exhibits low shrinkage, and develops high bond strength to all types of masonry.

1. Formulate patching compound used for patching brick in colors and textures to match brick being patched. Provide number of colors needed to enable matching each brick.
2. Available Products:
   a. Cathedral Stone Products, Inc.; Jahn Restoration Mortar.
   b. Edison Coatings, Inc.; Custom System 45.
   c. Or equal.

B. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.

1. Available Products:
   a. American Building Restoration Products, Inc.; LM 130 Acid Shield.
   b. Diedrich Technologies Inc.; Diedrich Acid Guard.
   c. Price Research, Ltd.; Price Mask.
   d. ProSoCo; Sure Klean Strippable Masking.
   e. Or equal.

C. Masonry Repair Anchors, Expansion Type: Mechanical fasteners designed for masonry veneer stabilization consisting of 1/4-inch- diameter, Type 316 stainless-steel rod with brass expanding shells at each end and water-shedding washer in the middle. Expanding shells shall be designed to provide positive mechanical anchorage to veneer on one end and backup masonry on the other.

1. Available Products:
   a. BLOK-LOK Limited; Torq-Lok.
   b. Dur-O-Wal, a division of Dayton Superior; Dur-O-Wal Repair Anchor.
   c. Hohmann & Barnard, Inc.; #521RA-B Restoration Anchor.
   d. Or equal.

D. Masonry Repair Anchors, Spiral Type: Type 304 stainless-steel spiral rods designed to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.

1. Provide adhesive-installed anchors complete with manufacturer's standard epoxy adhesive and injection tubes, screens, sleeves, or other devices required for installation.
2. Provide driven-in anchors designed to be installed in drilled holes and relying on screw effect rather than adhesive to secure them to backup and veneer.
3. Available Products:
   a. Dur-O-Wal, a Dayton Superior Company; Dur-O-Flex.
   b. Heckmann Building Products, Inc.; #391 Spiro Remedial Tie.
   c. Helifix Ltd.; Helifix HRT60 or Helifix HRT80.
   d. Hohmann & Barnard, Inc.; Helix Spiro-Ties.

e. Or equal.

2.7 MORTAR MIXES

A. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix to ASTM C 5 and manufacturer's written instructions.

B. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.

1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

C. Colored Mortar: Produce mortar of color required by using selected ingredients. Do not alter specified proportions without Designer's approval.

1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.

D. Do not use admixtures of any kind in mortar, unless otherwise indicated.

E. Mortar Proportions: Mix mortar materials in the following proportions:

1. Pointing Mortar for Brick: 1 part portland cement, 2 parts lime, and 6 parts sand.
   a. Add mortar pigments to produce mortar colors required.
2. Rebuilding (Setting) Mortar: Comply with ASTM C 270, Proportion Specification, Type N, unless otherwise indicated; with cementitious material content limited to portland cement and lime.

2.8 CHEMICAL CLEANING SOLUTIONS

A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical cleaner manufacturer.

B. Acidic Cleaner Solution for Brick: Dilute with water to produce hydrofluoric acid content of 3 percent or less, but not greater than that recommended by chemical cleaner manufacturer.

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.

1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.

B. Comply with chemical cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.

1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
2. Keep wall wet below area being cleaned to prevent streaking from runoff.
3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
4. Neutralize and collect alkaline and acid wastes for disposal off Agency's property.
5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

C. Prevent mortar from staining face of surrounding masonry and other surfaces.

1. Cover sills, ledges, and projections to protect from mortar droppings.
2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
3. Immediately remove mortar in contact with exposed masonry and other surfaces.
4. Clean mortar splatters from scaffolding at end of each day.

3.2 UNUSED ANCHOR REMOVAL

A. Remove masonry anchors, brackets, wood nailers, and other extraneous items no longer in use unless identified as historically significant or indicated to remain.

1. Remove items carefully to avoid spalling or cracking masonry.
2. If item cannot be removed without damaging surrounding masonry, cut off item flush with surface and core drill surrounding masonry and item as close around item as practical.
3. Patch holes where items were removed unless directed to remove and replace units.

3.3 LINTEL REPLACEMENT

A. Where called for on drawings, replace entire lintel assembly, including lintel, sheetmetal flashing, self-adhered flashing, and brick to match. Provide two weeps per lintel. Form end dam in flashing on each side.

3.4 BRICK REMOVAL AND REPLACEMENT

A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.

1. When removing single bricks, remove material from center of brick and work toward outside edges.

B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

C. Notify Designer of unforeseen detrimental conditions including voids, cracks, bulges, and loose masonry units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.

D. Remove in an undamaged condition as many whole bricks as possible.

1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
2. Store brick for reuse, as indicated.
3. Deliver cleaned brick not required for reuse to Agency, unless otherwise directed.

E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

F. Install replacement brick into bonding and coursing pattern of existing brick, match existing mortar joints for size. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.

G. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement

and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min.. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid. Maintain joint width for replacement units to match existing joints.

1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
2. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.

3.5 REANCHORING VENEERS

A. Install masonry repair anchors in horizontal mortar joints and according to manufacturer's written instructions. Install at not more than 16 inches o.c. vertically and 32 inches o.c. horizontally, unless otherwise indicated. Install at locations to avoid penetrating flashing.

B. Recess anchors at least 5/8 inch from surface of mortar joint and fill recess with pointing mortar.

3.6 MASONRY UNIT PATCHING

A. Patch the following masonry units:

1. Units indicated to be patched.
2. Units with holes.
3. Units with chipped edges or corners.
4. Units with small areas of deep deterioration.

B. Remove and replace existing patches, unless otherwise indicated or approved by Designer.

C. Patching Bricks:

1. Remove loose material from brick surface. Remove additional material so patch will not have feathered edges and will be at least 1/4 inch thick, but not less than recommended by patching compound manufacturer.
2. Mask or remove surrounding mortar joints if patch will extend to edge of brick.
3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
4. Rinse surface to be patched and leave damp, but without standing water.

5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surface plane of surrounding brick. Shape and finish surface before or after curing, as determined by testing, to best match existing brick.
8. Keep each layer damp for 72 hours or until patching compound has set.

3.7 CLEANING MASONRY, GENERAL

A. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other.

B. Use only those cleaning methods indicated for each masonry material and location.

1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
   a. Equip units with pressure gages.
3. For chemical cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
4. For water spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
5. For high-pressure water spray application, use fan-shaped spray tip that disperses water at an angle of at least 40 degrees.
6. For heated water spray application, use equipment capable of maintaining temperature between 140 and 160 degrees F at flow rates indicated.
7. For steam application, use steam generator capable of delivering live steam at nozzle.

C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.

D. Removing Plant Growth: Completely remove plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.

E. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.

1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
2. Remove paint and calking with alkaline paint remover.
   a. Comply with requirements for paint removal.
   b. Repeat application up to two times if needed.
3. Remove asphalt and tar with solvent-type paint remover.
   a. Apply only to asphalt and tar by brush without prewetting.
   b. Allow paint remover to remain on surface for 10 to 30 minutes.
   c. Rinse off with [cold] [hot] water using low-pressure spray.
   d. Repeat application if needed.

F. Water Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

G. Steam Wash: Apply steam to masonry surfaces at pressures not exceeding 80 psi. Hold nozzle at least 6 inches from surface of masonry and apply steam in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

H. Chemical Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical cleaner manufacturer's written instructions; use brush or spray application methods, at Contractor's option. Do not spray apply at pressures exceeding 50 psi. Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.

I. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.

1. Apply neutralizing agent and repeat rinse, if necessary, to produce tested pH of between 6.7 and 7.5.

J. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.8 PAINT REMOVAL

A. Paint Removal with Alkaline Paste Paint Remover:

1. Apply paint remover to dry, painted masonry with brushes.
2. Allow paint remover to remain on surface for period recommended by manufacturer.
3. Rinse with water applied by low-pressure spray to remove chemicals and paint residue.
4. Repeat process, if necessary, to remove all paint.
5. Apply acidic cleaner to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner remain on surface for period recommended by chemical cleaner manufacturer.
6. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.

B. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:

1. Apply paint remover to dry, painted masonry with trowel, spatula, or as recommended by manufacturer.
2. Apply cover, if required by manufacturer, per manufacturer's written instructions.
3. Allow paint remover to remain on surface for period recommended by manufacturer or as determined in test panels.
4. Scrape off paint and remover and collect for disposal.
5. Rinse with water applied by low-pressure spray to remove chemicals and paint residue.
6. Use alkaline paste paint remover according to "Paint Removal with Alkaline Paste Paint Remover" Paragraph, if necessary, to remove remaining paint.
7. Apply acidic cleaner to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner remain on surface for period recommended by chemical cleaner manufacturer.
8. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.

C. Paint Removal with Solvent-Type Paint Remover:

1. Apply thick coating of paint remover to painted masonry with natural-fiber cleaning brush, deep-nap roller, or large paint brush.
2. Allow paint remover to remain on surface for period recommended by manufacturer. Agitate periodically with stiff-fiber brush.
3. Rinse with cold water applied by low-pressure spray to remove chemicals and paint residue.

3.9 CLEANING BRICKWORK

A. Cold-Water Wash: Use cold water applied by low-pressure spray.

B. Cold Water Soak:

1. Apply cold water by intermittent soaking.
2. Use perforated hoses or other means that will apply a fine water mist to entire surface being cleaned.
3. Apply water in cycles with at least 30 minutes between cycles.
4. Continue water application until surface encrustation has softened sufficiently to permit its removal by water wash, as indicated by cleaning tests.
5. Remove soil and softened surface encrustation from masonry with cold water applied by low-pressure spray.

C. Hot-Water Wash: Use hot water applied by low-pressure spray.

D. Steam Cleaning: Apply steam at pressures not exceeding 80 psi.

E. Detergent Cleaning:

1. Wet masonry with water applied by low-pressure spray.
2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.
3. Rinse with water applied by low-pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

F. Mold, Mildew, and Algae Removal:

1. Wet masonry with water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
4. Rinse with water applied by low-pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

G. Nonacidic Gel Chemical Cleaning:

1. Wet masonry with water applied by low-pressure spray.
2. Apply nonacidic gel cleaner in 1/8-inch thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively so area will be uniformly covered with fresh cleaner and dwell time will be uniform throughout area being cleaned.

3. Let cleaner remain on surface for period indicated below:
    a. As recommended by chemical cleaner manufacturer.
    b. As established by mockup.
4. Remove bulk of nonacidic gel cleaner by squeegeeing into containers for disposal.
5. Rinse with water applied by low-pressure spray to remove chemicals and soil.
6. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.

H. Nonacidic Liquid Chemical Cleaning:

1. Wet masonry with water applied by low-pressure spray.
2. Apply cleaner to masonry in two applications by brush. Let cleaner remain on surface for period indicated below:
    a. As recommended by chemical cleaner manufacturer.
    b. As established by mockup.
    c. Two to three minutes.
3. Rinse with water applied by low-pressure spray to remove chemicals and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.

I. Mild Acidic Chemical Cleaning:

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply cleaner to masonry in two applications by brush [or low-pressure spray. Let cleaner remain on surface for period indicated below:
    a. As recommended by chemical cleaner manufacturer.
    b. As established by mockup.
    c. Two to three minutes.
3. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam wash.

3.10 REPOINTING MASONRY

A. Rake out and repoint mortar joints to the following extent:

1. All joints in areas indicated.
2. Joints where mortar is missing or where they contain holes.
3. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch thick.

4. Cracked joints where cracks are 1/8 inch or more in width and of any depth.
5. Joints where they sound hollow when tapped by metal object.
6. Joints where they are worn back 1/4 inch or more from surface.
7. Joints where they are deteriorated to point that mortar can be easily removed by hand.
8. Joints, other than those indicated as sealant-filled joints, where they have been filled with substances other than mortar.

B. Do not rake out and repoint joints where not required.

C. Rake out joints as follows:

1. Remove mortar from joints to depth of 2 times joint width, but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Designer.
    a. Cut out mortar by hand with chisel and mallet. Do not use power-operated grinders without Designer's written approval based on submission by Contractor of a satisfactory quality-control program and demonstrated ability of operators to use tools without damaging masonry. Quality-control program shall include provisions for supervising performance and preventing damage due to worker fatigue.
    b. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar by hand with chisel and mallet. Strictly adhere to written quality-control program. Quality-control program shall include provisions for demonstrating ability of operators to use tools without damaging masonry, supervising performance, and preventing damage due to worker fatigue.

D. Notify Designer of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.

E. Point joints as follows:

1. Rinse masonry-joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen masonry-joint surfaces before pointing.
2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.

3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar over edges onto exposed masonry surfaces or to featheredge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints. Remove excess mortar from edge of joint by brushing.

F. Cure mortar by maintaining in thoroughly damp condition for at least 72 hours including weekends and holidays.

1. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
2. Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.

G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.11 FIELD QUALITY CONTROL

A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.12 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.

1. Do not use metal scrapers or brushes.
2. Do not use acidic or alkaline cleaners.

B. Wash adjacent woodwork and other nonmasonry surfaces. Use detergent and soft brushes or cloths.

C. Clean masonry debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

D. Sweep and rake adjacent pavement and grounds to remove masonry debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt, and stains.

END OF SECTION

SECTION 071613

ELASTOMERIC WATERPROOFING

(Part of Work of Prime Certified in Masonry and Waterproofing))

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. At the bus storage/wash/fuel building, after CMU wall is repaired, apply two coats of elastomeric waterproofing on exterior of wall facing I-91.

2. At the maintenance building, apply elastomeric coating where called for on drawings-previously coated cast stone on Main Street and other elevations.

B. Alternates: Bus Wash/Storage Building: To add coating of CMU walls on east elevation.

C. Items To Be Installed Only: Not Applicable.

D. Items To Be Furnished Only: Not Applicable.

E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 042000 - UNIT MASONRY for preparing concrete unit masonry walls to receive waterproofing.
2. Section 079200 - JOINT SEALANTS for elastomeric sealants in concrete and masonry walls.

1.3 SUBMITTALS

A. Product Data: Include construction details, and material descriptions and installation instructions for modified cement waterproofing.

B. Qualification Data: For Installer.

C. Reports: Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm experienced in applying polymer-modified cement waterproofing similar in material, design, and extent to that indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and that employs workers trained and approved by manufacturer.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.5 PROJECT CONDITIONS

A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit modified cement waterproofing to be performed according to manufacturer's written instructions and warranty requirements.

B. Proceed with waterproofing work only after pipe sleeves, vents, curbs, inserts, drains, and other projections through the substrate to be waterproofed have been completed. Proceed only after concrete and masonry substrate defects, including honeycombs, voids, and cracks, have been repaired to provide a sound substrate free of forming materials, including reveal inserts.

C. Ambient Conditions: Proceed with waterproofing work only if temperature is maintained at 40 degrees F or above during work and cure period, and space is well ventilated and kept free of water.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of polymer-modified cement waterproofing that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Failure to maintain watertight conditions within specified warranty period.
    b. Bond failure.

2. Warranty Period: Five years from the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Positive-Side, elastomeric waterproofing:
   a. Conproco Corp.; Conprolastic
   b. Sika; Sikalastic
   c. Or equal.

2.2 MATERIALS

A. Prepackaged, Elastomeric liquid waterproofing: Manufacturer's blend of elastomerics and other ingredients to produce a waterproof coating that is suitable for vertical applications above grade, is breathable, and has properties meeting or exceeding the criteria specified below.

1. Color: Manufacturer’s standard gray.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Acceptance of Conditions: Examine substrates, with Applicator present, where waterproofing is to be applied.

1. Proceed with application only after unsatisfactory conditions have been corrected.
2. Notify Designer in writing of active leaks or structural defects that would affect system performance.

3.2 PREPARATION

A. Protect other work from damage from cleaning, preparation, and application of waterproofing. Provide temporary enclosure to confine spraying operation, and to ensure adequate ambient temperatures and ventilation conditions for application.

B. Do not allow waterproofing, patching, and plugging materials to enter reveals or annular spaces intended for resilient sealants or gaskets, such as joint spaces between pipes and pipe sleeves.

C. Stop active water leaks according to waterproofing manufacturer's written instructions.

D. Repair damaged or unsatisfactory substrate with patching compounds, according to manufacturer's written instructions.

E. Surface Preparation: Comply with waterproofing manufacturer's written instructions to remove efflorescence, chalk, dust, dirt, mortar spatter, grease, oils, paint, curing compounds, and form-release agents to ensure that waterproofing bonds to concrete or masonry surfaces.

1. Clean concrete surfaces according to ASTM D 4258.

a. Scratch- and Float-Finished Concrete: Etch with 10 percent muriatic (hydrochloric) acid solution according to ASTM D 4260.

2. Clean concrete masonry unit (CMU) surfaces according to ASTM D 4261.

a. Medium- and Normal-Weight Concrete Masonry: Use stiff bristle brush and compressed air to remove dust and loose materials on surface.

3. Clean clay masonry surfaces according to ASTM D 5703.

3.3 APPLICATION

A. General: Comply with waterproofing manufacturer's written instructions for application and curing.

1. Apply waterproofing to exterior surfaces.
2. Apply first coat with brush or roller, and subsequent coats with brush, roller, or spray to specified surface finish.
3. Vigorously work first coat onto the substrate, forcing the material into surface voids. Apply each subsequent coat into full contact with previous coat.
4. Allow manufacturer's recommended time between coats. .
5. Total Thickness: Meet manufacturer’s specified thickness.

B. Final Coat Finish: With sand.

C. Curing: Air-cure waterproofing between coats and after finish coat..

3.4 FIELD QUALITY CONTROL

A. Independent Testing Agency: Cooperate with the Independent Testing Agency engaged by PVTA for field quality control activities for the Work of this Section. Refer also to Section 014325 - TESTING AGENCY SERVICES.

B. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.5 PROTECTION

A. Protect applied waterproofing from rapid drying, severe weather exposure, and water accumulation.

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Sheet metal flashing and trim for the following applications:
    a. Formed through-wall flashing at new lintels.
    b. Repair of existing metal panels.

B. Items To Be Installed Only: Not Applicable.

C. Items To Be Furnished Only: Not Applicable.

D. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 014339 - MOCKUPS

1.3 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to provide a weathertight condition and to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, warping, waving, buckling, fastener distortion, and fastener disengagement.

B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result

of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 degrees Fahrenheit, ambient; 180 degrees Fahrenheit material surfaces.

C. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior or interior side of flashing.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:

1. Identify material, thickness, weight, finish and color for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Flashing: 12 inches long. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim: 12 inches long. Include fasteners and other exposed accessories.
3. Accessories: Full-size Sample.

1.5 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1. Meet with the PVTA Project Manager, Designer, User Agency's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.
2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload and inspect materials for damage, dampness, and wet-storage stains upon delivery to the site. Do no accept materials with any of these defects., Handle, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage of the materials.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering, and sloped to shed water. Do not store sheet metal flashing and trim materials in contact with other materials that might cause corrosion, staining, denting, or other surface damage.

1.7 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation. Coordinate with other trades to allow for timely progress of construction.

B. The sheet metal mechanic is responsible for cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades.

PART 2 - PRODUCTS

2.1 LINTEL FLASHING

A. Provide shop-formed 26 ga stainless steel sheet metal to cover horizontal leg of lintel and form drip in front of lintel toe. Extend metal up vertical leg 3” minimum. Form end dams at each end of flashing, extending up into vertical masonry joint.

2.2 SHEET METALS

A. For lintel flashing: Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, with No. 2D dull, cold rolled finish. Thickness as specified in this Section.

B. For panel repairs: Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005. Thickness as specified in this Section. Temper suitable for forming and structural performance required, but not less than H14, finished as follows:

1. High-Performance Organic Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
   a. Fluoropolymer 3-Coat System: Manufacturer's standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight, with a minimum total dry film thickness of 1.5 mil; complying with AAMA 2605.
      1) Color and Gloss: As selected by Designer from manufacturer’s full range, including metallics.

2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads. Fasteners should be of the same metal or a metal compatible with the item fastened. Use stainless steel fasteners to fasten dissimilar materials.
   1. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
   2. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

C. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.

D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, nonstaining tape.

E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Isolation Coating: ASTM D 1187, cold-applied asphalt emulsion, VOC compliant, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.4 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.

D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" for application but not less than thickness of metal being secured.

2.5 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with isolation coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

1. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.

2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip-sheet or install a course of polyethylene underlayment.
3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks. Fold back the exposed edges neatly to form a 1/2 inch hem on the concealed side.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant. Seams shall be uniform in width and height.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
2. Aluminum: Use aluminum or stainless steel fasteners.
3. Stainless Steel: Use stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 degrees Fahrenheit set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 degrees Fahrenheit.
2. Prepare joints and apply sealants to comply with requirements in Section 079200 - JOINT SEALANTS.

I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.

1. Do not solder aluminum sheet.
2. Stainless-Steel Soldering: Pretin edges of uncoated sheets to be soldered using solder recommended for stainless steel and phosphoric acid flux. Promptly wash off acid flux residue from metal after soldering.
3. Do not use open-flame torches for soldering. Heat surfaces to receive solder and flow solder into joints. Fill joints completely. Completely remove flux and spatter from exposed surfaces.

J. Aluminum Flashing: Rivet or weld joints in uncoated aluminum where necessary for strength. Do not allow aluminum surfaces in direct contact with other metals except stainless steel, zinc, or zinc coating. Where aluminum contacts another metal, paint the dissimilar metal with a primer followed by two coats of aluminum paint. Where drainage from a dissimilar metal passes over aluminum, paint the dissimilar metal with a non-lead pigment paint.

3.3 FIELD QUALITY CONTROL

A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.4 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 sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

D. Repair scratches, abrasions, blemishes, variations in color and texture, and minor surface defects in the finish in accordance with the manufacturer’s written instructions.

E. Replace sheet metal flashing and trim that have been damaged or discolored or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Sheet metal flashing and trim for the following applications:
    a. At Admin/Maintenance Building: Formed stainless steel through-wall flashing at new lintels.
    b. At Bus Wash/Storage Building: Repair of existing metal panels by overplating with matching aluminum sheet.

B. Items To Be Installed Only: Not Applicable.

C. Items To Be Furnished Only: Not Applicable.

D. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 014339 - MOCKUPS

1.3 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to provide a weathertight condition and to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, warping, waving, buckling, fastener distortion, and fastener disengagement.

B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation,

overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 degrees Fahrenheit, ambient; 180 degrees Fahrenheit material surfaces.

C. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior or interior side of flashing.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:

1. Identify material, thickness, weight, finish and color for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Flashing: 12 inches long. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim: 12 inches long. Include fasteners and other exposed accessories.
3. Accessories: Full-size Sample.

1.5 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1. Meet with the PVTA Project Manager, Designer, User Agency's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.
2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload and inspect materials for damage, dampness, and wet-storage stains upon delivery to the site. Do no accept materials with any of these defects., Handle, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage of the materials.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering, and sloped to shed water. Do not store sheet metal flashing and trim materials in contact with other materials that might cause corrosion, staining, denting, or other surface damage.

1.7 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation. Coordinate with other trades to allow for timely progress of construction.

B. The sheet metal mechanic is responsible for cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades.

PART 2 - PRODUCTS

2.1 LINTEL FLASHING

A. Provide shop-formed 26 ga stainless steel sheet metal to cover horizontal leg of lintel and form drip in front of lintel toe. Extend metal up vertical leg 3” minimum. Form end dams at each end of flashing, extending up into vertical masonry joint.

2.2 SHEET METALS

A. For lintel flashing: Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, with No. 2D dull, cold rolled finish. Thickness as specified in this Section.

B. For panel repairs: Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005. Thickness as specified in this Section. Temper suitable for forming and structural performance required, but not less than H14, finished as follows:

1. High-Performance Organic Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    a. Fluoropolymer 3-Coat System: Manufacturer's standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight, with a minimum total dry film thickness of 1.5 mil; complying with AAMA 2605.
        1) Color and Gloss: As selected by Designer from manufacturer’s full range, including metallics.

2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads. Fasteners should be of the same metal or a metal compatible with the item fastened. Use stainless steel fasteners to fasten dissimilar materials.
    1. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.

2. For panel repairs: Blind Fasteners: High-strength aluminum or stainless-steel rivets, matching panel color.

C. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.

D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, nonstaining tape.

E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Isolation Coating: ASTM D 1187, cold-applied asphalt emulsion, VOC compliant, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.4 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.

D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" for application but not less than thickness of metal being secured.

2.5 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with isolation coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

1. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip-sheet or install a course of polyethylene underlayment.
3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks. Fold back the exposed edges neatly to form a 1/2 inch hem on the concealed side.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant. Seams shall be uniform in width and height.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
2. Aluminum: Use aluminum or stainless steel fasteners.
3. Stainless Steel: Use stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 degrees Fahrenheit set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 degrees Fahrenheit.
2. Prepare joints and apply sealants to comply with requirements in Section 079200 - JOINT SEALANTS.

I. Panel Repairs: Set sheetmetal in butyl sealant and secure with colored blind cleats at perimeter.

3.3 FIELD QUALITY CONTROL

A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.4 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 sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

D. Repair scratches, abrasions, blemishes, variations in color and texture, and minor surface defects in the finish in accordance with the manufacturer’s written instructions.

E. Replace sheet metal flashing and trim that have been damaged or discolored or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 079200

JOINT SEALANTS

(Part of Work of Prime certified in masonry and waterproofing)

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Joint sealants and fillers.

2. At Admin/Maintenance Building: Seal window and door perimeters. Note: some sealant contains asbestos and must be removed by abatement contractor. Cut and seal control joints.

3. At Bus Wash/Storage Building: Seal CMU control joints on West elevation. Seal window and door perimeters. Note: some sealant contains asbestos and must be removed by abatement contractor.

B. Alternate #1: At Bus Wash/Storage building: Add control joints on east elevation.

C. Items To Be Installed Only: Not Applicable.

D. Items To Be Furnished Only: Not Applicable.

E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 040120 - MASONRY Restoration and Cleaning.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

C. Install sealant joints such that the sealant develops adhesion with the substrate on two sides. The sealant shall not have three-sided adhesion at any joint location.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

C. Qualification Data: For Installer.

D. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.

E. 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.

F. Field Test Report Log: For each elastomeric sealant application.

G. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. 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 manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

a. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
b. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with joint sealant backing and glazing and gasket materials.

2. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
3. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
4. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on recent previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

D. Preconstruction Field-Adhesion Testing: Before installing elastomeric 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 Designer.
2. Conduct field tests for each application indicated below:

a. Each type of elastomeric sealant and joint substrate indicated.
b. Each type of nonelastomeric sealant and joint substrate indicated.

3. Notify Designer seven days in advance of dates and times when test joints will be erected.

a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193.

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.

4. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
5. 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.

E. Provide joint tolerances in accordance with the manufacturer’s written instructions.

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

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 degrees F
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric 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 the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from from the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.

C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:

1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
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 sealant manufacturer, based on testing and field experience.

B. Colors of Exposed Joint Sealants: As indicated by manufacturer's designations.

2.2 JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Elastomeric sealants shall be nonstaining to porous substrates. Provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Single-Component Neutral-Curing Silicone Sealant:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

a. Dow Corning Corporation; 790.
b. GE Silicones; SilPruf LM SCS2700.
c. Bondaflex Technologies Sil 290
d. Pecora Corporation; 864.
e. Tremco Inc.; Spectrem 1.
f. Or equal.

2. Extent of Use: Joints in exterior vertical and soffit surfaces.

2.3 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type B (bicellular material with a surface skin) or other type, 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 the back or the base of the joint, where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 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. Remove loose mill scale from steel surfaces by sandblasting, or scraping and wire brushing where sandblasting is impractical. Remove protective coatings from the steel surface and residue on the steel.
3. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming

or blowing out joints with oil-free compressed air. Porous joint substrates include concrete, masonry and unglazed surfaces of ceramic tile.

4. Remove laitance and form-release agents from concrete.
5. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following metal, glass, porcelain enamel and glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of joint primer or sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape to surfaces not intended to bond with the sealant in accordance with the manufacturer’s recommendation.

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.
4. Provide sealant joints with minimum depth and width of 1/4 inch, and an appropriate depth to width ratio for the given application.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not damage or discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Independent Testing Agency: Cooperate with the Independent Testing Agency engaged by PVTA for field quality control activities for the Work of this Section.

B. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

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.

B. If sealant is accidentally applied to masonry or other porous surfaces in the vicinity of the work, remove with solvent in accordance with the manufacturer’s written instructions. For excess sealant installed on masonry and other porous surfaces at the joint, allow sealant to cure for 24 hours and remove by wire brushing or sanding. Remove any debris resulting from this process. For excess sealant installed on metal and other non-porous surfaces, remove the excess sealant with a solvent moistened cloth and remove solvent residue in accordance with the manufacturer’s recommendations.

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, damage or discoloration at time of Substantial Completion. If, despite such protection, damage, discoloration or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION

SECTION 099000
PAINTING AND COATING

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes surface preparation and field painting of the following:
The work shall consist of surface cleaning, priming and painting of steel doors and frames, steel corner guards, and exposed areas of steel lintels at windows, doors, and overhead doors.

1.02 SUBMITTALS

A. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application.
B. Manufacturer's Information: Provide manufacturer's technical information, including instructions for handling, storing, and applying each coating material proposed for use.
C. Certification: Provide information that the manufacturer’s products supplied for this project comply with specified VOC product content and local regulations controlling use of volatile organic compounds.
D. Samples for Initial Selection: Provided color charts showing the full range of colors available for each type of finish-coat material indicated.
E. Samples for Verification: Provide stepped Samples, defining each separate coat, Use representative colors when preparing a job site mock-up for review. Resubmit until required sheen, color, and texture is achieved.
F. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.03 QUALITY ASSURANCE

A. The Contractor shall give the Architect/Engineer and coatings manufacturer a minimum of three days advance notice of the start of any field surface preparation work or coating application work.
B. Contractor Qualification: The contractor must provide detailed background information demonstrating their capabilities and experience with projects of similar size and scope. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
C. Equipment: All equipment for application of the coating and the completion of the work shall be furnished by the Contractor in first-class condition and shall comply with recommendations of the coating manufacturer. The Contractor must use hoses for the airless spray equipment that are dedicated to spraying water-based paint.

1.04 SAFETY AND HEALTH REQUIREMENTS

A. In accordance with requirements of OSHA Safety and Health Standards for Construction (29 CFR 1926) and the applicable requirements of regulatory agencies having jurisdiction, as well as manufacturer's printed instructions, technical bulletins, manuals, and material safety data sheets, the Contractor shall provide and require use of personal protective and safety equipment for persons working in or about the project site.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the Project Site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
   1. Product name and Product MSDS sheets.
   2. Product description (generic classification or binder type).
   3. Manufacturer's stock number.
   4. Thinning instructions.
   5. Application instructions.
   6. Color name and number.
   7. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45° F (7° C). Maintain containers in use in storage in a clean condition, free of foreign materials and residue.

C. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.06 PROJECT CONDITIONS

A. Apply water-based paints only when the air and surface temperature is 45° F min. and rising for 24 hours.

B. Do not apply water-based paint in snow, rain, fog, or mist; or at temperatures less than 5° F (3° C) above the dew point; or to damp or wet surfaces.

C. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.07 EXTRA MATERIALS

A. Furnish extra paint materials; from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.

B. Quantity: Furnish the Owner with extra paint materials in the quantities indicated below:
   1. Water-Borne Coating, Top Coat: 1 unit (20 kg) of the final color applied.

PART 2 - PRODUCTS

2.01 MATERIAL

A. Paint strippers: CitriStrip Stripping Gel or ProSoCo paint removers: Saf Strip, EnviroKlean SafStrip.

B. All coating materials shall be equal to those manufactured by RD-Coatings, Assesse, Belgium and distributed nationally by RD Coatings USA, Stratford, CT

C. Primer Coat: Rust-preventing acrylic polymer coating shall be RD-Monoguard as manufactured by RD Coatings. The coating shall be a one part, acrylic, water borne, rust-preventing, self-priming coating which can be applied either by brush, roller or airless spray equipment. The coating shall be dry fall. The coating shall form a seamless anti-rust barrier. The coating shall not break down from exposure to long-term weathering or ultra-violet radiation. Volatile organic compounds shall be 45 g/l. RD-Monoguard is 51-53% solids by weight; 43-45% solids by volume.
D. Finish Coat: RD Monograff HP, one component High Performance Acrylic Polyurethane. 47% solids by weight and 39% solids by Volume. Provide excellent UV protection.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION-PAINT STRIPPING

A. General: Remove all loose existing paint from surfaces to be painted using paint strippers such as CitriStrip or Prosoco paint strippers or other techniques.
B. After removal of loose existing paint, proceed with additional prep as described below.

3.01 SURFACE PREPARATION

C. General: Surfaces to be coated shall be cleaned as required by the coating manufacturer to properly receive prime and finish coats. No surface preparation method shall be used unless acceptable to the coating manufacturer and the Engineer.
D. Pressure Washing: Pressure Wash all surfaces to be coated using a minimum of 4,000 psi to remove accumulated dirt, loose rust and loosely adhered existing paint. The pressure washer shall be fitted with a 0°spinner tip and the steel surfaces cleaned at a distance of 6" to 8" from the surface of the steel and the pressure washer held at a perpendicular angle to the surface being washed. In most cases all paint that remains after pressure washing can be over coated.
E. Power Tool Cleaning: All areas of exposed layered rusted metal shall be power tool cleaned in accordance with SSPC-SP-3 or in difficult and otherwise inaccessible areas by hand tool cleaning in accordance with SSPC-SP-2. Remove any lifted paint left from the pressure washing so the edges of all existing paint are tight. The results of cleaning by this method shall be a clean smooth surface of tightly adhering coating and bare steel with a “tight rust profile”. All surfaces shall be sanded to “degloss” the surface and provide profile for bonding of the primer.
F. After power tool cleaning, rinse the steel surfaces to remove any dust on the surface. Test for chloride contamination (if necessary), remove and re-clean if identified.

3.02 MATERIALS PREPARATION

A. Materials Preparation: Mix and prepare paint materials according to manufacturer’s written instructions.
B. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
C. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
D. Use only thinners approved by paint manufacturer and only within recommended limits.

3.03 COATING APPLICATION

A. Minimum surface and atmospheric conditions:
   1. All steel surfaces must be completely dry. If the surfaces have picked up atmospheric pollutants, dust or airborne contaminants since the steel was pressure washed, it may be necessary to rinse the surface prior to coating application.
   2. Temperature must be 45° F. and rising for application to proceed and the temperature must remain above 45° F for 24 hours when daily high temperatures are in the 50's. At higher temperatures 2 coats can be applied on the same day as long as temperatures above 45 ° F can be expected continuously for 72 hours. The surface temperature of the steel must be between 44 and 110° F. If the relative humidity is above 85% and there is no air movement, consult the Manufacturer's representative before proceeding with any coating application.

B. Coatings shall be applied without runs, sags, thin spots, pinholes or unacceptable marks. Coatings shall be applied at the rate specified by the coating manufacturer to achieve the minimum dry mil thickness required. Additional coats shall be applied, if necessary, to obtain thickness specified.

C. Coatings shall be applied with spraying equipment only. Where thinning is necessary, only the products of the particular manufacturer furnishing the coatings shall be used; and all such thinning shall be done in strict accordance with the manufacturer's instructions, as well as with the full knowledge of the Architect/Engineer.

D. Inspection between coats: the coating Inspector shall inspect each field coat of prime and finish before the succeeding coat is applied. The Contractor shall follow a system of using different colors so that no two coats on a given surface are exactly the same color. Magnetic dry film thickness gages and wet film thickness gages will be utilized for quality control.

E. Special areas: Special attention shall be given to insure that edges, corners, crevices, welds and fasteners receive a film thickness equivalent to that of the adjacent coated surfaces.

F. Coating Sequence: The following coating sequence must be followed in the application of the coating specified.

   Prime Coat: Shall be one FULL coat of RD Coatings Monoguard applied to all surfaces scheduled for coating at 3.0-4.0 mils dft.

   Finish Coat: Shall be one FULL coat of RD Coatings Monograff HP pigmented applied to all surfaces scheduled for coating at a dry film thickness of 2.0-3.0 mils dft.

   Note: For any pit-filling and/or surfacing of existing corroded steel, use RD Coatings E-Deck Filler following the application of the prime coat, but before the application of the Intermediate coating.

G. Completed Work: Match approved samples for color and coverage. Remove, refinish, or repaint work not complying with requirements.

3.04 QUALITY WORKMANSHIP

A. The Contractor shall be responsible for the cleanliness of his coating operations and shall use covers and masking tape to protect the new and existing material not intended to be coated whenever such covering is necessary, or if so requested by the Owner. Any coatings identified for removal shall be carefully removed without damage to any finished coatings or surface. If damage does occur, the entire surface, adjacent to and including the damaged area shall be recoated without visible lap marks and without additional cost to the Owner.

B. Coatings found defective shall be removed and recoated as required by the Engineer. Before final acceptance of the Work, damaged surfaces shall be cleaned and recoated as directed by the Engineer.

3.05 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
B. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.06 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by the Engineer.
B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

3.07 GUARANTEE

A. During the first year of the guarantee it is the Contractors responsibility to repair or replace any area of the application that experiences any chalking, peeling or rust due to faulty preparation and materials application.

END OF SECTION 099000

Exhibit A

Federally Required Contract Clauses

FEDERALLY REQUIRED CONTRACT CLAUSES

The FRC Clauses shall apply equally to the Contractor as they do to the Authority, and the Contractor shall indemnify and hold the Authority harmless for any liability it may incur as a result of the Contractor's failure to act in compliance with the FRC Clauses.

No Federal Government Obligations to Third Parties

In connection with the Project, the Contractor acknowledges that, absent the Federal Government's express written consent, the Federal Government shall not have any commitment or liability related to the Underlying Agreement, to any Third Party Participant at any tier, or to any other person or entity that is not a party (FTA or the Recipient) to the Underlying Agreement; and notwithstanding that the Federal Government may have concurred in or approved any Solicitation or Third Party Agreement at any tier that may affect the Underlying Agreement, the Federal Government does not and shall not have any commitment or liability to any Third Party Participant or other entity or person that is not a party (FTA or the Recipient) to the Underlying Agreement. The Contractor shall include the substance of this clause in each subcontract (FTA Master Agreement v33 § 3(l)).

False or Fraudulent Statements or Claims

The Contractor acknowledges and agrees that:

(1) Civil Fraud. The Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq., and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to the Contractor's activities in connection with the Project. By executing the Grant Agreement, Cooperative Agreement, or Contract for the Project, the Contractor certifies or affirms the truthfulness and accuracy of each statement it has made, it makes, or it may make in connection with the Project. In addition to other penalties that may apply, the Contractor also acknowledges that if it makes a false, fictitious, or fraudulent claim, statement, submission, certification, assurance, or representation to the Federal Government, the Federal Government reserves the right to impose on the Contractor the penalties of the Program Fraud Civil Remedies Act of 1986, as amended, to the extent the Federal Government deems appropriate.

(2) Criminal Fraud. If the Contractor makes a false, fictitious, or fraudulent claim, statement, submission, certification, assurance, or representation to the Federal Government or includes a false, fictitious, or fraudulent statement or representation in any agreement with the Federal Government in connection with a Project authorized under 49 U.S.C. chapter 53 or any other Federal law, the Federal Government reserves the right to impose on the Contractor the penalties of 49 U.S.C. § 5323(l), 18 U.S.C. § 1001 or other applicable Federal law to the extent the Federal Government deems appropriate (FTA Master Agreement v33 § 4)).

Access to Third Party Contract Records and Audits

The Contractor agrees to provide, and require its third party subcontractors (at as many tiers as required), to provide to the U.S. Secretary of Transportation and the Comptroller General of the United States or their duly authorized representatives, access to all third party contract records (at any tier) pertinent to the Federal award to perform audits, execute site visits, or for any other official use and to any further extent required by 49 U.S.C. § 5325(g), and 2 CFR §§ 200.337–338. The Contractor further agrees to require its third-party subcontractors (at any tier), to provide sufficient

access to third party procurement records as needed for compliance with Federal regulations or to assure proper Project management as determined by FTA (FTA Master Agreement v33 § 16(s)).

Changes to Federal Requirements

The Contractor acknowledges that Federal laws and regulations control Project award and implementation. The Contractor also acknowledges that Federal directives, as defined in the Master Agreement, set forth Federal terms applicable to the Project, except to the extent that FTA determines otherwise in writing. Thus, FTA strongly encourages adherence to applicable Federal directives. The Contractor understands and agrees that unless FTA has provided express written approval of an alternative procedure or course of action differing from a procedure or course of action set forth in the applicable Federal directive, the Awarding Authority and/or the Contractor may incur a violation of the terms of the Grant Agreement or Cooperative Agreement or the Master Agreement if it implements an alternative procedure or course of action not approved by FTA.

The Contractor understands and agrees that Federal laws, regulations, and directives applicable to the Project and to the Applicant on the date on which the FTA Authorized Official awards Federal assistance for the Project may be modified from time to time. New Federal laws, regulations, and directives may become effective after the date on which the Applicant executes the Grant Agreement or Cooperative Agreement for the Project and might apply to that Grant Agreement or Cooperative Agreement. The Contractor understands that the most recent of such Federal laws, regulations, and directives will govern the administration of the Project at any time, except to the extent that FTA determines otherwise in writing.
FTA's written determination may take the form of a Special Condition, Special Requirement, Special Provision, or Condition of Award within the Grant Agreement or Cooperative Agreement for the Project, a change to an FTA directive, or a letter to the Applicant/Contractor signed by the Federal Transit Administrator or his or her duly authorized designee, the text of which modifies or otherwise conditions a specific provision of the Grant Agreement or Cooperative Agreement for the Project or the Master Agreement. To accommodate changing Federal requirements, the Contractor agrees to include in each agreement with each subcontractor implementing the Project notice that Federal laws, regulations, and directives may change and that the changed requirements will apply to the Project, except to the extent that FTA determines otherwise in writing. All standards or limits in the Grant Agreement or Cooperative Agreement for the Project, and in the Master Agreement are minimum requirements, unless modified by FTA. The Contractor and each of its subcontractors shall comply with all applicable FTA regulations, policies, procedures, and directives, including those listed in FTA Master Agreement v33, 2 CFR Part 200, FTA Circular 4220.1G, and 49 U.S.C. Chapter 53, as amended by the FAST Act and the Infrastructure Investment and Jobs Act (IIJA/BIL) (FTA Master Agreement v33 § 3(i)(6)).

Termination
Upon written notice, the Contractor understands that the Federal Government may suspend or terminate all or any part of the Federal assistance to be provided for the Project if the Contractor has violated the terms of the Grant Agreement or Cooperative Agreement for the Project including the Master Agreement, or if the Federal Government determines that the purposes of the laws authorizing the Project would not be adequately served by the continuation of Federal assistance for the Project. The Contractor understands and agrees that any failure to make reasonable progress on the Project or violation of the Grant Agreement or Cooperative Agreement for the Project, or the Master Agreement that endangers substantial performance of the Project shall provide sufficient grounds for the Federal Government to terminate the Grant Agreement or Cooperative Agreement for the Project. In general, termination of Federal

assistance for the Project will not invalidate obligations properly incurred by the Contractor before the termination date to the extent those obligations cannot be canceled. If, however, the Federal Government determines that the Contractor has willfully misused Federal assistance by failing to make adequate progress, failing to make reasonable and appropriate use of Project property, or failing to comply with the terms of the Grant Agreement or Cooperative Agreement for the Project including this Master Agreement, the Federal Government reserves the right to require the Contractor to refund the entire amount of Federal assistance provided for the Project or any lesser amount as the Federal Government may determine. Expiration of any Project time period established for the Project does not, by itself, constitute an expiration or termination of the Grant Agreement or Cooperative Agreement for the Project. (2 CFR § 200.340–343).

1. **Termination for Convenience (General Provision)**

   The PVTA may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to PVTA to be paid the Contractor. If the Contractor had any property in its possession belonging to the PVTA, the Contractor will account for the same and dispose of it in the manner the PVTA directs.

2. **Termination for Default [Breach or Cause] (General Provision)**

   If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the PVTA may terminate this contract for default. Termination shall be affected by serving a notice of termination on the Contractor setting the manner in which the Contractor is in default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

   If it is later determined by the PVTA that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the PVTA, after setting up a new delivery performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

3. **Opportunity to Cure (General Provision)**

   The PVTA in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.

   If Contractor fails to remedy to PVTA 's satisfaction the breach or default or any of the terms, covenants, or conditions of this contract within [ten (10) days] after receipt by Contractor of written notice from the PVTA setting forth the nature of said breach or default, PVTA shall have the right to terminate the contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude PVTA from also pursuing all available remedies against Contractor and its sureties for said breach or default.

4. **Waiver of Remedies for any Breach**

   In the event that PVTA elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by PVTA shall not limit PVTA's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

5. Termination for Default (Construction)

If the Contractor refuses or fails to prosecute the work or any separable part, with diligence that will ensure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, the PVTA may terminate this contract for default. The PVTA shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The PVTA may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Recipient resulting from the Contractor's refusal or failure to; complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PVTA in completing the work.

The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

1. the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include, acts of God, acts of PVTA, acts of another Contractor in the performance of a contract with the PVTA, epidemics, quarantine restrictions, strikes, freight embargoes; and

2. the Contractor within [10] days from the beginning of any delay, notifies the PVTA in writing of the causes of delay. If in the judgment of the PVTA, the delay is excusable, the time for completing the work shall be extended. The judgment of the PVTA shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the PVTA.

Civil Rights

The Contractor agrees to comply with all applicable civil rights laws, regulations and directives, except to the extent that the Federal Government determines otherwise in writing. These include, but are not limited to, the following:

a. Nondiscrimination in Federal Public Transportation Programs. The Contractor agrees to comply, and assures the compliance of each subcontractor, lessee, or third-party contractor at any tier of the Project, with the provisions of 49 U.S.C. § 5332, which prohibit discrimination on the basis of race, color, creed, national origin, sex, or age, and prohibits discrimination in employment or business opportunity.

b. Nondiscrimination Title VI of the Civil Rights Act. The Contractor agrees to comply, and assures the compliance of each subcontractor, lessee, or third party contractor at any tier of the Project, with all provisions prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d et seq., and with U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation Effectuation of Title VI of the Civil Rights Act," 49 C.F.R. Part 21. Except to the extent FTA determines otherwise in writing, the Contractor also agrees to comply with all applicable provisions of FTA Circular 4702.1B, Title VI Requirements and Guidelines for Federal Transit Administration Recipients (2012), any subsequent amendments, and any other applicable Federal directives that may be issued.

c. Equal Employment Opportunity. The Contractor agrees to comply, and assures the compliance of each subcontractor, lessee, or third-party contractor at any tier of the Project, with all equal employment opportunity (EEO) provisions of 49 U.S.C. § 5332, with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, and implementing Federal regulations and any subsequent amendments thereto. Except to the extent FTA determines otherwise in writing, the Contractor also agrees to comply with all applicable Federal EEO directives that may be issued. Accordingly:

(1) General. The Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, sex, disability, age, or national origin. The Contractor agrees to take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, disability, age, or national origin. Such action shall include, but not be limited to, employment, upgrading, demotions or transfers, recruitment or recruitment advertising, layoffs or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

Equal Employment Opportunity Requirements for Construction Activities. For activities determined by the U.S. Department of Labor (U.S. DOL) to qualify as "construction," the Contractor agrees to comply and assures the compliance of each subcontractor, lessee, or third-party contractor at any tier of the Project, with all applicable equal employment opportunity requirements of U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order No. 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note, and also with any Federal laws, regulations, and directives affecting construction undertaken as part of the Project (FTA Master Agreement v33 § 12).

Americans with Disabilities Act (ADA) Access

The Contractor agrees to comply with 49 U.S.C. § 5332, which states the Federal policy that elderly individuals and individuals with disabilities have the same right as other individuals to use public transportation services and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly individuals and individuals with disabilities. The Contractor also agrees to comply with all applicable provisions of section 504 of the Rehabilitation Act of 1973, as amended, with 29 U.S.C. § 794, which prohibits discrimination on the basis of disability; with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to individuals with disabilities; and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to individuals with disabilities, and any subsequent amendments to these laws or other laws pertaining to access for individuals with disabilities to the extent applicable. In addition, the Contractor agrees to comply with applicable implementing Federal regulations and directives and any subsequent amendments thereto, as follows:

(1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37;
(2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27;

(3) Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB)/U.S. DOT regulations, "Americans With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 C.F.R. Part 1192 and 49 C.F.R. Part 38;
(4) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. Part 35;
(5) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. Part 36;
(6) U.S. General Services Administration (U.S. GSA) regulations, "Accommodations for the Physically Handicapped," 41 C.F.R. Subpart 101-19;
(7) U.S. EEOC, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630;
(8) U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 C.F.R. Part 64, Subpart F;
(9) U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194;
(10) FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 C.F.R. Part 609; and
(11) Federal civil rights and nondiscrimination directives implementing the foregoing regulations, except to the extent the Federal Government determines otherwise in writing.

Disadvantaged Business Enterprise (DBE)

It is the policy of the PVTA and the United States Department of Transportation ("DOT") that Disadvantaged Business Enterprises ("DBEs"), as defined herein and in the Federal regulations published at 49 C.F.R. part 26, shall have an equal opportunity to participate in DOT-assisted contracts. It is also the policy of the PVTA to:

1. Ensure nondiscrimination in the award and administration of DOT-assisted contracts;
2. Create a level playing field on which DBE's can compete fairly for DOT-assisted contracts.
3. Ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. Ensure that only firms that fully meet 49 C.F.R. part 26 eligibility standards are permitted to participate as DBEs;
5. Help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To promote the use of DBEs in all types of federally assisted contracts and procurement activities; and
7. Assist in the development of firms that can compete successfully in the marketplace outside the DBE program.

This Contract is subject to 49 C.F.R. part 26. Therefore, the Contractor must satisfy the requirements for DBE participation as set forth herein. These requirements are in addition to all other equal opportunity employment requirements of this Contract. The PVTA shall make all determinations with regard to whether or not a Bidder/Offeror is in compliance with the requirements stated herein. In assessing compliance, the PVTA may consider during its review of the Bidder/Offeror's submission package, the Bidder/Offeror's documented history of non-compliance with DBE requirements on previous contracts with the PVTA.

<u>Contract Assurance</u>
The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 C.F.R. part 26 in the award and administration of DOT-assisted contracts.

Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the PVTA deems appropriate.

DBE Participation

For the purpose of this Contract, the PVTA will accept only DBEs who are:

1. Certified, at the time of bid opening or proposal evaluation, by the [certifying agency or the Unified Certification Program (UCP)]; or
2. An out-of-state firm who has been certified by either a local government, state government or Federal government entity authorized to certify DBE status or an agency whose DBE certification process has received FTA approval; or
3. Certified by another agency approved by the PVTA.

NOTE: Pursuant to the U.S. Department of Transportation's Interim Final Rule effective October 3, 2025, DBE contract goals are temporarily suspended, and no DBE percentage goal is established for this solicitation or contract during the current reevaluation period. Until the UCP completes recertification of DBE firms, DBE participation shall not be counted toward contract or overall program goals.

DBE Participation Goal

The DBE participation goal for this Contract is set at _0_ %. This goal represents those elements of work under this Contract performed by qualified Disadvantaged Business Enterprises for amounts totaling not less than _0_ % of the total Contract price. Failure to meet the stated goal at the time of proposal submission may render the Bidder/Offeror non-responsive.

Proposed Submission

Each Bidder/Offeror, **at this time, is not required to supply** the following information:

1. A completed DBE Utilization Form (see DBE Utilization Form) that indicates the percentage and dollar value of the total bid/contract amount to be supplied by Disadvantaged Business Enterprises under this Contract.
2. A list of those qualified DBE's with whom the Bidder/Offeror intends to contract for the performance of portions of the work under the Contract, the agreed price to be paid to each DBE for work, the Contract items or parts to be performed by each DBE, a proposed timetable for the performance or delivery of the Contract item, and other information as required by the DBE Participation Schedule (see DBE Participation Schedule). No work shall be included in the Schedule that the Bidder/Offeror has reason to believe the listed DBE will subcontract, at any tier, to other than another DBE. If awarded the Contract, the Bidder/Offeror may not deviate from the DBE Participation Schedule submitted in response to the bid. Any subsequent changes and/or substitutions of DBE firms will require review and written approval by the PVTA.
3. An original DBE Letter of Intent (see DBE Letter of Intent) from each DBE listed in the DBE Participation Schedule.
4. An original DBE Affidavit (see DBE Affidavit) from each DBE stating that there has not been any change in its status since the date of its last certification.

Good Faith Efforts

If the Bidder/Offeror is unable to meet the goal set forth above (DBE Participation Goal), the PVTA will consider the Bidder/Offeror's documented good faith efforts to meet the goal in determining responsiveness. The types of actions that the PVTA will consider as part of the Bidder/Offeror's good faith efforts include, but are not limited to, the following:

1. Documented communication with the PVTA's DBE Coordinator (questions of IFB or RFP requirements, subcontracting opportunities, appropriate certification, will be addressed in a timely fashion);
2. Pre-bid meeting attendance. At the pre-bid meeting, the PVTA generally informs potential Bidder/Offeror's of DBE subcontracting opportunities;
3. The Bidder/Offeror's own solicitations to obtain DBE involvement in general circulation media, trade association publication, minority-focus media and other reasonable and available means within sufficient time to allow DBEs to respond to the solicitation;
4. Written notification to DBE's encouraging participation in the proposed Contract; and
5. Efforts made to identify specific portions of the work that might be performed by DBE's.

The Bidder/Offeror shall provide the following details, at a minimum, of the specific efforts it made to negotiate in good faith with DBEs for elements of the Contract:

1. The names, addresses, and telephone numbers of DBE's that were contacted;
2. A description of the information provided to targeted DBEs regarding the specifications and bid proposals for portions of the work;
3. Efforts made to assist DBEs contacted in obtaining bonding or insurance required by the Bidder or the Authority.

Further, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted when a non-DBE subcontractor was selected over a DBE for work on the contract. 49 C.F.R. § 26.53(b) (2) (VI). In determining whether a Bidder has made good faith efforts, the Authority may take into account the performance of other Bidders in meeting the Contract goals. For example, if the apparent successful Bidder failed to meet the goal, but meets or exceeds the average DBE participation obtained by other Bidders, the Authority may view this as evidence of the Bidder having made good faith efforts.

Administrative Reconsideration

Within five (5) business days of being informed by the PVTA that it is not responsive or responsible because it has not documented sufficient good faith efforts, the Bidder/Offeror may request administrative reconsideration. The Bidder should make this request in writing to the PVTA DBE Liaison. The DBE Liaison will forward the Bidder/Offeror's request to a reconsideration official who will not have played any role in the original determination that the Bidder/Offeror did not document sufficient good faith efforts. As part of this reconsideration, the Bidder/Offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The Bidder/Offeror will have the opportunity to meet in person with the assigned reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. The PVTA will send the Bidder/Offeror a written decision on its reconsideration, explaining the basis for finding that the Bidder/Offeror did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department of Transportation.

Termination of DBE Subcontractor

The Contractor shall not terminate the DBE subcontractor(s) listed in the DBE Participation Schedule (see DBE Participation Schedule) without the PVTA's prior written consent. The PVTA may provide such written consent only if the Contractor has good cause to terminate the DBE firm. Before transmitting a request to terminate, the Contractor shall give notice in writing to the DBE subcontractor of its intent to terminate and the reason for the request. The Contractor shall give the DBE five days to respond to the notice and advise of the reasons why it objects to the proposed termination. When a DBE subcontractor is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make good faith efforts to find another DBE subcontractor to

substitute for the original DBE and immediately notify the PVTA in writing of its efforts to replace the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the Contract as the DBE that was terminated, to the extent needed to meet the Contract goal established for this procurement. Failure to comply with these requirements will be in accordance with the Sanctions for Violations Section below.

Continued Compliance

The PVTA shall monitor the Contractor's DBE compliance during the life of the Contract. In the event this procurement exceeds ninety (90) days, it will be the responsibility of the Contractor to submit quarterly written reports to the PVTA that summarize the total DBE value for this Contract. These reports shall provide the following details:

- DBE utilization established for the Contract;
- Total value of expenditures with DBE firms for the quarter;
- The value of expenditures with each DBE firm for the quarter by race and gender;
- Total value of expenditures with DBE firms from inception of the Contract; and
- The value of expenditures with each DBE firm from the inception of the Contract by race and gender.

Reports and other correspondence must be submitted to the DBE Liason with copies provided to the PVTA. Reports shall continue to be submitted quarterly until final payment is issued or until DBE participation is completed.

The successful Bidder/Offeror shall permit:

1. The PVTA to have access to necessary records to examine information as the PVTA deems appropriate for the purpose of investigating and determining compliance with this provision, including, but not limited to, records of expenditures, invoices, and contract between the successful Bidder/Offeror and other DBE parties entered into during the life of the Contract.
2. The authorized representative(s) of the PVTA, the U.S. Department of Transportation, the Comptroller General of the United States, to inspect and audit all data and record of the Contractor relating to its performance under the Disadvantaged Business Enterprise Participation provision of this Contract.
3. All data/record(s) pertaining to DBE shall be maintained as stated in the Continued Compliance Section.

NOTE: Notwithstanding any DBE participation commitments made prior to October 3, 2025, no DBE participation shall be credited toward contract goals or overall program goals during the DBE recertification period. The contractor must continue to comply with applicable subcontractor substitution and "good cause" requirements under federal and local law.

Sanctions for Violations

If at any time the PVTA has reason to believe that the Contractor is in violation of its obligations under this Agreement or has otherwise failed to comply with terms of this Section, the PVTA may, in addition to pursuing any other available legal remedy, commence proceedings, which may include but are not limited to, the following:

1. Suspension of any payment or part due the Contractor until such time as the issues concerning the Contractor's compliance are resolved; and
2. Termination or cancellation of the Contract, in whole or in part, unless the successful Contractor is able to demonstrate within a reasonable time that it is in compliance with the DBE terms stated herein.

Prompt Payment to Subcontractors

The Contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 10 days after the Contractor's receipt of payment for that work. In addition, the Contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed.
The Contractor must promptly notify the Agency, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The Contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the Agency. (49 CFR § 26.29).

Incorporation of Federal Transit Administration (FTA) Terms

The Contractor agrees to comply with applicable third party procurement requirements of 49 U.S.C. chapter 53 and other procurement requirements of Federal laws in effect now or as subsequently enacted to the extent applicable; with applicable U.S. DOT third party procurement regulations subject to FTA Master Agreement v33 and the requirements of 2 CFR Part 200, and with other applicable Federal regulations pertaining to third party procurements and subsequent amendments thereto. The Contractor also agrees to comply with the provisions of FTA Circular 4220.1G, "Third Party Contracting Requirements," and with any subsequent revision to that circular, except to the extent FTA determines otherwise in writing. Although the FTA "Best Practices Procurement Manual" provides additional procurement guidance, the Contractor understands that the FTA "Best Practices Procurement Manual" is focused on third party procurement processes and may omit certain Federal requirements applicable to specific third party contract work to be performed.

Debarment and Suspension

The Contractor shall comply and facilitate compliance with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 C.F.R. part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement)," 2 C.F.R. part 180. These provisions apply to each contract at any tier of $25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor shall verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

a) Debarred from participation in any federally assisted Award;
b) Suspended from participation in any federally assisted Award;
c) Proposed for debarment from participation in any federally assisted Award;
d) Declared ineligible to participate in any federally assisted Award;
e) Voluntarily excluded from participation in any federally assisted Award; or
f) Disqualified from participation in ay federally assisted Award.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:
The certification in this solicitation (see attached Certification of Eligibility) is a material representation of fact relied upon by the PVTA. If it is later determined by the PVTA that the bidder

or proposer knowingly rendered an erroneous certification, in addition to remedies available to the PVTA, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. part 180, subpart C, as supplemented by 2 C.F.R. part 1200, while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Buy America

Compliance with Buy America Requirements: The Contractor shall comply with the requirements of 49 U.S.C. § 5323(j) and 49 CFR Part 661 to the extent consistent with 49 U.S.C. § 5323(j), including the requirements for rolling stock, construction materials, and associated components, as applicable, to the extent that the Agreement is funded with Federal assistance from the Federal Transit Administration (FTA).
Certification: The Contractor shall submit the appropriate Buy America certification, as required by the FTA, prior to the delivery of materials or equipment. By submitting such certification, the Contractor affirms that all steel, iron, and manufactured products used in the project meet the Buy America requirements. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C), 49 U.S.C. § 5323(u) and 49 C.F.R. § 661.11.
Noncompliance and Waivers: If the Contractor cannot fully comply with Buy America requirements, the Contractor must obtain a waiver from the FTA before using noncompliant materials or equipment. Any use of noncompliant products without an approved waiver shall constitute a breach of this Agreement. General waivers are listed in 49 C.F.R. § 661.7.
Flow-Down Requirement: The Contractor shall include this Buy America clause in all lower-tier subcontracts or purchase agreements related to the project funded under this Agreement.
Remedies: Failure to comply with the Buy America requirements may result in remedies including, but not limited to, withholding of payments, recovery of funds, and termination of the Agreement, as permitted under applicable law and FTA guidance (FTA Master Agreement v33 § 15(a)).

Domestic Preference for Procurements "Build America, Buy America"

As appropriate and to the extent consistent with law, the Contractor shall comply with all applicable domestic preference requirements under the Build America, Buy America Act (BABA), Pub. L. 117-58, div. G, tit. IX, §§ 70911-70927 (2021), codified at 2 CFR Part 184 and implemented through 2 CFR Part 200 through a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States.
For purposes of this clause:
"Produced in the United States" means iron, steel, manufactured products, or construction materials that are manufactured in the United States or substantially all of the components are of U.S. origin, consistent with 2 CFR Part 184.
"Construction materials" include non-ferrous metals, plastic and polymer-based products, glass, lumber, and drywall.
The Contractor must comply with 2 CFR § 200.322, 2 CFR Part 184, and must flow down this requirement to all subcontractors.
This domestic preference is separate from, and in addition to, FTA's Buy America requirements under 49 U.S.C. § 5323(j) and 49 CFR Part 661, which remain applicable where triggered (FTA Master Agreement v33 § 15(b)).

Further information for bidders on domestic preference:
Required Use of American Iron, Steel, Manufactured Products, and Construction Materials

Recipients of an award of Federal financial assistance from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for a project for infrastructure unless:

a. All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
b. All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
c. All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

Waivers

When necessary, PVTA may apply to FTA for a waiver from these requirements. Requests for a waiver may only be granted under the following circumstances:

a. applying the domestic content procurement preference would be inconsistent with the public interest;
b. the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
c. the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

A request to waive the application of the domestic content procurement preference must be in writing. PVTA will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver described at:
https://www.transit.dot.gov/regulations-and-guidance/buy-america/waivers-granted.

Definitions

"Construction materials" include articles, materials, or supplies that consist of the items listed below. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- fiber optic cable (including drop cable)

- optical fiber
- lumber
- engineered wood, or
- drywall.

“Domestic content procurement preference’’ means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.
“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.
‘‘Project’’ means the construction, alteration, maintenance, or repair of infrastructure in the United States.
“Section 70917(c) materials” means cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. See Section 70917(c) of the Build America, Buy America Act.

Notification of Fraud, Waste, Abuse and Disputes, Breaches, Litigation

The Contractor acknowledges:

(a) FTA Interest. FTA has a vested interest in the settlement of any violation of federal law, regulation, or requirement, or any disagreement involving the Award, the accompanying Underlying Agreement, and any Amendments thereto including, but not limited to, a default, breach, major dispute, or litigation, and FTA reserves the right to concur in any settlement or compromise.

(b) Notification to FTA; Flow Down Requirement. If a current or prospective legal matter that may affect the Federal Government emerges, the PVTA shall promptly notify, in writing, the FTA Chief Counsel and FTA Regional Counsel for the Region in which the PVTA is located. The Contractor must include an equivalent provision in its subagreements at every tier, for any agreement that is a “covered transaction” according to 2 C.F.R. §§ 180.220 and 1200.220.

  (1) The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason.

  (2) Matters that may affect the Federal Government include, but are not limited to, the Federal Government’s interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal Government’s administration or enforcement of federal laws, regulations, and requirements.

  (3) **Additional Notice to U.S. DOT Inspector General.** The PVTA must promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the PVTA is located, if the PVTA has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729, et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bid rigging, misappropriation or embezzlement, bribery, gratuity, or similar misconduct involving federal

assistance. This responsibility occurs whether the Project is subject to this Agreement or another agreement between the PVTA and FTA, or an agreement involving a principal, officer, employee, agent, or Third Party Participant (Contractor) of the PVTA. It also applies to subcontractors at any tier; a contractor must include an equivalent provision in its subagreements. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the PVTA. In this paragraph, "promptly" means to refer information without delay and without change. This notification provision applies to all divisions of the PVTA, including divisions tasked with law enforcement or investigatory functions (FTA Master Agreement v33 § 39(b)(3)).

(c) Federal Interest in Recovery. The Federal Government retains the right to a proportionate share of any proceeds recovered from any third party (Contractor), based on the percentage of the federal share for the Underlying Agreement. Notwithstanding the preceding sentence, the PVTA may return all liquidated damages it receives to its Award Budget for its Underlying Agreement rather than return the federal share of those liquidated damages to the Federal Government, provided that the PVTA receives FTA's prior written concurrence.

(d) Enforcement. The PVTA must pursue its legal rights and remedies available under any third party agreement or any federal, state, or local law or regulation. FTA reserves the right to concur in any compromise or settlement of any claim involving the Project. FTA encourages the use of alternative dispute resolution procedures, as may be appropriate (FTA Master Agreement v33 § 39).

Lobbying Restrictions

In accordance with the Byrd Anti-Lobbying Amendment, 31 U.S.C. §1352, as amended, and applicable federal requirements, the Contractor certifies and agrees as follows:

1. Certification: The Contractor certifies, to the best of its knowledge and belief, that no federal funds provided under this Agreement have been or will be used to pay any person to influence, or attempt to influence, an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, grant, cooperative agreement, or loan. In addition, the Contractor will comply with other applicable Federal laws and regulations prohibiting the use of Federal assistance for activities, designed to influence Congress or a State legislature with respect to legislation or appropriations, except through proper, official channels; and he Contractor will comply, and will assure the compliance of each subcontractor, lessee, or third party contractor at any tier, with U.S. DOT regulations, "New Restrictions on Lobbying," 49 C.F.R. Part 20, modified as necessary by 31 U.S.C. § 1352.
2. Disclosure of Lobbying: The Contractor shall disclose any lobbying activities as required by 31 U.S.C. §1352 and 2 CFR 200.450, including the filing of Standard Form-LLL ("Disclosure of Lobbying Activities") if any funds other than federal funds have been used for lobbying.

3. Flow-Down Requirement: The Contractor shall require all lower-tier subcontractors and participants to comply with this clause and include a certification or disclosure consistent with this provision.
4. Consequences of Noncompliance: Any violation of this clause shall be treated as a material breach of this Agreement and may result in remedies including, but not limited to, suspension, termination, withholding of payments, or other actions as permitted under law or this Agreement (FTA Master Agreement v33 § 4(c)).

Energy Conservation

The Contractor shall comply with mandatory energy efficiency standards and policies derived from the State Energy Conservation Plan under the Energy Policy and Conservation Act, as amended (42 U.S.C. § 6321 et seq.), and perform an energy assessment for any building constructed, reconstructed, or modified with federal assistance required under FTA regulations, "Requirements for Energy Assessments," 49 CFR Part 622, subpart C, and comply with any applicable state or local energy policies. This obligation extends to all subcontractors (FTA Master Agreement v33 § 26(i)).

Remedies for Breach of Contract

In accordance with 2 CFR 200 Appendix II (A), the Contractor agrees that:

1. Agency Remedies: If the Contractor fails to perform any obligation under this Agreement or violates any provision of this Agreement, the Agency may exercise any or all remedies available under law or equity, including but not limited to:
    - Withholding payment;
    - Termination of the Agreement, in whole or in part, for cause;
    - Recovery of damages or overpayments;
    - Suspension or debarment from future federally funded contracts; and
    - Any other remedies provided under applicable law or the terms of this Agreement.
2. Non-Exclusive Remedies: The remedies provided in this clause are cumulative and in addition to any other remedies available at law or equity. The exercise of one remedy does not preclude the exercise of any other remedy.
3. Flow-Down Requirement: The Contractor shall include a provision with substantially the same effect in all subcontracts and agreements funded under this Agreement.
4. Material Breach: Any breach of this Agreement by the Contractor shall be deemed material and may result in enforcement of the remedies listed above.

Recovered Materials and Solid Wastes

The Contractor agrees to comply with all applicable requirements of Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. § 6962) and U.S. Environmental Protection Agency (EPA) regulations at 40 CFR Part 247. In the performance of this contract, the Contractor shall procure only items designated in guidelines of the Environmental Protection Agency (EPA) (40 CFR Part 247) that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines. The Contractor also agrees to provide reasonable estimates, certifications, and other documentation

to demonstrate compliance upon request of the Recipient, FTA, or EPA. This requirement flows down to all subcontractors and subawards (FTA Master Agreement v33 § 16(d)(9)).

Safe Operation of Motor Vehicles *(Applicable to all contracts)*

1) Seat Belt Use: In implementation of Executive Order No. 13043, "Increasing Seat Belt Use in the United States," April 16, 1997, 23 U.S.C. § 402 note, (62 Fed. Reg. 19217) PVTA has adopted and promotes on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company- rented vehicles, or personally operated vehicles. The terms "company-owned" and "company- leased" refer to vehicles owned or leased either by the Contractor or PVTA.
    a. The third party (Contractor) shall adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company- rented vehicles, or personally operated vehicles and shall require all employees and subcontracted employees to use seat belts while on PVTA property and in connection to all PVTA projects, including but not limited to: driving to the job site, leaving the job site, picking up/delivering materials, and disposing of waste.

2) Distracted Driving, Including Text Messaging While Driving: The PVTA complies with Executive Order No. 13513, "Federal Leadership on Reducing Text Messaging While Driving," October 1, 2009, 23 U.S.C. § 402 note, (74 Fed. Reg. 51225); (2) U.S. DOT Order 3902.10, "Text Messaging While Driving," December 30, 2009; and (3) The following U.S. DOT Special Provision pertaining to Distracted Driving:
    (i) Safety. The PVTA adopts workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the Award, or when performing any work for or on behalf of the Award.
    (ii) Recipient Size. The PVTA agrees to conduct workplace safety initiatives in a manner commensurate with its size, such as establishing new rules and programs to prohibit text messaging while driving, re-evaluating the existing programs to prohibit text messaging while driving, and providing education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

    The third party (Contractor) shall comply with the preceding Special Provision (i) – (ii) to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contactor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this agreement; and to conduct workplace safety initiatives in a manner commensurate with its size, such as establishing new rules and programs to prohibit text messaging while driving, re-evaluating the existing programs to prohibit text messaging while driving, and providing education, awareness, and other outreach to employees about the safety risks associated with texting while driving. The third party (Contractor) shall include this Special Provision in each subagreement at each tier (FTA Master Agreement v33 § 34).

Prohibition on Covered Telecommunications and Video Surveillance Services or Equipment

In accordance with 2 CFR 200.216, 2 CFR 200.471, and applicable federal law and guidance, the Contractor certifies and agrees as follows:
Prohibition: The Contractor shall not use, provide, or procure any covered telecommunications equipment or services, or any video surveillance equipment or services, from entities identified by the U.S. government as prohibited under federal law for use in federally funded contracts. This includes, but is not limited to, equipment or services produced by Huawei, ZTE, Hytera, Hikvision, Dahua, or other entities specified by the Federal Acquisition Regulation (FAR) or other federal guidance.

Compliance and Flow-Down: The Contractor shall ensure compliance with this prohibition in all lower-tier subcontracts or agreements. The Contractor shall require subcontractors and vendors to certify that they do not provide prohibited covered telecommunications or video surveillance equipment or services.

Reporting and Mitigation: The Contractor shall promptly report to the Agency any use or discovery of prohibited equipment or services in connection with this Agreement and shall take immediate corrective action to remove or replace such equipment or services.
Breach: Any violation of this clause shall constitute a material breach of this Agreement and may result in suspension, termination, or other remedies available to the Agency under law or this Agreement.

Federal Tax Liability and Recent Felony Convictions

In accordance with FTA Master Agreement Version 33, Section 4(g) and DOT Order 4200.6, the Contractor certifies that:

1. Federal Tax Compliance: The Contractor does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
2. Felony Convictions: The Contractor has not been convicted of a felony criminal violation under any Federal law within the preceding 24 months.

If the Contractor cannot certify to either of the above, PVTA shall refer the matter to FTA and shall not to enter into any Third Party Agreement without the Agency's written approval.
The Contractor shall require all lower-tier participants to include this certification in their agreements (FTA Master Agreement v33 § 4(g)).

Contract Work Hours and Safety Standards Act

For all contracts in excess of $100,000 that involve the employment of mechanics or laborers, the Contractor shall comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701- 3708), as supplemented by the DOL regulations at 29 C.F.R. part 5. Under 40 U.S.C. § 3702 of the Act.

(1) Overtime requirements - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or

permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in para. (1) of this section, contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in para. (1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) Withholding for unpaid wages and liquidated damages - the recipient shall upon its own action or upon written request of USDOL withhold or cause to be withheld, from any moneys payable on account of work performed by contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours & Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) Subcontracts - Contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. Prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.

Clean Air and Clean Water Acts

For all contracts exceeding $150,000 the Contractor shall:
a. Comply with Clean Air Act (42 U.S.C. § 7401-7671q, 2 CFR Appendix II (G)) and Federal Water Pollution Control Act (33 U.S.C. § 1251-1388 as amended & 2 CFR 200 Appendix II (G)) requirements, including inspection, monitoring, reporting, and facility compliance.
b. Ensure that no work is performed at facilities listed on the EPA's Violation List, or notify the Agency if such a facility is intended for use.
c. Include this clause in all subcontracts.
Violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA) (FTA Master Agreement v33 § 16(d)(6)).

Cargo Preference- Use of United States Flag Vessels

For all contracts involving ocean transportation of goods, materials, or commodities under FTA funding, the Contractor must comply with Cargo Preference under 46 U.S.C. § 55305 and 46 CFR Part 381.7. This requires use of U.S.-flag vessels when transporting at least 50% of cargo weight per voyage. At least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available. 46 U.S.C. § 55305, and U.S. Maritime Administration regulations, "Cargo Preference – U.S.- Flag Vessels,"

46 CFR Part 381. Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in 46 CFR § 381.7(a)(1) shall be furnished to both the recipient (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590. The Contractor must include this clause in all subcontracts involving ocean shipping (FTA Master Agreement v33 § 15(c)).

Fly America

The Contractor agrees to comply with the Fly America Act (49 U.S.C. § 40118) and U.S. DOT regulations at 41 CFR Part 301-10.131-301-10.143 by using U.S.-flag air carriers for international air transportation funded in part by FTA, unless service by a foreign carrier is a necessity as defined in the Act. If a foreign air carrier is used, the Contractor shall submit a certification or memorandum explaining why U.S.-flag service was unavailable or why it was necessary, and shall provide a certificate of compliance. These requirements must flow down to all subcontractors involved in international air travel (FTA Master Agreement v33 § 15(d)).

Veteran's Employment Preference

As provided in 49 U.S.C. § 5325(k), to the extent practicable, the Contractor agrees and assures it: (1) Will give a hiring preference to veterans, as defined in 5 U.S.C. § 2108, who have the skills and abilities required to perform construction work required under a third party contract in connection with a Capital Project supported with federal assistance appropriated or made available for 49 U.S.C. chapter 53; and (2) Will not give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee (FTA Master Agreement v33 § 16(u)).

Contracts Involving Federal Privacy Act Requirement

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

1. The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.
2. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

Davis-Bacon and Copeland Anti-Kickback Acts

(1) Minimum wages - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. (ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and (2) The classification is utilized in the area by the construction industry; and (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and (4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed. (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative,

will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof. (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account, assets for the meeting of obligations under the plan or program. (v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination, and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met: (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (2) The classification is utilized in the area by the construction industry; and (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination. (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) Withholding - The recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing

Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the grantee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the recipient for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following: (1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete; (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3; (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract. (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section. (D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code. (iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or

subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.
(4) Apprentices and trainees - (i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.(ii) Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage

rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved. (iii) Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
(5) Compliance with Copeland Act requirements - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
(6) Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
(7) Contract termination: debarment - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
(8) Compliance with Davis-Bacon and Related Act requirements - All rulings and interpretations of the DavisBacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
(9) Disputes concerning labor standards - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
(10) Certification of Eligibility - (i) By entering into this contract, contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). (iii) The penalty for making false statements is prescribed in 18 USC 1001.

Bond Requirements

The Contractor shall provide performance and payment bonds as required by 49 CFR § 633.17 and 2 CFR 200.325. Bonds shall cover the full amount of the contract and be issued by a surety acceptable to the Agency.
Construction. As provided in federal regulations and modified by FTA guidance, for each Project or related activities implementing the Underlying Agreement that involve construction, it will provide bid guarantee bonds, contract performance bonds, and payment bonds

1. Performance Bond: Guarantees the faithful performance of all work under this Agreement in accordance with the contract documents.
2. Payment Bond: Guarantees payment to all persons supplying labor and materials in the performance of the work under this Agreement.

Bid Guarantee

Bidders shall furnish a bid guaranty in the form of a bid bond, or certified treasurer's or cashier's check issued by a responsible bank or trust company, made payable to the PVTA. The amount of such guaranty shall be equal to 5% of the total bid price. In submitting this bid, it is understood and agreed by bidder that the PVTA reserves the right to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of [90] days subsequent to the opening of bids, without the written consent of PVTA. It is also understood and agreed that if the undersigned bidder should withdraw any part or all of his bid within [90] days after the bid opening without the written consent of the PVTA, or refuse or be unable to enter into this Contract as provided above, or refuse or be unable to furnish adequate and acceptable Performance and Payment Bonds, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, it shall forfeit its bid guaranty to the extent PVTA's damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security thereof. It is further understood and agreed that to the extent the defaulting bidder's bid guaranty shall prove inadequate to fully recompense PVTA for the damages occasioned by default, then the undersigned bidder agrees to indemnify PVTA and pay over to PVTA the difference between the bid guarantee and PVTA'S total damages so as to make PVTA whole. The undersigned understands that any material alteration of any of the above or any of the material contained herein, other than that requested will render the bid unresponsive.

Performance Guarantee

A Performance Guarantee in the amount of 100% of the Contract value is required by the PVTA to ensure faithful performance of the Contract. A Performance Bond shall be provided by the Contractor and shall remain in full force for the term of the Agreement. The successful Bidder shall certify that it will provide the requisite Performance Guarantee to the PVTA within ten (10) business days from Contract execution. The PVTA requires all Performance Bonds to be provided by a fully qualified surety company acceptable to the PVTA and listed as a company currently authorized under 31 C.F.R. part 22 as possessing a Certificate of Authority as described hereunder. PVTA may require additional performance bond protection when the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The PVTA may secure additional protection by directing the PVTA to increase the amount of the existing bond or to obtain an additional bond. If the Bidder chooses to provide a Letter of Credit as its Performance Guarantee, the Bidder shall furnish with its bid, certification that an Irrevocable Stand-By Letter of Credit will be furnished should the Bidder become the successful Contractor. The Bidder shall also provide a statement from the banking institution certifying that an Irrevocable Stand-By Letter of Credit for the action will be provided if the Contract is awarded to the Bidder. The Irrevocable Stand-By Letter of Credit will only be accepted by the PVTA if: 1. A bank in good standing issues it. The PVTA will not accept a Letter of Credit from an entity other than a bank. 2. It is in writing and signed by the issuing bank. 3. It conspicuously states that it is an irrevocable, non-transferable, "standby" Letter of Credit. 4. The PVTA is identified as the Beneficiary. 5. It is in an amount equal to 100% of the Contract value. This amount must be in U.S. dollars. 6. The effective date of the Letter of Credit is the same as the effective date of the Contract 7. The expiration date of the Letter of Credit coincides with the term of this Agreement. 8. It indicates that it is being issued in order to support the obligation of the Contractor to perform under the Contract. It must specifically reference the Contract between the PVTA and the Contractor the work stipulated herein. A-8 The issuing bank's obligation to pay will arise upon the presentation of the original Letter of Credit and a certificate and draft (similar to the attached forms contained in Sections X and Y) to the issuing bank's representative at a location and time to be determined by the parties. This documentation will indicate that the Contractor is in default under the Contract.

Payment Bonds

A Labor and Materials Payment Bond equal to the full value of the contract must be furnished by the contractor to PVTA as security for payment by the Contractor and subcontractors for labor, materials, and rental of equipment. The bond may be issued by a fully qualified surety company acceptable to (PVTA) and listed as a company currently authorized under 31 C.F.R. part 223 as possessing a Certificate of Authority as described thereunder.

Patent Rights and Inventions Developed Under Federally Assisted Agreements

In accordance with 35 U.S.C. §§ 200–212, 37 CFR Part 401, 2 CFR 200 Appendix II (F), and FTA Master Agreement Version 33 § 17, the Contractor agrees as follows:

1. Disclosure of Inventions: The Contractor shall promptly disclose to the Agency, in writing, all inventions, discoveries, or improvements conceived or first actually reduced to practice in the course of or under work performed under this Agreement.
2. Patent Rights: The Contractor may retain ownership of any invention or patent resulting from federally assisted work, subject to the rights of the federal government as set forth in 35 U.S.C. §§ 200–212 and implementing regulations at 37 CFR Part 401. The federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced the invention for or on behalf of the United States.
3. Agency Rights and Reporting: The Contractor shall comply with all reporting, recordkeeping, and election of rights requirements established by the Agency and federal regulations, including providing the Agency with copies of patent applications, notices of invention, and patent grants as required.
4. Subcontracts: The Contractor shall include appropriate patent rights provisions in all subcontracts or lower-tier agreements to ensure compliance with federal requirements and the Agency’s rights.
5. Failure to Comply: Noncompliance with these requirements may constitute a material breach of this Agreement and may result in remedies including, but not limited to, withholding of payments, termination, or recovery of rights to inventions as allowed under law.

Exhibit B

Required Certifications

CERTIFICATION OF TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I,

_____, authorized signatory for _____, do hereby
certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature: _____

Title: _____

Tax Identification Number: _____

Date: _____

LABOR HARMONY & OSHA TRAINING CERTIFICATION

Pursuant to Massachusetts General Laws Chapter 30, Section 39S, and Chapter 149, Section 44A, and any other applicable statutes or regulations, the undersigned bidder or contractor hereby certifies under the penalties of perjury that:

1. **Labor Harmony**
   The undersigned is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work proposed by this bid/contract.
2. **OSHA Safety Training**
   a. All employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) of at least ten (10) hours in duration *at the time the employee begins work*, and documentation of successful completion of said course shall be furnished with the first certified payroll report for each such employee.

   b. All employees to be employed in the work subject to this bid/contract have successfully completed a course in construction safety and health approved by OSHA of at least ten (10) hours in duration.

Company Name:

_____

Signature:

_____

Authorized Signatory Name:

_____

Title: _____

Date: _____

RIGHT-TO-KNOW LAW CERTIFICATION

The undersigned hereby certifies that the Proposer, if awarded this Contract, will fully comply with the Massachusetts Right-to-Know Law, M.G.L c. 111F, including:

1. Obtaining a Materials Safety Data Sheet, (MSDS) for all substances or mixtures of substances that appear on the Massachusetts Substance List that the Contractor or any of its subcontractors brings to or uses on the work site and will keep a copy of that MSDS on the work site of this Contract.

2. Labeling each container of a substance or mixture of substances on the Massachusetts Substance List as required in Section 7 of the Act.

3. Providing the same training and non-technical instruction that the Contractor is required to provide under Section 15 of the Act to all PVTA employees who are exposed to the substance or to the mixture of substances. Training shall include instruction on the nature and effects of any substance or mixture of substances listed on the Massachusetts Substance List, which the Offeror or any of his/her subcontractors brings to or uses on the worksite.

4. Providing PVTA employees while at the work site, with the same protective equipment that the Contractor and its subcontractors provide to its employees.

Authorized Signature: _____

Name: _____

Firm: _____

Title: _____

Date: _____/_____/_____

CERTIFICATION REGARDING COMPANIES DOING BUSINESS WITH OR IN NORTHERN IRELAND

Pursuant to M.G.L. c. 7, §§ 22C–22F, the undersigned certifies that, if the Contractor or any of its affiliates conducts business operations in Northern Ireland, such business operations do not discriminate in employment, compensation, or the terms, conditions, and privileges of employment on account of religious or political belief, and the Contractor promotes freedom of workplace opportunity and the rights of individuals, consistent with the MacBride Principles.

If the Contractor has no business operations in Northern Ireland, it so certifies below.

In addition, the Contractor agrees to notify PVTA in writing of any change in circumstances with respect to this certification during the term of the Contract and understands that any misrepresentation or failure to notify may result in termination of the Contract or other sanctions as provided by law.

Signed under the pains and penalties of perjury this ____ day of _____, _____

Authorized Signature: _____

Name: _____

Firm: _____

Title: _____

ANTI-BOYCOTT CERTIFICATION

Pursuant to the provisions of M.G.L. c. 151E and Section 999(b)(3) and (4) of the Internal Revenue Code of 1954, as amended, the Contractor certifies that, during the term of this Contract, neither it nor any affiliated company participates in or cooperates with an international boycott, nor engages in conduct declared unlawful by M.G.L. c. 151E, § 2.

In the event of a breach of this certification, the Pioneer Valley Transit Authority shall have the right to rescind this Contract and pursue such other remedies as provided by law or equity.

For purposes of this certification, an "affiliated company" means any business entity of which at least fifty-one percent (51%) of the ownership interests are directly or indirectly owned or controlled by the Contractor; or which directly or indirectly owns or controls at least fifty-one percent (51%) of the ownership interests of the Contractor; or any business entity that is under common ownership or control with the Contractor.

Authorized Signature: _____

Name: _____

Firm: _____

Title: _____

Date: ____/____/____

PROHIBIT USE OF UNDOCUMENTED WORKERS CERTIFICATION

It is the policy of the Commonwealth of Massachusetts Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts. This certification is required under Executive Order No. 481, effective February 23, 2007.

As a condition of receiving Commonwealth funds under this contract, the Contractor hereby certifies and agrees as follows:

1. The Contractor shall not knowingly use undocumented workers in connection with the performance of any Executive Branch contract.

2. Pursuant to federal law, the Contractor shall verify the immigration status of all workers assigned to such contracts through proper completion of the federal Form I-9 or other lawful verification procedures, without engaging in unlawful discrimination.

3. The Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s).

4. The Contractor understands and agrees that a breach of any of these terms during the contract period may be regarded as a material breach, subjecting the Contractor to sanctions including, but not limited to, monetary penalties, withholding of payments, suspension, or termination of the contract.

By signing below, the undersigned certifies under the pains and penalties of perjury that the Contractor will comply with the requirements of Executive Order No. 481 throughout the term of the contract.

Authorized Signature: _____

Name: _____

Firm: _____

Title: _____

Date: ____/____/____

CONFLICT OF INTEREST CERTIFICATION

The undersigned hereby certifies under the pains and penalties of perjury that the Proposer and all of its employees, agents, and subcontractors shall comply with the **Massachusetts Conflict of Interest Law**, **M.G.L. c. 268A**, and with all **conflict of interest provisions contained in these Contract Documents**, including but not limited to those stated in **Section 6.7** of the General Conditions.

The Proposer further certifies that:

1. No officer, employee, agent, or public official of the Commonwealth or the Authority has or shall have any direct or indirect financial or personal interest in this procurement or any resulting contract;
2. The Proposer has not offered or given, and shall not offer or give, any gratuity, favor, or thing of value to any officer, employee, or agent of the Authority with the intent to influence the awarding or administration of this contract; and
3. The Proposer understands that violation of **M.G.L. c. 268A** may constitute grounds for civil or criminal penalties and for termination of any resulting contract for cause.

Authorized Signature: _____

Name: _____

Firm: _____

Title: _____

Date: ____/____/____

PUBLIC CONTRACTOR DEBARMENT CERTIFICATION

The undersigned certifies under penalty of perjury that the said undersigned is not presently debarred from the award of any contract for public (local, state, or federal) work by the Federal Government or in the Commonwealth of Massachusetts under provisions of 2 CFR 180, subpart C, as adopted and supplemented by U.S. DOT regulations at 2 CFR Part 1200 and Massachusetts G.L. c. 29, §29F, G.L. c. 149, §44C or G.L. c. 7, §38D, or any other applicable state or federal debarment provision, statute, rule or regulation.

Company Name: _____

Signature: _____

Authorized Signatory Name: _____

Title:
_____

Date:
_____

CERTIFICATION OF ELIGIBILITY

_____ hereby certifies that neither
(Name of Company)

it nor its “principals” is included on the U.S. Comptroller General’s Debarred Proposers List.

Further, the Proposer certifies to the best of its knowledge and belief that it and its principals:

Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participating in this transaction by any Federal department or agency.

Have not, within a three-year period preceding the date of this Proposal, been convicted of or had a civil judgment rendered against it for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, violation of Federal or State anti-trust statues or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property.

Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in Paragraph B of this Certification.

Do not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Was not convicted of the felony criminal violation under any Federal law within 24 months preceding the date of this Proposal.

Have not, within a three-year period preceding the date of this Proposal, had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the Proposer is unable to certify to any of the statements in this certification, such Proposer shall include an explanation in such regard with its Proposal.

(Check One)

_____ I DO CERTIFY _____ I DO NOT CERTIFY

Authorized Signatory Name: _____

Signature: _____

Title: _____

Date: _____/_____/_____

CERTIFICATION OF NON-COLLUSION

The Undersigned certifies, under penalties of perjury:

That this Proposal has been made by the Proposer independently, and has been submitted without collusion, and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in this procurement document, designed to limit independent bidding or competition;

That the contents of the proposal have not been communicated by the Proposer or its employees or agents to any person not an employee or agent of the Proposer or it's surety or any bond furnished with the proposal and will not be communicated to any such person prior to the official awarding of this procurement.

That I have fully informed myself regarding the accuracy of the statement made in the certificate.

SIGNATURE: _____

NAME: _____

FIRM: _____

TITLE: _____

DATE: _____/_____/_____

CERTIFICATION OF RESTRICTIONS ON LOBBYING

I, _____, of _____,
Name & Title Name of Firm

hereby certify that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form, “Disclosure Form to Report Lobbying,” in accordance with its instruction as amended.

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements), and that all subrecipients shall certify and disclose accordingly.

The undersigned acknowledges that this certification is a material representation of fact, upon which reliance is placed at the time that the transaction concerned herewith was made or entered into, and that submission of this certification is a prerequisite for making or entering into such transaction imposed by Section 1352, Title 31, U.S. Code as amended. Any person who fails to file the required certification shall be subject to civil penalty of not less than $10,000, and not more than $100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The undersigned certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the undersigned understands and agrees that the provisions of 31 US Code A3801, et seq., apply to this certification and disclosure, if any.

Executed this _____ day of _____, 20_____.

By: _____
Signature & Title of Authorized Official

BUY AMERICA MANUFACTURED GOODS CERTIFICATION

(Steel, Iron, Manufactured Products & Construction Materials)

(To be submitted with each bid or offer equal to or greater than $150,000)

Certification is a requirement for the procurement of steel, iron, manufactured products, and/or construction materials in Compliance with 49 U.S.C. 5323(j) and the applicable regulations in 49 CFR part 661. As well as 2 CFR §200.322 “Domestic Preferences for Procurements” which references §184.

SELECT AND COMPLETE ONLY ONE OF THE FOLLOWING CERTIFICATIONS:

Certificate of Compliance with Buy America Requirements 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j) (1) and the applicable regulations in 49 CFR Part 661.

Signature:_____

Title:_____

Firm:_____

Date:_____

Certificate of Non-Compliance with Buy America Requirements 49 U.S.C. 532 (j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.

Signature:_____

Title:_____

Firm:_____

Date:_____

NOTICE: Sign only one of the above statements – either Compliance OR Non-Compliance (not both). Signing both WILL render your bid NON-RESPONSIVE.

CONTRACTOR'S STATEMENT ON SUB-CONTRACTORS

1. There are NO sub-Contractors associated with this proposal.

Authorized Signee:_____

Printed Name: _____

Title: Date: _____

For (Company): _____

OR

2. Listed below are sub-Contractors associated with this proposal. Additional sheets are attached as required. I _____have also attached appropriate Disadvantage Business Enterprise Certifications.

Name of Company: _____

Address:_____

Contact Person: _____

Telephone #: _____

E-mail: _____

Name of Company: _____

Address:_____

Contact Person: _____

Telephone #: _____

E-mail: _____

Exhibit C

PVTA Contractor Insurance Requirements

CONTRACTOR'S LIABILITY INSURANCE and OWNER'S LIABILITY INSURANCE

The Contractor shall purchase and maintain such insurance as will fully protect him from claims set forth below which may arise in whole or in part out of or result from the Contractor's execution of the Work, whether such execution be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

Claims under workmen's compensation, disability benefit acts;
Claims for damages because of bodily injury, occupational sickness or disease or death of his employees.
Claims for damages because of bodily injury, sickness or disease or death of any person other than his employees.
Claims for damages insured by usual personal injury liability coverage which are sustained
(1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor or (2) by any other person; and
Claims for damages because of injury to or destruction of property, including loss of use resulting therefrom.

Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the work. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least thirty (30) days' prior, written notice has been given to the Owner. Contractors' insurers to have A.M. Best Ratings of A-, VII or higher.

The Contractor shall furnish Certificates of Insurance of each Subcontractor employed in the performance of the work under this Contract, showing that said Subcontractors have complied with all the requirements of this Contract with reference to insurance to be furnished by such Subcontractor.

The Contractor shall procure and maintain, at his own expense during the Contract time, liability insurance as hereinafter specified:

1. Commercial General Liability ("CGL") a. Limits of Insurance of not less than:
   $1,000,000 Each Occurrence
   $1,000,000 Personal and Advertising Injury
   $2,000,000 General Aggregate
   $2,000,000 Products/Completed Operations Aggregate
   $50,000 Fire Damage
   $5,000 Medical Expense
   b. If the CGL coverage contains a General Aggregate Limit, such General Aggregate shall apply separately to each project.
   c. CGL coverage shall be written, and include the Broad Form Endorsement, on ISO Occurrence form CG 00 01-1093 or a substitute form providing equivalent coverage and shall cover liability arising from yet not limited to premises, operations, independent contractors, products – completed operations, and personal and advertising injury.

d. The Owner, and all other parties required by the Owner shall be included as insureds on the CGLs, using ISO Additional Insured Endorsement CG 20 10 (11 85) or CG 20 10 (10 93) and CG 20 37 (10 01) or CG 20 33 (10 01) and CG 20 37 (10 01) or a substitute providing equivalent coverage to the additional insureds. This insurance for the additional insureds shall be as broad as the coverage provided for the named insured Subcontractor. It shall apply as primary and noncontributing insurance before any other insurance or self-insurance, including any deductible maintained by or provided to the additional insureds.

e. Attached to each certificate of insurance shall be a copy of the Additional Insured Endorsement addressed in section (d) above.

f. Subcontractors shall maintain CGL coverage for itself and all additional insureds for the duration of the project and maintain Completed Operations coverage for itself and each additional insured for at least three (3) years after completion of the Work.

2. Automobile Liability

a. Business Automobile Liability with limits of not less than $1,000,000 combined single limit.

b. Business Auto coverage must include coverage for liability arising out of all owned, leased, hired, and non-owned automobiles. c. The Owner, and all other parties required by the Owner shall be included as additional insureds on the auto policy.

3. Commercial Umbrella

a. General Contractor: Umbrella limits must be at least $20,000,000 with a per project aggregate. Subcontractor: Umbrella limits must be at least $5,000,000 with a per project aggregate.

b. Umbrella coverage must include as insureds all entities that are additional insureds on the CGL.

c. Umbrella coverage for such additional insureds shall apply as primary and noncontributing insurance before any other insurance or self-insurance, including any deductible maintained by, or provided to the additional insureds other than the CGL, Auto Liability, and Employers Liability coverages maintained by the Subcontractor.

4. Workers Compensation and Employers Liability

a. Employers Liability Insurance limits must be at least $500,000 each accident for bodily injury by accident, $500,000 each employee for injury by disease, and $500,000 each disease – policy limit.

b. Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

c. Where applicable the Maritime Coverage Endorsement (Jones Act) shall be attached to the policy.

5. Pollution Liability Policy:

a. Pollution limit must be at least $1,000,000 per incident with a per project aggregate.

b. Pollution coverage must include as insureds all entities that are additional insureds on the commercial general liability policy.

The following types of Liability Insurance shall be furnished.

Contractor’s Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under this Contract.

Contractor’s Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under this Contract performed for the Contractor by Subcontractors.

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

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

The Contractor shall acquire and maintain Fire Insurance, All Risk, Builders Risk Completed Value Insurance Policy and installation floater, upon the project to the full insurable value thereof. The named insured shall be the Owner, the Designer, the Contractor and Subcontractors as their interest may appear. This provision shall in no way release the Contractor or Contractor’s surety from obligations under the Contract Documents to fully complete the project. This insurance shall cover all the work in place and all materials stored at the building site or at any other location or while in transit, whether or not covered by partial payments made by the Owner during the contract time and until work is accepted by the Owner.

PROPERTY INSURANCE

1. The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. Coverage for such liability insurance shall be provided by a company or companies reasonably acceptable to the Owner. Contractor shall furnish to Owner written confirmation as to the insurance carrier's most current financial ratings prior to commencing work. Such insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include "all risks" insurance for physical loss or damage including without duplication, theft, vandalism and malicious mischief. This insurance shall also cover portions of the Work stored off the site or in transit. If this insurance is written with stipulated amounts deductible, the Owner shall not be responsible for any difference between the payments made by the insurance carrier and the claim. The policy shall contain a provision that coverages afforded under policies will not be canceled

Before an exposure to loss may occur, the Contractor shall file with the Owner two certified copies of the policy or policies providing this Property Insurance coverage, each containing those endorsements specifically related to the Project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Contractor.”

Waiver of Subrogation: Contractor and any Subcontractors waive all rights against Owner, Architect, and their agents, officers, directors, and employees for recovery of damages to the extent these damages are covered by commercial general liability, commercial umbrella liability, business automobile liability, or workers compensation and employers liability insurance maintained per the requirements stated above.

Exhibit D

PVTA Purchase Order Terms and Conditions

PVTA TERMS AND CONDITIONS

Upon execution of these Terms and Conditions by the Contractor, these Terms and Conditions will be incorporated by reference into any Contract or Purchase Order (hereafter also referred to as a "Contract"), for Commodities and Services executed by the Contractor and PVTA. Performance shall include services rendered, obligations due, costs incurred, commodities and deliverables provided and accepted by PVTA, programs provided, or other commitments authorized under a contract, all as further detailed in the contract documents. A deliverable shall include any tangible product to be delivered as an element of performance under a Contract.

I. Contract Effective Start Date Notwithstanding verbal or other representations by the parties or an earlier start date indicated in a Contract prior to execution by the parties, the effective start date of performance under a Contract shall be no earlier than the date a Contract has been executed by an authorized signatory of the Contractor and the PVTA, a later date specified in the Contract or the latest date of any approvals required by law or regulation, whichever is later.

2. Payments and Compensation The Contractor shall only be compensated for performance delivered and accepted by the PVTA in accordance with the specific terms and conditions of the Contract. All Contract payments are subject to appropriation and availability of funds.

3. Contract Termination or Suspension PVTA may terminate the Contract without cause and without penalty with a thirty (30) day written notice or may terminate or suspend the Contract if the Contractor breaches any material term or condition, or fails to perform or fulfill any material obligation required by the Contract, or in the event of an elimination an appropriation or availability of sufficient funds for the purpose of the Contract, PVTA may terminate the Contract without liability for damages or otherwise, (i) in the event that Contractor becomes insolvent or makes an assignment for the benefit of creditors, or a petition is filed to declare Contractor bankrupt; (ii) if delivery is not made within the time specified in the Contract, or within a reasonable time if no time is specified; or (iii) if the quantity or quality of the articles delivered hereunder is not as specified.

4. Assignment The Contractor may not assign, delegate, or otherwise transfer in whole or in part, any liability, responsibility, obligation, duty or interest under the Contract.

5. Subcontracting By Contractor The Contractor shall not sub-contract any work or performance under the Contract without the prior written approval of the PVTA. Any sub-contract entered into by the Contractor shall be consistent with and subject to the provisions of these PVTA Terms and Conditions and the Contract. Sub-contracts will not relieve or discharge the Contractor from any duty, obligation, responsibility or liability arising under the Contract.

6. Indemnification The Contractor shall indemnify and hold the Authority, its officers and employees, harmless from and against all claims, losses, actions and expenses, including attorney's fees, on account of bodily injury or death of any person, including employees of the Authority, or for damage to or loss of use of property, including property of the Authority, caused by the Contractor, its officers or employees. The Contractor shall further assume all liability for loss by reason of neglect or violations of federal, state or local law or regulations, and shall do and perform all work necessary to conform to such laws, ordinances and regulations. This indemnification is in addition to and not a limitation of any rights and remedies available to the Authority under the Agreement or at law.

7. Acceptance The Contractor by accepting this Contract agrees to all of the terms and conditions specified herein; or attached hereto, on the reverse hereof, and on any bid or other form of solicitation that may have preceded this award. Direct all correspondence relative to this Contract to the Purchasing Department, PVTA, 2808 Main St., Springfield MA 01107. Prices cannot be altered during the term of this Contract unless such change was authorized in the PVTA's solicitation and included in the Contractor's bid. Unless otherwise stated, unit prices are inclusive of all costs.

8. Shipping To ensure that delivery is made to the correct location, please address shipments as noted on the face of this Contract. All correspondence, packages, and invoices must indicate the purchase order number and delivery address as indicated on this Contract.

9. Delivery Deliveries shall be strictly in accordance with the schedule set out or referred to in the Contract and in exact quantities specified. Notwithstanding the foregoing, Contractor shall not be liable for any delay in delivery due to causes beyond Contractor's control and without Contractor's fault or negligence, provided Contractor exercises due diligence in promptly notifying PVTA of conditions which will result in delay, and provided further, if Contractor's delay is caused by the default of the sub-contractor or supplier, such default arises out of causes beyond the control of both Contractor and sub-contractor or supplier, and without the fault or negligence of either of them, and the supplies or services to be furnished by the sub-contractor or supplier were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.

10. Destination Freight pre-paid (delivered) unless otherwise specified.

11. Inspection of Goods PVTA shall have a reasonable time after delivery to inspect the goods delivered or services rendered under this contract and to reject or revoke acceptance of any not conforming with the terms of the Contract documents. Rejected goods will be returned to Contractor at Contractor's expense. Rejected services will be re-worked and all cost associated with the re-work will be charged to Contractor.

12. Substitution of Goods Goods not in conformance with this Contract will not be accepted. PVTA must approve in writing any substitution of non-conforming goods prior to shipment. Contractor shall provide material exactly as specified, provided that where a brand name product is specified, a PVTA approved equal will be accepted where such equal is shown by Contractor to be the equivalent of the items specified. PVTA at its sole discretion shall determine what constitutes an approved equal.

13. Material Safety Data Sheet Contractor shall submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance.

14. Contractor s Warranty Contractor herein warrants and covenants that the subject merchandise complies with all applicable federal, state, and local statutes, rules and regulations for the installation and use of said merchandise for the purpose for which said merchandise is being purchased.

15. Payment All invoices under this Contract must be submitted in duplicate and must indicate PVTA's purchase order number on their face and must be itemized.

16. Payment Terms PVTA's terms of payment are Net 30 days; however, PVTA retains the right to obtain discounts for early payment, whenever possible.

17. Default In the event of default by Contractor, including failure to deliver any item ordered by the stated delivery date or within a reasonable time after acceptance of this Contract if no such date is stated, or if the PVTA rightfully rejects the goods or services or revokes acceptance, the PVTA, without waiving any other remedy permitted at law or in equity, may make alternate purchases of goods or services and the Contractor shall be liable for all additional costs incurred. Any such costs will be invoiced to the Contractor by the PVTA, and payment shall be due no later than thirty (30) days from the invoice date. Further, in such event, PVTA, at its option, may be relieved of any duty to accept said items if the Contractor subsequently attempts to make delivery pursuant to this contract.

18. Non-discrimination in Hiring and Employment The Contractor agrees to comply with all Federal and State statutes, rules and regulations prohibiting discrimination in hiring and employment.

19. Choice of Law This Contract shall be construed and governed by the laws of the Commonwealth of Massachusetts. Any action arising under this Contract shall be brought in the appropriate court located in the Commonwealth of Massachusetts.

20. Returns and Taxes Each Contractor must certify under penalties of perjury that they have filed all state returns and paid all state taxes as required by law.

21. Liquidated Damages In the event Contractor does not meet Contractor's specified delivery time, notwithstanding the provision thereof headed "Delivery", Contractor agrees to compensate PVTA as liquidated damages, an amount equal to the difference between Contractor's price and the price of a substitute, selected at PVTA's sole discretion, from alternate source for each unit purchased by PVTA, not to exceed total quantity specified by this Contract, during the period(s) Contractor is unable to deliver material.

22. Certification Contractor must certify, under penalties of perjury that Contractor is not on the U.S. Comptroller General's list of debarred contractors.

23. Incorporation of Federal Transit Administration (FTA) Terms. The preceding provisions include, in part, certain Standard Terms and Conditions required by the US Department of Transportation (DOT) or Federal Transit Administration (FTA), whether or not expressly set forth in the preceding Contract provisions. All contractual provisions required by DOT, as set forth in the FTA Master Agreement, 2 CFR 200, and FTA Circular 4220.1G, entitled Third Party Contracting, as amended from time to time, and are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act; fail to perform any act or refuse to comply with any PVTA requests which would cause the PVTA to be in violation of the FTA terms and conditions.

PVTA TERMS AND CONDITIONS

By signing this form, the Contractor agrees to accept all the above stated terms. No new or different terms, or changes shall be part of this transaction unless and until such terms or changes are expressly accepted in writing by PVTA.

The Terms and Conditions referenced herein shall not be superseded in the event of the existence of any other conflicting terms and conditions which form any part of a contract between PVTA and the Contractor.

IN WITNESS WHEREOF, the Contractor certifies under the pains and penalties of perjury that it shall comply with these Terms and Conditions for any Contract executed with the PVTA as certified by their authorized signatory below:

CONTRACTOR AUTHORIZED SIGNATORY

Signature: _____

Print Name: _____

Title: _____ Date: _____

Check one: _____Corporation _____ LLC _____ Partnership _____ Individual

Tax Identification Number: _____

Full Legal Organization or Individual Name: _____

Doing Business as Name (if Different): _____

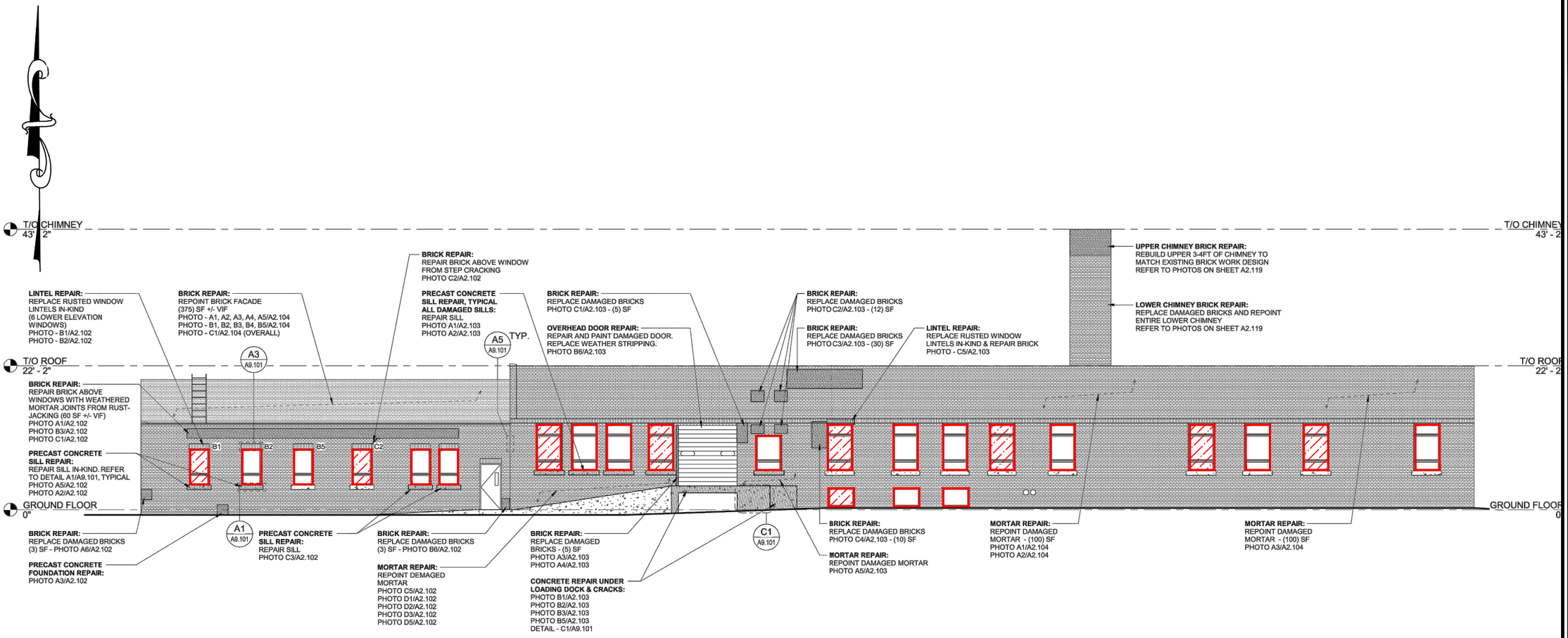
Address: _____

Telephone: _____ Fax: _____

Email: _____

Exhibit E

HAZARDOUS MATERIALS: ACM LOCATIONS



B1 / A1.101 WEST ELEVATION

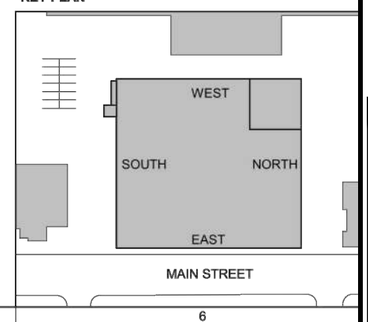
1/8" = 1'-0"

Denotes ACM Positive Caulking between window frame and concrete.

Denotes ACM sample location

Elevation Plan provided by STV

KEY PLAN



NO	DATE	REVISIONS

DATE : May 120, 2025
DRAWN : APH
SCALE : 1" = 20'

West Elevation ACM Locations Bus Maintenance Facility A2.101 from STV

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

CDW-2

2204.0

DAMAGED MULLIONS IN KIND
PHOTO - B4/A2.111
PHOTO - B5/A2.111

T/O ROOF
22' - 2"

BRICK REPAIR:
REPOINT BRICK (INSIDE STAIR VESTIBULE)
(150) SF +/- VIF
PHOTO - A2/A2.111
PHOTO - A3/A2.111
PHOTO - A4/A2.111

CONCRETE FOUNDATION WALL REPAIR:
REPAIR WALL IN-KIND
(INSIDE STAIR VESTIBULE)
PHOTO - A1/A2.111
PHOTO - A5/A2.111
PHOTO - B2/A2.111
PHOTO - B3/A2.111

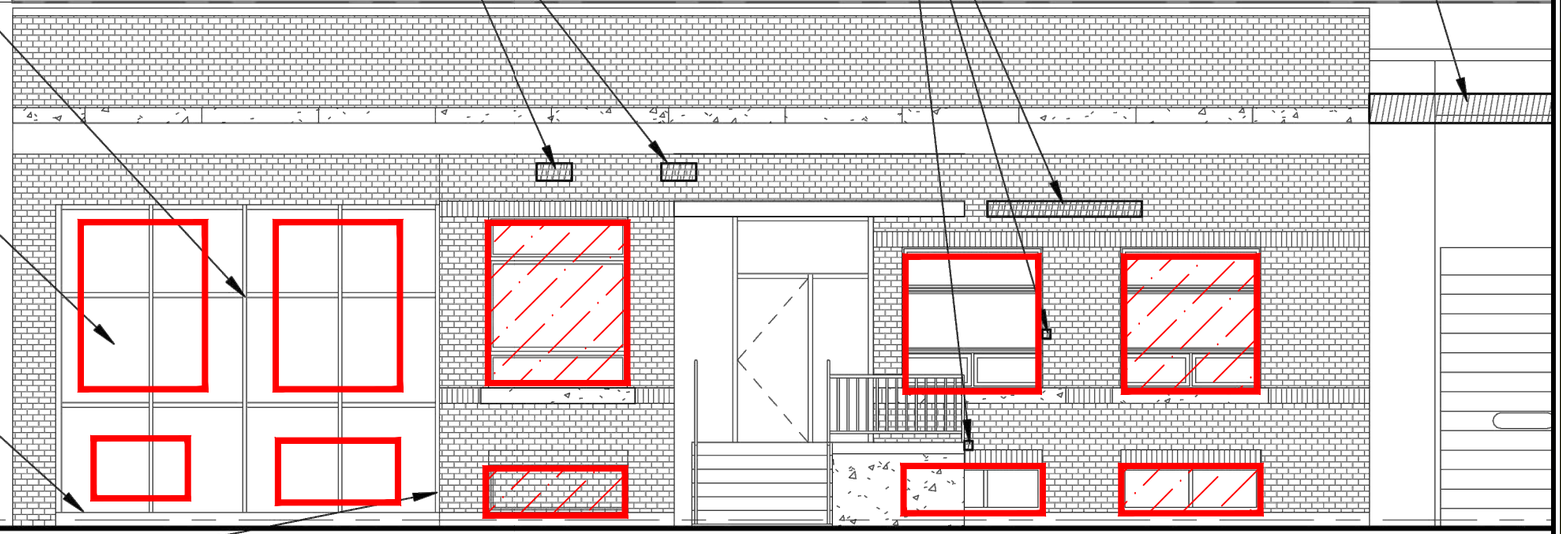
GROUND FLOOR
0"

SIGN REPLACEMENT:
REPLACE SIGN
(INSIDE STAIR VESTIBULE, ABOVE STAIRS)
PHOTO - B1/A2.111

R:
REPOINT BRICK
PHOTO - A2/A2.111
PHOTO - A3/A2.111

BRICK REPAIR:
(10) SF +/- VIF
REPOINT BRICK
PHOTO - C1/A2.111
PHOTO - C2/A2.111

CMU REPAIR:
REPOINT CMU
(15) LF +/- VIF
PHOTO C3/A2.111



B

B1
A1.101

SOUTH ELEVATION

1/8" = 1'-0"

Denotes ACM Positive window caulking between frame and concrete.

Denotes window area sampled

NO	DATE	REVISIONS

DATE : May 120, 2025
DRAWN : APH
SCALE : 1" = 20'

South Elevation ACM Locations
Bus Maintenance Facility
A2.110 from STV

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

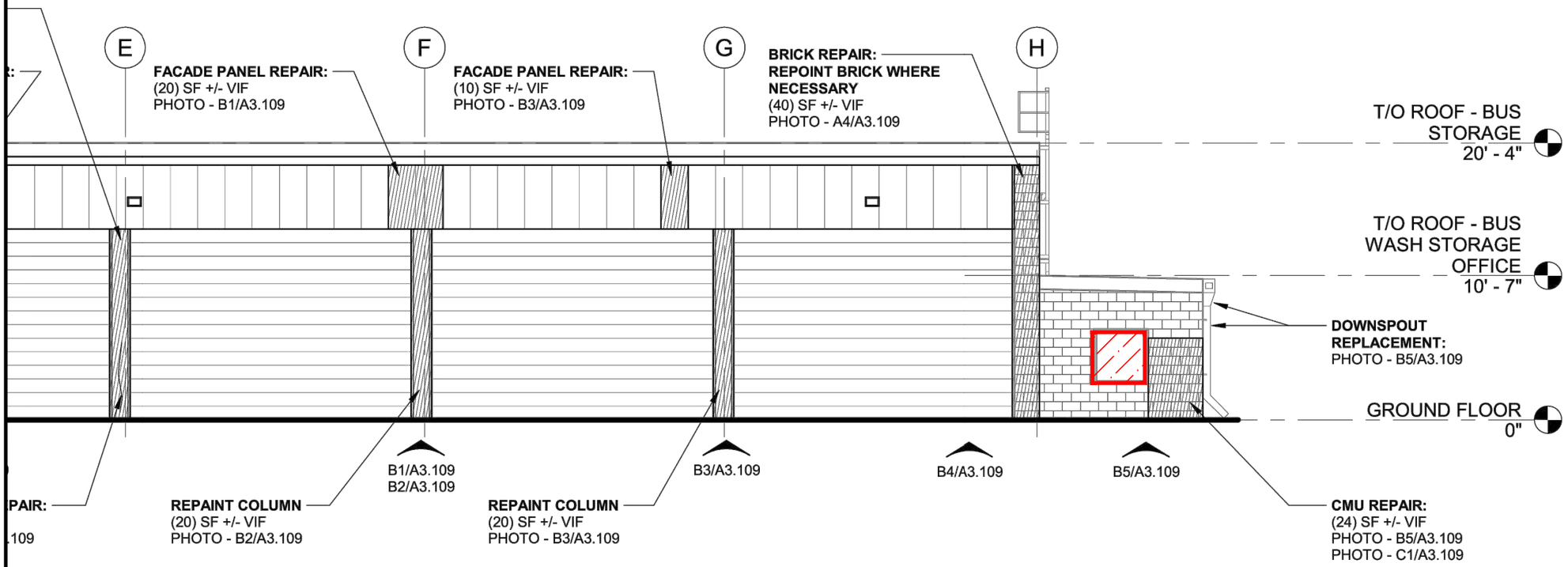
CDW-1

2204.0

BUS WASH - SOUTH ELEVATION

2
A1.102

1/8" = 1'-0"



Denotes ACM Positive caulking between framing and concrete

Denotes window sampled

BUS MAINTENANCE FACADE REPAIRS

NO	DATE	REVISIONS

DATE :	May 120, 2025
DRAWN :	APH
SCALE :	1" = 20'

South Elevation ACM Locations
Bus Wash/Fueling Building
A3-108

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan

CDW-3

2204.0

NO	DATE	REVISIONS

DATE :	May 120, 2025
DRAWN :	APH
SCALE :	1" = 20'

3 4 5

Denotes ACM positive caulking between window frame and concrete

Denotes ACM positive caulking between window frame and concrete

1 2 3 4 5 6 7

DOOR REPAINTING:
PHOTO - A3/A3.112

A1/A3.112 A2/A3.112 A3/A3.112 A4/A3.112 A5/A3.112 B1/A3.112 B2/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - A2/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - A1/A3.112

CMU REPAIR:
(6) SF +/- VIF
PHOTO - B3/A3.112

CMU REPAIR:
(20) SF +/- VIF
PHOTO - B3/A3.112
PHOTO - B4/A3.112

CMU REPAIR:
(2) SF +/- VIF
PHOTO - B5/A3.112

CMU REPAIR:
(5) SF +/- VIF
PHOTO - C1/A3.112

CMU REPAIR:
(8) SF +/- VIF
PHOTO - C2/A3.112

TORAGE - EAST
TION

8 9 B3 A9.101 10 11 12 13 14

T/O ROOF - BUS STORAGE
20' - 4"

PRECAST CRACK REPAIR

East Elevation ACM Locations
Bus Maintenance Facility
A3.111

PVTA Facility
2480 Main Street
Springfield, MA

CDW CONSULTANTS

Sample Plan
CDW-4
2204.0