



**CITY OF EVERETT, MASSACHUSETTS**  
**EVERETT POLICE ROOF REPLACEMENT**  
**CITY PROJECT NO.: MUN-26-07**

Delivery Method: M.G.L. c.149, §§ 44A-44H inclusive

**OWNER:**

City of Everett, Massachusetts  
484 Broadway, Room 14  
Everett, MA 02149

**ARCHITECT:**

ARM Consultants, LLC  
PO Box 4  
Chester, NA 03036

January 14, 2026

**City of Everett, Massachusetts**  
**Contract Document Package**  
**Chapter 149 General Contractor Request for Bids**  
**(Paper-bidding)**

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**Section 00300**

**CIT OF EVERETT, MASSACHUSETTS**

**CITY Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**INVITATION TO BID AND INSTRUCTIONS TO BIDDERS:  
GENERAL CONTRACTOR SERVICES  
& SUBCONTRACTOR SERVICES**

**Summary of Work:** Removal of all existing roofing materials to the structural decking and replacement with new materials to meet current building code regulations.

Estimated construction cost is \$500,000.

**On-Site Construction Start:** April 6<sup>th</sup>, 2026

**Substantial Completion:** May 15<sup>th</sup>, 2026

**Final Completion:** June 1<sup>st</sup>, 2026

**The City of Everett (the “City”) hereby requests bids from:**

**General Contractors DCAMM certified in Roofing as Prime interested in bidding  
and from Subcontractors the following subtrades:**

- NONE

**BID PROCESS**

Only firms that have submitted Statements of Qualifications in response to the Request for Qualifications issued by the City for this project and have been identified by the Prequalification Committee as qualified to receive this Invitation to Bid may submit bids for this project.

All bids for this project are subject to the applicable provisions of Massachusetts General Laws, Chapter 30, § 39M and Chapter 149, §§ 44A-44H inclusive. Attention is directed to the minimum wage rates to be paid on the work as determined by the Commissioner of Labor and Industries under the provisions of Massachusetts General Laws, Chapter 149, §§ 26-27 inclusive. The City reserves the right to waive any informalities in or to reject any and all bids if it be in the best interest of the City to do so.

These instructions provide Bidders with information intended to enable them to prepare and submit Bids for consideration and evaluation by the City. The procurement process will consist of two phases of bidding: (1) Subcontractor bidding; and (2) General Contractor bidding. These instructions cover all work as documented in the attached bid documents, as modified by addenda, if any (collectively, the “Bid Documents”). The work outside of the publicly bid sub-trades will be awarded to a General Contractor. After the sub-bids are opened and reviewed, the tabulation of bids of sub-bidders in each publicly bid trade will be distributed to General Contractors. General Contractors will include publicly bid sub-trades in their general bid. The City’s form of Owner-Contractor Agreement and the form of subcontract is included with these Bid Documents.

Every General Bidder must be certified by the Division of Capital Asset Management (“DCAMM”) in the category of General Contractor for the dollar amount of their Bid. General Bids will be valid only when accompanied by a valid and current Certificate of Eligibility and Contractor Update Statement summarizing the General Bidder’s record for the period between the latest DCAMM certification and the date the contractor submits its Bid. Every Sub-bidder must be certified by the DCAMM for the dollar amount of their sub-bid. Sub-bids will be valid only when accompanied by a Certificate of Eligibility and an Update Statement.

**Bidders submitting bids for General Contractor Services** shall submit a Bid that shall include all of the required items on the enclosed forms.

**Bidders submitting bids for Subcontractor Services** shall submit a Bid that shall include all of the required items on the enclosed forms, including but not limited to, a proposed lump sum price for the sub-trade's scope of work. The cost of performance and labor and materials bonds shall be set forth separately as a unit price. The selected sub-trade bids, when combined with the selected General Contractor bids, will establish the Stipulated Sum for the entire project.

Each Bid proposal must be secured by an accompanying deposit of five (5) percent of the total amount of the Bid. Deposits shall be in the form of a bid bond, certified check, treasurer’s or cashier’s check payable to the City of Everett. No cash will be accepted. Bid deposits of all General Bidders, except those of the three lowest responsible and eligible Bidders, will be returned within five (5) days, Saturdays, Sundays, and legal holidays excluded, after the opening of General Bids. The bid deposits of the three lowest responsible and eligible General Bidders shall be returned upon the execution and delivery of the General Contract or, if no award is made, then at the expiration of thirty (30) days after the opening of the bids, Saturdays, Sundays, and legal holidays excluded, unless forfeited by failure to sign the Contract. In case of refusal or failure to enter into the proposed contract or furnish required bonds as stated in its Bid, the Bidder shall forfeit the bid deposit and the amount shall become the property of the City as liquidated damages, provided that the amount of the bid deposit subject to forfeiture shall not, in any event, exceed the difference between the Bidder’s price and the bid price of the next lowest responsible and responsive Bidder.

**A BIDDER MAY NOT, IN ITS PROPOSAL, TAKE EXCEPTION TO THE FORM OF OWNER-CONTRACTOR AGREEMENT OR OTHERWISE CONDITION ITS PROPOSAL ON CHANGES TO THE FORM OF OWNER-CONTRACTOR AGREEMENT. THE BIDDERS TO WHOM CONTRACTS ARE AWARDED WILL BE REQUIRED TO ENTER INTO THE CITY FORM OF OWNER-CONTRACTOR**

**AGREEMENT OR THE STATUTORY FORM OF SUBCONTRACT AGREEMENT, AS APPROPRIATE, WITHIN FIVE (5) BUSINESS DAYS OF PRESENTATION OF THE CONTRACT BY THE CITY.**

**SCHEDULE OF BID PROCESS:**

- Bid Documents available to Bidders: January 14<sup>th</sup>, 2026 at 10:00AM
- Pre-Bid Conference: 10AM; January 20<sup>th</sup>, 2025 @ 45 Elm Street Everett, MA 02149
  
- Question/Clarification Period closes:
  - For General Contractors: January 22<sup>nd</sup>, 2026 at 4:00PM
  
- Bid Submission Deadline:
  - For General Contractors: February 3<sup>rd</sup>, 2026 by 2:00 PM at Everett City Hall, Purchasing Dept, Room 14, 484 Broadway, Everett, MA 02149.
  
- Bid Award and De-Scope:
  - For Winning Contractor: February 4<sup>th</sup>, 2026 at 10:00 AM at Everett City Hall, Purchasing Dept, Room 14, 484 Broadway, Everett, MA 02149.

**BIDDER'S REPRESENTATIONS:**

Each Bidder by making a proposal or Bid represents that:

1. The Bidder has read and understands the Bid Documents and the Bid is made in accordance therewith. The Bidder has visited the site where the Work is to be performed and is familiar with the local conditions under which the Work will be performed. Failure to so examine the Bid Documents and site will not relieve any Bidder from any obligation under the Bid as submitted.
2. The information contained in the Bid is true and complete.
3. The Bid has been prepared in good faith and has been duly and properly authorized for submission on behalf of the Bidder.
4. In preparation and development of the Bid, the Bidder has not, directly or indirectly, solicited or received any advice, assistance, or information concerning the Project from any representative of the City, its agents, or consultants which was not issued in writing by the City to all Bidders.
5. The Bidder has filed with the Secretary of State all certificates and annual reports required by Chapter 156D, section 16.22 (domestic and foreign corporation), Section 15.03 (foreign corporations), Section 109 (Massachusetts business corporation), or Chapter 180, Section 26A (non-profit corporation) as applicable, of the Massachusetts General Laws.

## **REQUESTS FOR INTERPRETATION:**

Bidders shall promptly notify the City in writing of any ambiguity, inconsistency or error, which they may discover upon examination of the Bid Documents, the site, and local conditions.

Bidders requiring clarification or interpretation of the Bid Documents shall make a written request to the Architect with a copy of the City by email or by fax as follows:

ARM Consultants LLC  
Email: Brian@armroofs.com

## **COPY:**

Kiara M. Freeman, Chief Procurement Officer  
Everett City Hall, Purchasing Dept.  
484 Broadway, Room 14  
Everett, Massachusetts, 02149  
Email: Kiara.Freeman@ci.everett.ma.us

Requests via phone will not be accepted. Any responses to written questions will be issued as an addendum to the Bidding Documents. The City will not be responsible for, and a Bidder may not rely upon or use as the basis of any claim or protest against the City or a consultant of the City, any information, explanation or interpretation of this Invitation to Bid/Instructions to Bidders rendered in any fashion except as explicitly herein provided.

It is the sole responsibility of Bidders to ascertain the existence of any and all Addenda. Only written Addenda issued as described in these Instructions to Bidders shall be effective to modify the Bid Documents.

Any Bidder that contacts directly or indirectly any member or employee of the City, or the City's consultants, in connection with the selection process or the contract contemplated herein, other than by participation in the pre-bid conference, submission of a written question or request for clarification or interpretation as prescribed in this section, may be subject to disqualification and rejection of its Bid.

## **PREPARATION AND SUBMISSION OF BIDS:**

Bids shall be submitted on the appropriate Bid Form attached hereto.

- All entries on the Bid Form shall be made by typewriter or in ink.
- No modifications should be made to the Bid Forms.
- Sums shall be expressed in both words and figures in the space indicated on the Bid form. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control.

- If the requirement of Performance and Payment Bonds for filed subcontractors is left blank by the General Bidder on the Form for General Bid, the Awarding Authority shall interpret this as a “yes”. No increase in contract price will be allowed for providing these bonds.
- Costs for subcontractor’s bond premiums shall be paid for by the General Contractor in accordance with M.G.L. c. 149, § 44F.
- Total lump sum price will be basis of award regardless of any mathematical errors by bidders.
- For subcontractors bidding multiple trades, each subtrade must be submitted on a separate bid form.

Bids shall be enclosed in a **sealed envelope** with the following plainly marked on the outside:

Bid for: **Kiara M. Freeman, Chief Procurement Officer  
Everett City Hall, Purchasing Department, Room 14  
Everett, MA, 02149**

**Project Number MUN-26-07**

**Trade Name, if applicable**

**Bidder's Name, Business Address, and Phone Number**

Bids must be received at Everett City Hall, Purchasing Dept, 484 Broadway, Room 14, Everett, MA 02149 on or before January 21<sup>st</sup>, 2026 at 2:00 PM for General Contractors. Timely delivery of a Bid to the location designated shall be the full and sole responsibility of Bidder.

#### **WITHDRAWAL OF BIDS:**

Any Bid may be withdrawn (retracted) prior to the time designated for receipt of bids upon written request made to the City of Everett. Withdrawal of Bids must be confirmed over the Bidder’s signature by written notice post-marked or sent by facsimile or electronic mail on or before the date and time set for receipt of Bids. Withdrawn Bids may be modified and resubmitted up to the time designated for the receipt of Bids.

#### **EVALUATION PROCESS:**

The City will evaluate all Bids in accordance with the provisions of the Bid Documents and the criteria described below. The City may consider all information contained in the Bidder’s DCAMM Qualifications Statement and the Bid, and any other information obtained or received by the City. Any Proposal from a Bidder that is determined to be nonresponsive or unacceptable may be rejected. Bids that are deemed to be unrealistic inasmuch as the price proposed, in the judgment of the City, substantially deviates from the City’s estimate of cost to complete all of the

Work, or portion thereof, will be considered as not responsive to the Invitation to Bid and may be rejected at the sole discretion of the Authority.

The City will award the contract in accordance with the "CONTRACT AWARD" section below. Before award, the City may first conduct interviews with selected Bidders. The purpose of the interviews will be to clarify and assure understanding of the contents of the Bid, as well as the requirements of the Bid Documents and the contract, discuss deficiencies or uncertainties in the Bid, discuss cost and fee information, and discuss any other matters relevant to such Bid as the City may determine appropriate. No statements made or actions taken by any representative of the City during such discussions shall be binding on the City. If requested by the City, some or all of the key personnel identified in the Bidder's DCAMM Qualifications Statement or Bid will be required to participate in the discussions or to be available for an interview with City representatives.

## **EVALUATION CRITERIA**

The criteria listed below are the criteria that will be applied to evaluate the Bids.

A. Price Proposal

Award will be to the lowest responsive and responsible Bidder with selected alternates provided that all required documents listed below are attached and satisfactory. The City may consider in its evaluation the reasonableness of the prices proposed by the Bidder.

B. Required Documents to be Submitted for Bidding

1. Bid Form.
2. Bid Deposit of 5% of the total bid amount (bid bond, certified check, or treasurer's or cashier's check payable to the City of Everett).
3. A proposed construction schedule showing all work included in the Bid. The proposed construction schedule must include key milestones including completion, commissioning, inspections, and occupancy.
4. DCAMM Update Statement and Certificate of Eligibility.
5. General Contractor or Subcontractor Bid Certifications, as appropriate.

## **CONTRACT AWARD:**

The City will open Bids on the Bid Due Date immediately following the Bid Submission Deadline. Bids will be read publicly, and a register will be maintained of those firms submitting timely Bids.

The City will award the General Contract and Subcontract(s) to the lowest responsible and eligible bidder in each trade category within thirty (30) days after the opening of Bids. The selected Bidders will be notified in writing.

If a selected Bidder fails or refuses to execute the Owner-Contractor Agreement or Subcontractor Form of Agreement in the form included in the Bid Documents, as modified by addenda, if any, and furnish the other documents required in connection with execution of the contract, within five (5) business days after the presentation of the Owner-Contractor or Subcontractor Agreement, as applicable, by the City, the City may award the contract to another bidder.

THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS if it determines that such action is in the best interest of the City. Any Bid which is incomplete, conditional or obscure may be considered invalid and the City may reject such Bid. In addition, the City may reject any Bid which is not prepared and submitted in accordance with all requirements of these Bid Documents and the attached forms or which contains alterations, contingencies or additions not called for or errors or irregularities of any kind; PROVIDED, HOWEVER, that the City reserves the right to waive any and all informalities or minor irregularities contained in the Bid. If these Bid Documents, the Bid Forms, or any other document or applicable law requires submission of certain information or other items as a part of or to accompany Bids and any Bidder neglects to furnish such information or other items with its Bid, the City may reject the Bid of such Bidder as incomplete; PROVIDED, HOWEVER, that the City reserves the right to deem any such omission as an informality for which such Bid will not be rejected, and to subsequently receive such information or other items prior to award of the contract.

As used herein, the term “lowest responsive and responsible bidder” shall mean the Bidder whose Bid is the lowest of those Bidders demonstrably possessing the skill, ability, and integrity necessary for the faithful performance of the work described in the Bid documents, and who shall certify that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work. The City may consider the reasonableness of the prices proposed for the scope of the work involved in its evaluation of the Bids.

The City reserves the right to amend these Bid Documents at any time. Any amendments to these Bid Documents shall be issued by means of addenda. All addenda so issued shall become part of these Bid Documents.

The City reserves the right to withdraw this Invitation to Bid at any time in its sole discretion before award of a contract.

The City assumes no responsibility for the costs incurred by the Bidders in the preparation of a Bid or any related activities. The Bid Documents and this ITB/Instructions to Bidders have been prepared solely to solicit Bids, and are not contract offers. The only documents that may be binding on the City is the **Owner-Contractor Agreement** duly executed by the City and the selected general contractor.

## **COUNCIL APPROVAL**

In all cases, the award of the contract shall be subject to the approval of the Members of the Everett City Council in public meeting.

## **INFORMATION**

The City's receipt or discussion of any information (including information contained in the proposal and any ideas or other material communicated or exhibited by the Bidder or on its behalf) shall not impose any obligation whatsoever on the City or entitle the Bidder to any compensation therefor, except to the extent specifically provided in such written agreement as may be entered into between the City and the Bidder. Any such information given to the City before, with, or after submission of the proposal, either orally or in writing, except as noted below, is not given in confidence, and may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with the terms of this paragraph, whether made as part of or in connection with any information received from the Bidder or made at any other time in any fashion, shall be void and of no effect.

## **ATTACHMENTS**

This IFB includes the following attachments:

Attachment A – List of Filed-Sub Trades

Attachment B – Sample Bid Form - General Contractor Services

Attachment C – General Bid Certifications

Attachment D – Sample Bid Form - Sub-Contractor Services

**CITY OF EVERETT, MASSACHUSETTS**

**CITY Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**ATTACHMENT A**

**List of Filed-Sub Trades**

- NA

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**ATTACHMENT B**

**Sample Bid Form – General Contractor Services**

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**Everett Police Roof Replacement**

**FORM FOR GENERAL BID**

Firm's Name: \_\_\_\_\_

(A) The Undersigned proposes to furnish all labor and materials required for the Everett Police Roof Replacement, in accordance with the accompanying plans and specifications prepared by ARM Consultants for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

(B) This Bid includes addenda numbered \_\_\_\_\_

(C) The proposed fixed contract price is \_\_\_\_\_ dollars  
(\$\_\_\_\_\_).

For Unit Price No.1 - Add \$ 6,000 ; Subtract \$ 5,000

For Unit Price No.2 - Add \$ 300 ; Subtract \$ 250

For Unit Price No.3 - Add \$ 450 ; Subtract \$ 300

For Unit Price No.4 - Add \$ 975 ; Subtract \$ 900

For Unit Price No.5 - Add \$ 1,050 ; Subtract \$ 975

(D) The subdivision of the proposed contract price is as follows:

Item 1. The work of the general contractor, being all work other than that covered by Item 2.

\$ \_\_\_\_\_

Item 2. Sub-bids as follows: \$ \_\_\_\_\_



also a labor and materials payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the City and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.

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 and that he will comply fully with all laws and regulations applicable to awards made subject to section forty-four A.

(F) 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 of subcontracts subject to section 44F.

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. 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.

The undersigned certifies that there have been no substantial changes to its financial position or business organization since its most recent DCAMM update statement.

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

\_\_\_\_\_  
Name of Contractor- General Bidder

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title & Name of Person Signing Bid

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
City and State

---

State of Incorporation

---

Telephone

---

Facsimile

---

Email

---

Taxpayer ID#

Attach: DCAMM Certificate of Eligibility  
DCAMM Update Statement  
List of Completed Construction Projects Submitted most recently to DCAMM  
Proposed Construction Schedule  
Bid Deposit  
General Bid Certifications

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**ATTACHMENT C**

**General Bid Form Certifications**

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**GENERAL BID CERTIFICATIONS**

**Certification Regarding Labor:** The undersigned hereby certifies under penalties of perjury that: (i) that all employees to be employed in the work included in this Bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration; and (ii) any employee found on worksite subject to this Bid without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration shall be subject to immediate removal.

**Certification Regarding Financial Position/Business Organization:** The undersigned certifies under penalty of perjury that there have been no substantial changes to its financial position or business organization since its most recent DCAMM update statement.

**Certification Regarding Tax Compliance:** The undersigned further certifies under penalty of perjury that the said undersigned has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support pursuant to the provisions of M.G.L. c. 62C, §49A(b).

**Certification of Compliance of Secretary of State Requirements:** The undersigned further certifies under penalty of perjury that the Bidder has filed with the Secretary of State for the Commonwealth of Massachusetts all certificates and annual reports required by Chapter 156B, Section 109 (business corporation), by Chapter 181, Section 4 (foreign corporation), or Chapter 180, Section 26A (non-profit corporation) of the Massachusetts General Laws.

**Certification Regarding Non-Collusion:** The undersigned further certifies under penalty of perjury that this Bid has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

**Certification Regarding Prevailing Wage Compliance:** The undersigned further certifies under penalty of perjury that the said undersigned shall comply with the provisions of sections 26 and 27D of chapter one hundred and forty-nine of the General Laws governing the payment of prevailing wages.

[SIGNATURE ON FOLLOWING PAGE]

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

---

Name of Contractor- General Bidder

---

Signature

---

Title & Name of Person Signing Bid

---

Business Address

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**Everett Police Department Roof Replacement**

**CONTRACTING REQUIREMENTS**

**Form of Performance Bond and Payment Bond (A312-2010)**



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### § 14 Definitions

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

Sample

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

**CONTRACTOR AS PRINCIPAL**

**SURETY**

Company:

*(Corporate Seal)*

Company:

*(Corporate Seal)*

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

Name and Title:

Address

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

Name and Title:

Address

Init.

/

 **AIA**® Document A312™ – 2010

**Payment Bond**

**CONTRACTOR:**  
*(Name, legal status and address)*

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

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

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

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

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description:  
*(Name and location)*

**BOND**

Date:  
*(Not earlier than Construction Contract Date)*

Amount:

Modifications to this Bond:  None  See Section 18

**CONTRACTOR AS PRINCIPAL**

Company: *(Corporate Seal)*

**SURETY**

Company: *(Corporate Seal)*

Signature: \_\_\_\_\_  
Name  
and Title:  
*(Any additional signatures appear on the last page of this Payment Bond.)*

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

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### **§ 16 Definitions**

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:

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

**CONTRACTOR AS PRINCIPAL**

**SURETY**

Company:

*(Corporate Seal)*

Company:

*(Corporate Seal)*

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

Name and Title:

Address

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

Name and Title:

Address

Init.

/

**CITY OF EVERETT, MASSACHUSETTS**



**AGREEMENT BETWEEN OWNER AND CONTRACTOR**

This **AGREEMENT** (the “Agreement”) is made and entered into as of the \_\_\_ day of \_\_\_, 20\_\_ by and between the Owner and the Contractor in connection with the Project, all as defined below, pursuant to the applicable provisions of Massachusetts General Laws, Chapter 30, § 39M and Chapter 149, §§ 44A-44H.

**Owner:** **City of Everett, Massachusetts**  
**Everett City Hall**  
**484 Broadway, Room 14**  
**Everett, Massachusetts 02149**

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

**Project:** \_\_\_\_\_  
**(City Project No. MUN-26-07)**

**Site:** \_\_\_\_\_

**Architect:** \_\_\_\_\_

**Architect’s Representative:** \_\_\_\_\_

**Owner’s Project Manager (“OPM”):** \_\_\_\_\_

**OPM’s Representative:** \_\_\_\_\_

**Contractor’s Project Team:** **Project Executive:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Project Superintendent:** \_\_\_\_\_

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City of Everett, Massachusetts  
Agreement Between Owner and Contractor (Chapter 149)  
Everett Police Department Roof Replacement  
City Project No. MUN-2607

In consideration of the mutual agreements and covenants of the Owner and the Contractor (collectively, the “Parties”) set forth herein, the Parties hereby agree as follows:

**ARTICLE 1**

**DEFINITIONS & EXHIBITS**

**1.1** Definitions. Capitalized terms not defined in this Agreement shall have the meanings defined elsewhere in this Agreement or in the General Conditions of the Contract for Construction or in other provisions of the Contract Documents. In the event of conflict in the definitions of capitalized terms, the definitions set forth in this Agreement shall take precedence followed by definitions in the General Conditions.

**1.2** Exhibits. The following is a list of the documents which, when completed or provided, shall become exhibits to this Agreement, each of which is incorporated into this Agreement by reference and shall be deemed a part hereof:

<u>Exhibit</u>	<u>Description</u>
A	List of Specifications
B	List of Drawings
C	List of Addenda
D	Equal Employment Opportunity Requirements
E	Affirmative Action Requirements
F	Form of Project Workforce Monthly Report
G	Certificates of Insurance
H	Form of Subcontract
I	Performance and Payment Bonds
J	Insurance Requirements

**1.3** Applicable Statutory Provisions. This Project is subject to certain statutory provisions. The applicable statutory provisions are enumerated in the General Conditions and in Division 00 of the Specifications and shall be deemed incorporated in the Contract Documents in their entirety to the extent such statutory provisions apply to this Project. Any other provisions required by statute to be included herein but not set forth in the Contract Documents shall be deemed to be so included. In case of a conflict between the provisions of the Contract Documents and the provisions of any applicable statute, the statutory provisions shall govern.



City of Everett, Massachusetts  
Agreement Between Owner and Contractor (Chapter 149)  
Everett Police Department Roof Replacement  
City Project No. MUN-2607

## **ARTICLE 2**

### **THE WORK**

**2.1** Scope of the Work. The Work of the Project includes all labor, materials, equipment, tools, supplies, supervision, coordination, administration, and all other items or services required to fully complete the Project as described in the Contract Documents or as may be reasonably inferable therefrom. The Contractor shall fully execute the Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others. The Contractor shall ensure that the Work is completed at a cost no greater than the Contract Sum, as further provided in Article 4 and elsewhere in the Contract Documents.

**2.2** Contract Documents. The Contract Documents consist of this Agreement and the Exhibits hereto, the General Conditions of the Contract for Construction, the Supplementary General Conditions, if any, Drawings, Specifications, Change Orders, other written amendments to this Agreement duly executed by the Owner and the Contractor, Construction Change Directives, Architect's Supplemental Instructions, Performance Bond, Labor and Material Payment Bond, and all other documents set forth or incorporated by reference herein or elsewhere in the Contract Documents. The Contract Documents are all as fully a part of this Agreement as if attached to this Agreement and repeated herein and together constitute the "Agreement" or the "Contract." The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral.

**2.3** Representations. In addition to other representations set forth in the Contract Documents, the Contractor represents that it is a duly-licensed and registered business entity which is experienced and skilled in construction of projects of the type, magnitude, and complexity described in the Contract Documents and that it is familiar with the special problems, regulations, and requirements of construction of the type required hereunder. The Contractor further represents that it is fully cognizant of all aspects of the overall development of the Site as described by the Owner and of the relationship of the Project to such overall development, and that it will furnish, at a cost not to exceed the Contract Sum, a complete and fully operable Project as indicated by or reasonably inferable from the Contract Documents, capable of obtaining a full, permanent certificate of occupancy.

## **ARTICLE 3**

### **CONTRACT TIME**

**3.1** The Contractor shall commence performance upon the issuance of a Notice to Proceed by the Owner for a portion, or all, of the Work. The period of time from the date of the initial Notice to Proceed to the Final Completion Date, together with any valid extensions thereof approved by the Owner in accordance with the Contract Documents, shall constitute the Contract Time. The Contractor shall achieve Substantial Completion of the entire Work on or before May



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15<sup>th</sup>, 2026. Final Completion of the entire Work shall be achieved fourteen (14) calendar days after the date of Substantial Completion.

**3.2** The Contractor shall proceed to carry out the Work in a timely, diligent and continuous manner in accordance with the requirements of the Project Schedule and all other Contract Documents and in accordance with the directions of the Owner so as to ensure (i) Substantial Completion of the Work, or any specified portion thereof, on or before the Substantial Completion Date, and (ii) Final Completion of the Work, or any specified portion thereof, on or before the Final Completion Date, as such dates may be extended as provided in the Contract Documents.

**3.3** It is understood and agreed that the time of commencement and the dates of Substantial Completion and Final Completion of the Work are material conditions of this Agreement, and that TIME IS OF THE ESSENCE of this Agreement.

**ARTICLE 4**

**CONTRACT SUM**

**4.1** Contract Sum. The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor’s performance of the Contract in accordance with the requirements of the Contract Documents. The Contract Sum is hereby established as \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), subject to additions and deductions as provided in the Contract Documents.

**4.2** Alternates. No alternates were included with this contract.

<u>No.</u>	<u>Description</u>	<u>Price</u>
N/A	Not Applicable	\$ N/A

**4.3** Unit Prices. Unit prices, applicable to this Contract are listed in the Unit Price Section of the Specifications:

<u>No.</u>	<u>Description</u>	<u>Unit</u>	<u>Price</u>
1	Steel Deck Replacement	Per SF	\$ 12.00
2	18-Gauge Galvanized Plate	per SF	\$ 6.00
3	Wire Brushing & Painting	per SF	\$ 3.00
4	Deteriorated 2x6 Wood Blocking	per LF	\$ 6.50
5	Deteriorated 2x8 Wood Blocking	per LF	\$ 7.00



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City Project No. MUN-2607**

**4.4 Pricing of Alternates and Unit Prices.** The Alternate Prices and Unit Prices specified shall include all services, labor, materials, supplies, equipment, transportation, taxes, insurance, bonds, permits and all other expenses, including overhead, superintendence and profit required to complete the alternate or unit price Work. Unless otherwise specified, the Alternate Prices and Unit Prices listed in this Article 4 shall be applicable to both increases and decreases in the Contract Sum on an equal basis. Unit prices listed in section 01 22 00 shall be carried in the base bid price.

**4.5 Insurance.** The Owner and Contractor shall purchase and maintain insurance and bonds in accordance with the requirements of the Contract Documents. The Contractor shall carry insurance coverages with limits no less than those identified on **Exhibit J**, attached hereto.

## **ARTICLE 5**

### **PAYMENTS**

**5.1** 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.

**5.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

**5.3** Provided that an Application for Payment is received by the Architect not later than the 5th day of a month, the Owner shall make payment to the Contractor not later than the 30th day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than 25 days after the Architect certifies the Application for Payment.

**5.3.1** Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor as required by 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 Owner or the Architect may require. This schedule, once approved by the Owner and the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

**5.3.2** Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

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



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- (a) 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 percent (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in the Contract Documents;
- (b) 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 percent (5%);
- (c) Subtract the aggregate of previous payments made by the Owner; and
- (d) Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in the Contract Documents.

**5.3.4** The progress payment amount determined in accordance with this Article 5 shall be further modified under the following circumstances:

- (a) 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 or defective Work, retainage applicable to such work and unsettled claims.

**5.3.5** 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.

**5.3.6** Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when:

- (a) the Contractor has fully performed the Contract and satisfied all requirements of the Contract Documents, except those contractual obligations that are required to be performed after final completion of the Project; and
- (b) a Final Certificate for Payment has been issued by the Architect.

**5.3.7** 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 any longer period allowable under Applicable Laws.



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**ARTICLE 6**

**OTHER PROVISIONS**

**6.1** No Personal Liability. No member, officer, director, principal, joint venturer, beneficiary, trustee, representative, consultant, volunteer participant, employee, agent or representative of the Owner or the Contractor shall be personally liable to the other party under any term or provision of this Contract for any payment obligations or otherwise, or because of any breach hereof, each party agreeing to look solely to the assets of the other party for the satisfaction of any liability hereunder.

**6.2** Consequential Damages. In no event shall the Owner be liable to the Contractor except for payment for Work performed pursuant to and in accordance with the Contract Documents, nor shall the Owner ever be liable to the Contractor for indirect or consequential damages of any name or nature.

**6.3** Termination or Suspension. This Agreement may be terminated or suspended as provided in Articles 16 and 17, respectively, of the General Conditions and as provided elsewhere in the Contract Documents.

**6.4** Certification Relating to Tax Compliance. Pursuant to M.G.L. c. 62(c), § 49(a), the individual signing this Contract on behalf of the Contractor hereby certifies, under the penalties of perjury, that to the best of his or her knowledge and belief the Contractor has complied with any and all applicable state and federal tax laws.

**6.5** Certification Relating to Debarment. The individual signing this Contract on behalf of the Contractor further certifies under penalties of perjury that the Contractor is not presently debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. c. 29, § 29F, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder and is not presently debarred from doing public construction work by any agency of the United States.

**6.6** Certification Relating to Health and Safety (M.G.L. c. 30, § 39S). The individual signing this Contract on behalf of the Contractor further certifies: (1) Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work; (2) 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 the Contractor shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the Work subject to this Contract 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.



**City of Everett, Massachusetts  
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City Project No. MUN-2607**

IN WITNESS WHEREOF, the parties hereto have executed this Agreement under seal in multiple counterparts, each of which shall be deemed to be an original hereof and collectively comprising a fully executed instrument, as of the date and year first above written.

**CONTRACTOR**

\_\_\_\_\_  
Name  
Title

\_\_\_\_\_  
Date Signed

**CITY OF EVERETT:**

\_\_\_\_\_  
Director Name  
Managing Department

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Erik Swanson, P.E.  
City Engineer

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Kiara M. Freeman  
Chief Procurement Officer

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Eric Demas  
Chief Financial Officer/City Auditor

\_\_\_\_\_  
Date Signed

Approved as to Form:

\_\_\_\_\_  
Colleen Mejia, Esq.  
City Solicitor

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Carlo DeMaria  
Mayor

\_\_\_\_\_  
Date Signed

**EXHIBIT A**

**LIST OF SPECIFICATIONS**

**SECTION 01 11 13 – WORK COVERED BY CONTRACT DOCUMENTS**

**SECTION 01 22 00 - UNIT PRICES**

**SECTION 01 33 00 - SUBMITTAL PROCEDURES**

**SECTION 01 77 00 - CLOSE-OUT PROCEDURES**

**SECTION 01 78 00 - CLOSE-OUT SUBMITTALS**

**SECTION 02 23 23 – ASBESTOS ABATEMENT**

**SECTION 02 40 00 – DEMOLITION**

**SECTION 05 31 23 – STEEL DECK REPAIR**

**SECTION 05 51 33 – METAL LADDERS**

**SECTION 06 10 00 – ROUGH CARPENTRY**

**SECTION 07 21 13 – INSULATION**

**SECTION 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING  
(EPDM)**

**SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM**

**SECTION 07 72 33 – ROOF HATCH AND ACCESSORIES**

**SECTION 09 91 13 – EXTERIOR PAINTING**

**SECTION 11 81 29 – FALL PROTECTION**

**SECTION 22 14 26 – ROOF DRAINS**

**SECTION 23 00 00 - TEMPORARY MECHANICAL DISCONNECTS**

**SECTION 26 00 00 - TEMPORARY ELECTRICAL DISCONNECTS**

**ES-1-UL-31 METAL PROFILE**

**EXHIBIT B**

**LIST OF DRAWINGS**

- **TITLE PAGE (RP-001)**
- **CODE REVIEW SHEET (RP-002)**
- **ROOF PLAN (RP-101)**
- **ROOF DETAIL DRAWINGS (RP-501 THRU RP-503)**

**EXHIBIT C**

**LIST OF ADDENDA**

## EXHIBIT D

### **EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS**

1. Definitions. For purpose of this contract, the term “minority” refers to Asian–Americans, Blacks, Spanish Surnamed Americans, North American Indians, and Cape Verdeans. The term “Commission” refers to the Massachusetts Commission Against Discrimination.
2. Obligations. During the performance of this contract, the Contractor and each of its subcontractors, and suppliers (hereinafter collectively referred to as the “Contractor”) for themselves, their assignees, and successors in interest, agree as follows:

In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, handicap or sex. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The Contractor shall post hereafter in conspicuous places on the project site, available for employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (M.G.L. Chapter 151B).

In connection with the performance of work under this contract, the Contractor, shall undertake, in good faith, affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this construction project undertaken by the Owner.

As part of its obligation under the foregoing section, the Contractor shall use its best efforts to maintain on this project a not less than 15.3% ratio of minority employee person hours to total person hours, and a not less than 6.9% ratio of women employee person hours to total person hours.

3. Compliance with Requirements. To the extent applicable, the Contractor shall comply with the provisions of Executive Order No. 526, which is herein incorporated by reference and made a part of this contract.
4. Solicitations for Trade Contractors or Subcontractors, and for the Procurement of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of

materials or equipment, each potential trade contractor or subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this contract relative to equal employment opportunity, non-discrimination and affirmative action.

5. Compliance-Information, Reports and Sanctions. The Contractor will provide all information and reports required by the Owner, and the Contractor will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the Owner to affect the employment of personnel. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Owner and shall set forth what efforts it has made to obtain the information. Without limiting the foregoing, the Contractor shall require all trade contractors and subcontractors to submit to the Contractor a Project Workforce Monthly Report, in the form attached to the Agreement between Owner and Contractor as **Exhibit F**. The Contractor shall submit the Project Workforce Monthly Reports to the Owner on a monthly basis, together with a summary report prepared by the Contractor, in a form satisfactory to the Owner, aggregating the information provided in the trade contractors' and subcontractors' Project Workforce Monthly Reports with the Contractor's own workforce information and showing the monthly and total Project-to-date ratios of minority and women workforce hours.

Whenever the Owner believes the Contractor or any trade contractor or subcontractor may not be operating in compliance with the terms of this Section, the Owner, or its designated agent, may conduct an appropriate investigation, and may confer with the parties, to determine if the Contractor is operating in compliance with the terms of this Section. If the Owner finds the Contractor or any trade contractor or subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify the Contractor in writing of such steps as will in the judgment of the Owner bring the Contractor into compliance.

6. Severability. The provisions of this Exhibit are severable, and if any of these provisions shall be held unconstitutional or unenforceable by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

7. Equal Employment Opportunity for Persons with Disabilities. In connection with the performance of work under this contract, the Contractor, trade contractors, subcontractors and suppliers of goods and services shall not discriminate against persons with disabilities. Furthermore, the Contractor, trade contractors, subcontractors and suppliers of goods and services must give written notice of their commitments under this Exhibit to any labor union, association or brotherhood with which they have a collective bargaining contract or other agreement.

## EXHIBIT E

### AFFIRMATIVE ACTION REQUIREMENTS

During the performance of this contract, the Contractor and each of its subcontractors and suppliers (hereinafter collectively referred to as the "Contractor") for themselves, their assignees, and successors in interest, agree as follows.

1. Percentage Participation. On this contract, the Contractor shall use best efforts to enter into contracts and subcontracts including contracts with suppliers, distributors and manufacturers who are women/minority business enterprises. The Contractor shall use best efforts to enter into contracts worth a combined total 10.4% of the Contract Sum with W/MBE firms.

2. Definitions.

a. Women/minority business enterprise ("W/MBE") means any business organization certified by SDO as an MBE or WBE. To be certified as a W/MBE, the minority or women must demonstrate at least 51% ownership and control, according to SDO rules and regulations.

b. Joint Ventures -

- (1) A joint venture between a certified W/MBE and non-minority or non-WBE shall be certified by SDO as a W/MBE if the certified W/MBE has at least 51% control over the management and receipt of profits of the project bid upon.
- (2) A joint venture between a certified W/MBE subcontractor and a non-W/MBE subcontractor, in which the W/MBE does not exercise more than 51% control over management and profits, shall be entitled to a credit as a W/MBE for the proportion of the joint venture's contract equal to the W/MBE participation in the joint venture.
- (3) Whenever a general bid is filed by a joint venture with a certified W/MBE participant in the joint venture that does not exercise more than 51% control over management and profits, that joint venture shall be entitled to credit as a W/MBE for the portion of the joint venture's price equal to the W/MBE participation in the joint venture.
- (4) Whenever a joint venture with a certified W/MBE participant files a general bid or sub-bid, and requests a credit as a W/MBE, the bid must be accompanied by the pre-bid joint venture agreement for that project. SDO certified joint ventures should submit a copy of SDO certification.

c. Material Supplier - A vendor certified by SDO as a W/MBE engaged in sales to the construction industry from an established place of business or source of supply, which either:

- (1) Manufactures goods from raw materials or substantially alters them before resale, entitling the Contractor to W/MBE credit for the full amount of the purchase order; or
  - (2) Maintains a storage facility for materials utilized in the work, entitling the Contractor to W/MBE credit for 10% of the purchase order.
- d. Amount of Participation - The actual dollar amount which will be paid to W/MBE for work performed on this contract, in accordance with Section 2(b) and 2(c).
  - e. Contractor - Any successful general bidder to whom the Owner makes the contract award.
  - f. SDO - The Massachusetts Supplier Diversity Office.
  - g. Owner - The City of Everett, Massachusetts.
3. Determination of W/MBE Status.
- a. Any Contractor subcontractor, sub-subcontractor or material supplier may apply to SDO for W/MBE status. Applications must be made on the W/MBE application form prepared by SDO. The applicant may request a form from SDO.
  - b. SDO is responsible for preparing, publishing, and updating a list of certified Women and Minority Owned businesses. The list is published in the Central Register established by G.L. Chapter 9, Section 20A and is available from SDO. Bidders shall rely on the list that is most current at the time the work is advertised and shall use it as a reference source to assist in meeting the requirements of these conditions.

**Submission of an application to SDO does not constitute certification.**

**EXHIBIT F**

**FORM OF PROJECT WORKFORCE MONTHLY REPORT**



**EXHIBIT G**

**CERTIFICATES OF INSURANCE**

**EXHIBIT H**

**FORM OF SUBCONTRACT**

**CITY OF EVERETT, MASSACHUSETTS**

**[PROJECT NUMBER]**

**[PROJECT NAME]**

**SUBCONTRACT**

**SUBCONTRACTOR SERVICES PURSUANT TO CHAPTER 149**

THIS AGREEMENT MADE THIS \_\_\_\_ DAY OF \_\_\_\_\_, by and between \_\_\_\_\_, a corporation organized and existing under the laws of \_\_\_\_\_, as hereinafter called the "Contractor" and \_\_\_\_\_, a corporation organized and existing under the laws of \_\_\_\_\_, as hereinafter called the "Subcontractor".

WITNESSETH that the Contractor and the Subcontractor for the considerations hereafter named, agree as follows:

1. The Subcontractor agrees to furnish all labor and materials required for the completion of all work specified in Section No. \_\_\_\_\_ of the specifications for \_\_\_\_\_ (Name of Sub-Trade) and the plans referred to therein and addenda No. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and for the \_\_\_\_\_ (complete title of the project and the project number taken from the title page of the specifications) all as prepared by \_\_\_\_\_ (Name of Architect or Engineer) for the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) and the Contractor agrees to pay the Subcontractor said sum for said work. This price includes the following alternates (and other items set forth in the sub-bid):

Alternate No(s). \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

(a) The Subcontractor agrees to be bound to the Contractor by the terms of the hereinbefore described plans; specifications (including all general conditions stated therein) and addenda No. \_\_\_\_\_, and \_\_\_\_\_, and \_\_\_\_\_, to assume to the Contractor all the obligations and responsibilities that the Contractor by those documents assumes to the City of Everett, Massachusetts hereinafter called the "Awarding Authority", except to the extent that provisions contained therein are by their terms or by law applicable only to the Contractor.

(b) The Contractor agrees to be bound to the Subcontractor by the terms of the hereinbefore described documents and to assume to the Subcontractor all the obligations and responsibilities that the Awarding Authority by the terms of the hereinbefore described documents assumes to the Contractor, except to the extent that provisions contained therein are by their terms or by law applicable only to the Awarding Authority.

2. The Contractor agrees to begin, prosecute and complete the entire work specified by the Awarding Authority in an orderly manner so that the Subcontractor will be able to begin, prosecute and complete the work described in this subcontract; and, in consideration thereof, upon notice from the Contractor, either oral or in writing, the Subcontractor agrees to begin, prosecute and complete the work described in this Subcontract in an orderly manner and with due consideration to the date or time specified by the Awarding Authority for the completion of the entire work.

3. The Subcontractor agrees to furnish to the Contractor within a reasonable time after the execution of this subcontract, evidence of workers' compensation insurance as required by law and evidence of public liability and property damage insurance of the type and in limits required to be furnished to the Awarding Authority by the Contractor.

4. The Contractor agrees that no claim for services rendered or materials furnished by the Contractor to the Subcontractor shall be valid unless written notice thereof is given by the Contractor to the Subcontractor during the first ten (10) days of the calendar month following that in which the claim originated.

5. This agreement is contingent upon the execution of a general contract between the Contractor and the Awarding Authority for the complete work.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the date and year first above-written.

**GENERAL CONTRACTOR**

**SUBCONTRACTOR**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title Name,

\_\_\_\_\_  
Title Name,

SEAL

SEAL

**EXHIBIT I**

**PERFORMANCE AND PAYMENT BONDS**

**EXHIBIT J**

**INSURANCE REQUIREMENTS**

**CITY OF EVERETT, MASSACHUSETTS**

**City Project Number: MUN-26-07**

**PROJECT NAME**

**EXHIBIT J**

**CITY OF EVERETT, MASSACHUSETTS  
STANDARD INSURANCE LIMIT REQUIREMENTS**

The following minimum insurance limits shall apply to the Contract and be provided by the Contractor. The Contractor shall refer to the Contract Documents for all other insurance requirements relating to this Contract.

<b>Coverage</b>	<b>Estimated Construction Cost</b>	<b>General Contractor</b>
<b>General Liability<sup>1</sup></b>	-	\$1,000,000 per Occurrence/ \$2,000,000 Aggregate
<b>Auto<sup>2</sup></b>	-	\$1,000,000 each accident
<b>Worker's Compensation</b>	-	Statutory
<b>Employers Liability</b>	<b>under \$1m</b>	\$500,000 Each Accident \$500,000 Disease - Each Employee \$500,000 Disease - Policy Limit
<b>Employers Liability</b>	<b>\$1m and over</b>	\$1,000,000 Each Accident \$1,000,000 Disease - Each Employee \$1,000,000 Disease - Policy Limit
<b>Excess/Umbrella</b>	<b>under \$1m</b>	\$2,000,000 Per Occurrence

<sup>1</sup> Must evidence per location aggregate or per project aggregate.

<sup>2</sup> Combined single limit

<b>Coverage</b>	<b>Estimated Construction Cost</b>	<b>General Contractor</b>
		\$2,000,000 Aggregate or Higher
<b>Excess/Umbrella</b>	<b>between \$1m and \$5m</b>	\$5,000,000 Per Occurrence \$5,000,000 Aggregate or Higher
<b>Excess/Umbrella</b>	<b>under \$10m</b>	\$10,000,000 Per Occurrence \$10,000,000 Aggregate or Higher
<b>Excess/Umbrella</b>	<b>\$10m and over</b>	\$20,000,000 Per Occurrence \$20,000,000 Aggregate or Higher
<b>Professional Liability</b>	<b>under \$5m</b>	\$1,000,000 Per Occurrence \$1,000,000 Aggregate or Higher
<b>Professional Liability</b>	<b>under \$10m</b>	\$2,000,000 Per Occurrence \$2,000,000 Aggregate or Higher
<b>Professional Liability</b>	<b>\$10m and over</b>	\$5,000,000 Per Occurrence \$5,000,000 Aggregate or Higher
<b>Contractor's Pollution Liability</b>	-	\$5,000,000 per occurrence and \$5,000,000 Annual Aggregate or higher.
<b>Drone/UAV Aircraft Liability<sup>3</sup></b>	-	No less than \$2,000,000

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<sup>3</sup> Required only if the work of the vendor includes operation, or arranging for the operation, of unmanned aerial systems (i.e., drones) services.

**CITY OF EVERETT, MASSACHUSETTS**



**GENERAL CONDITIONS OF THE  
CONTRACT FOR CONSTRUCTION**

**to the**

**AGREEMENT BETWEEN OWNER AND CONTRACTOR  
PURSUANT TO M.G.L. CHAPTER 149, §§ 44A-44H**

**Dated as of                   , 2026**

**by and between**

**CITY OF EVERETT, MASSACHUSETTS  
AS OWNER**

**and**

**AS CONTRACTOR**



**City of Everett, Massachusetts  
General Conditions of the Contract for Construction (Chapter 149)  
Everett Police Department Roof Replacement  
City Project No. MUN-26-07**

**City Project: # MUN-26-07**



City of Everett, Massachusetts  
General Conditions of the Contract for Construction (Chapter 149)  
Everett Police Department Roof Replacement  
City Project No. MUN-26-07

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**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

**ARTICLE 1 DEFINITIONS; CONTRACT DOCUMENTS**

**1.1 DEFINITIONS**

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof. The order of the terms defined below is alphabetical, and is not intended to indicate any priority.

**1.1.1 Affiliated Entities** - Any entity related to or affiliated with the Contractor or any Subcontractor or with respect to which the Contractor or any Subcontractor has direct or indirect ownership or control, including without limitation, any entity owned in whole or in part by the Contractor or any Subcontractor, as applicable; any holder of any issued and outstanding shares of, or the holder of any interest in, the Contractor or any Subcontractor, as applicable; any entity in which any officer, director, partner, shareholder, member, or manager (or member of the family of any of the foregoing persons) has a direct or indirect interest, which interest includes, but is not limited to, that of a partner, shareholder, officer, director, member, manager, or agent.

**1.1.2 Agreement** – The fixed-price Agreement between Owner and Contractor.

**1.1.3 Applicable Laws** - As defined in Subsection 1.2.1.

**1.1.4 “Approve”, “approved” or “approval”** means written approval by a duly authorized representative.

**1.1.5 Architect** - The Architect designated in the Agreement or its authorized representatives.

**1.1.6 Architect’s Supplemental Instructions** - A written document issued by the Architect for clarification which may order a minor change in the Work and which does not require an adjustment in the Contract Sum and/or an extension of the Contract Time. The Architect’s Supplemental Instructions shall be issued on AIA Document G710 or other form issued by or acceptable to the Owner.

**1.1.7 Change Order** - A written order prepared by the Architect, issued by the Owner to the Contractor and signed by the Owner, the Contractor and the Architect authorizing an addition to, deletion from or revision in the Work and any adjustment in the Contract Sum and/or Contract Time that may be required in accordance with the terms of the Contract. Change Orders shall be issued on AIA Document G701/2000 or other form issued by or acceptable to the Owner.

**1.1.8 Construction Change Directive** - A written order prepared by the Architect, issued by the Owner to the Contractor, and signed by the Owner and the Architect



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authorizing the Contractor to proceed with a change in the Work. Construction Change Directives shall be issued on AIA Document G714 or any other form issued by or acceptable to the Owner. A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith and shall be considered a Change Order.

**1.1.9 Construction Period** - The period of the Contract Time which commences upon the issuance of the initial Notice to Proceed with Construction and concludes on the Final Completion Date.

**1.1.10 Contract** - As defined in the Agreement.

**1.1.11 Contract Documents** - As defined in the Agreement.

**1.1.12 Contract Sum** - As defined in the Agreement, subject to amendment in accordance with the provisions of the Contract.

**1.1.13 Contract Time** - As defined in the Agreement, subject to amendment in accordance with the provisions of the Contract.

**1.1.14 Contractor** - The entity with which the Owner has executed the Agreement. Wherever the term "Contractor" appears in the Contract Documents, it means the Contractor and Subcontractors who are obligated to perform all, or a part of, the Work described by the Contract Documents.

**1.1.15 Critical Path** - The sequential Critical Path Activities shown on the Project Schedule from the date of commencement of the Work through Final Completion.

**1.1.16 Critical Path Activity** - Any activity identified on the Project Schedule which, if delayed or prolonged, would cause the Construction Period to extend beyond the Contract Time.

**1.1.17 Day** - As used in the Contract Documents, the term shall mean calendar day. The terms "working day" and "business day" shall mean any calendar day except Saturdays, Sundays, and legal holidays at the place where the Project is located.

**1.1.18 Delay Event** - As defined in Subsection 9.4.1 of these General Conditions.

**1.1.19 Drawings** - The graphic and pictorial depictions of the Work prepared by the Architect, wherever located and whenever issued, showing the design, location, scope and dimensions of the Work, or parts thereof, generally including plans, elevations, sections, details, schedules and diagrams and any narrative notes thereon.

**1.1.20 Excusable Delay** - Any act, omission, event or condition which delays performance of the Work, for which the Contractor is entitled, under applicable provisions of the Contract Documents, to an extension of the Contract Time.



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**1.1.21 Final Completion** - As defined in Subsection 10.8.5 of these General Conditions.

**1.1.22 Final Completion Date** - The date set forth in the Agreement on or prior to which Final Completion is required to be achieved.

**1.1.23 Notice to Proceed (NTP)** – A written communication issued by the Owner to the Contractor authorizing it to proceed with a specified portion of the Work.

**1.1.24 Owner’s Project Manager (OPM)** - A project manager retained by the Owner to represent it in connection with the Project. The OPM is designated in the Agreement.

**1.1.25 Product Data** - Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and any other information furnished by the Contractor to illustrate a material, product, assembly, or system for a portion of the Work. Product data are not Contract Documents.

**1.1.26 Project Schedule** - As defined in Section 9.2 of these General Conditions.

**1.1.27 “Provide” or “Provided”** - where used in the Contract Documents, such words shall be construed to mean “furnish(ed)” and “install(ed)” and/or “connect(ed)”, unless specifically stated otherwise.

**1.1.28 Request for Information (RFI)** - A written and logged request issued by the Contractor, or any Subcontractor through the Contractor, to the Architect, with a copy sent to the OPM, requesting information about some aspect of the Contract Documents.

**1.1.29 Samples** - Physical examples that illustrate materials, products, equipment or workmanship and which, when approved in accordance with the Contract Documents, establish standards by which the Work will be inspected and judged. Samples are not Contract Documents.

**1.1.30 Shop Drawings** - All drawings, prints, diagrams, illustrations, brochures, schedules and other data prepared by the Contractor, a Subcontractor, or a Supplier to illustrate how specific portions of the Work shall be fabricated and/or installed. Shop Drawings are not Contract Documents.

**1.1.31 “Shown” or “shown on Drawings”** - Where used in the Contract Documents, such words shall be construed to mean “noted”, “indicated”, “scheduled”, “detailed”, or any other diagrammatic or written reference made in any of the Contract Documents.

**1.1.32 Site** - The area or areas indicated within the contract limit lines on the Drawings or otherwise defined in the Contract Documents, together with such additional areas or locations adjacent thereto in which construction operations or Work required under the Contract may be performed.



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**1.1.33 Specifications** - Written narrative descriptions, prepared by the Architect, of requirements for materials, equipment, systems, standards and workmanship for the Work, and requirements for the performance of construction services.

**1.1.34 State University** – the State University campus on which the Project is located.

**1.1.35 Subcontractor** - An entity having a contract with the Contractor or with any other Subcontractor, regardless of tier, for the performance of a part of the Work required under the Contract Documents, including filed sub-bids.

**1.1.36 Substantial Completion** - As defined in Subsection 9.1.3 of these General Conditions.

**1.1.37 Substantial Completion Date** - The date set forth in the Agreement on or prior to which Substantial Completion is required to be achieved.

**1.1.38 Supplier** - Any entity having a contract with the Contractor, any Subcontractor or other supplier regardless of tier, who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the Site.

**1.1.39 Work** – As defined in the Agreement.

## 1.2 INTERPRETATION OF CONTRACT DOCUMENTS

**1.2.1** This Contract is subject to all applicable laws, regulations, codes, ordinances, rules, and orders of the United States of America, the Commonwealth of Massachusetts, and other governmental or public agencies and authorities with jurisdiction over the Project, and to all contracts and other agreements between the Owner and any such governmental or public agencies and authorities, referred to or incorporated in the Contract Documents (the “Applicable Laws”).

**1.2.2** The Contractor shall inform itself of all Applicable Laws in any manner affecting the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over the Work. The Contractor shall comply, and shall cause all persons and Subcontractors employed in the performance of the Work to comply, with all Applicable Laws.

**1.2.3** Where any requirements contained in the Contract Documents do not conform to or are inconsistent with such Applicable Laws to which the Contract is subject or by which it is governed, such Applicable Laws shall have precedence over any matters set forth herein and the Contractor agrees to comply fully therewith. The Owner makes no representation as to and assigns no responsibility for the correctness or completeness of such statutory matters referred to or set forth in the Contract Documents.



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**1.2.4** The Contractor represents that it has examined and understands all of the Contract Documents and has visited the Site, examined and familiarized itself with the local conditions under which the Work is to be performed, including any work in progress under previously awarded contracts, verified to its satisfaction the nature and quantity of the Work involved, and correlated its observations with the requirements of the Contract Documents, and, by execution of the Agreement, the Contractor acknowledges its satisfaction with the same.

**1.2.5** The intent of the Contract Documents is to describe the Work that, once constructed by the Contractor, will result in a functionally complete facility. It is intended that the Contractor shall furnish all Work necessary for the proper execution and completion of the Project in accordance therewith, including all Work incidental to or reasonably inferable from the Contract Documents as being necessary to produce the intended results, unless it is specifically indicated in the Contract Documents that such work is to be performed by others, and to complete the Project in a satisfactory manner, ready for use, occupancy, and operation by the Owner. The Contractor recognizes, and agrees to perform the Work consistent with the extra degree of care and skill required in an occupied academic campus setting with respect to safety, protection of pedestrians, cleanliness of the Site, health and the protection of existing utilities, adjacent streets and property. In agreeing to the Contract Time and the Contract Sum, the Contractor has considered and included those circumstances.

**1.2.6** Unless the Contract Documents specifically provide otherwise or the context clearly requires a different meaning, the terms “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” and words of like import shall imply the direction, requirement, permission, order, designation, or prescription of the OPM or the Architect, subject in each case to the final determination of the Owner; and “approved,” “acceptable,” “satisfactory,” and words of like import shall mean approved by, or acceptable or satisfactory to the OPM or the Architect, subject in each case to the final determination of the Owner; and “necessary,” “reasonable,” “proper,” “correct,” and words of like import shall mean necessary, reasonable, proper or correct in the judgment of the OPM or the Architect, subject in each case to the final determination of the Owner.

**1.2.7** In case of discrepancies or conflicts among the Contract Documents or within any of the Contract Documents, the Contract Documents shall be interpreted on the basis of the following priorities:

- (a) First, written amendments, including Change Orders, to the Agreement – those of a later date shall take precedence over those of an earlier date;
- (b) Second, the Agreement Between Owner and Contractor;
- (c) Third, Supplementary General Conditions, if any;
- (d) Fourth, General Conditions;
- (e) Fifth, Specifications; and



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(f) Sixth, Drawings.

Among Drawings, large scale details shall control over small scale details, and indicated dimensions shall control over Drawings not dimensioned. In the event of a conflict or ambiguity within or between the Specifications or Drawings as to the quantity or quality of work or materials, the higher quality or greater quantity shall be furnished unless otherwise directed in writing by the Owner or the Architect.

**1.2.8** Any information contained in the Specifications that has been omitted from the Drawings or vice versa shall be construed as though contained in both. In the event of any duplication, conflict, inconsistency, error, omission, or discrepancy among or within the Drawings and the Specifications (or among or within other portions of the Contract Documents so far as the same pertain to the Drawings or the Specifications), the matter shall promptly be brought to the attention of the Architect for instructions. If, having identified any duplication, conflict, inconsistency or discrepancy, the Contractor proceeds with the Work without receiving instructions from the Architect, the Contractor does so at its own risk and shall be responsible for performing any corrective Work at its own cost and without entitlement to any adjustment in the Contract Sum or the Contract Time.

**1.2.9** 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 Contract Documents, except where a contrary result is explicitly indicated by the Contract Documents. A typical or representative detail indicated on the Drawings shall constitute the standard for workmanship and material throughout the corresponding parts of the Work. Where necessary and where reasonably inferable from the Contract Documents, the Contractor shall adapt such representative detail for application to such corresponding parts of the Work. The details of such adaptation shall be subject to prior approval by the Architect. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown.

**1.2.10** Where laws, regulations, codes, standards, requirements or publications of public or private bodies are referred to in the Contract Documents, references shall be understood to be to the latest revision in effect on the date of execution of the Contract Documents, except where otherwise indicated. The Contractor warrants that all Work performed hereunder shall meet the requirements of all such laws, regulations, codes, standards, requirements and publications which are applicable to the Project. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

**1.2.11** The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- (a) a duly-executed amendment to the Contract;



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- (b) a Change Order (pursuant to Section 13.1); or
- (c) a Construction Change Directive (pursuant to Section 13.2).

The Contract Sum and the Contract Time may only be changed by a Change Order or a written amendment. In addition, the requirements of the Contract Documents may be clarified or supplemented, and minor variations and deviations in the Work may be authorized, by the Architect's Supplemental Instructions pursuant to Section 13.6 or by the Architect's approval of Submittals pursuant to Section 3.8.

**1.2.12** The organization of the Specifications into divisions, sections and articles, and the 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 or subcontractor. A section or division of the Specifications may cover the Work of more than one Subcontractor and the Work of one Subcontractor may be covered by more than one section or division of the Specifications. The Contractor and all Subcontractors shall refer to all of the Drawings, and to all of the Sections of the Specifications, and shall perform all Work reasonably inferable therefrom as being necessary to produce the intended results. The Owner assumes no liability to the Contractor arising out of jurisdictional issues raised or claims advanced by trade organizations, Subcontractors or other interested parties based on the arrangement or manner of subdivision of the content of the Specifications and Drawings. In the event of any claim arising out of any duplication, conflict, inconsistency or discrepancy within the Contract Documents as to the allocation of the Work among and between the Subcontractors and the Contractor's own forces, the Contractor shall be solely responsible for resolving the claim and shall be responsible for ensuring that all of the Work is completed without additional cost to the Owner and without delay, regardless of where or how it is described in the Contract Documents.

**1.2.13** If any term or provision of any of the Contract Documents, or the application thereof to any party or circumstance shall, to any extent, be determined to be invalid or unenforceable, the remaining provisions of the Contract Documents, or the application of such term or provision to parties or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of each of the Contract Documents shall be valid and shall be enforced to the fullest extent permitted by law.

**1.2.14** The Contract Documents shall not be construed to create a contractual relationship of any kind between: (1) the Architect and the Contractor; (2) the Owner and any Subcontractor or Supplier; or (3) between any other persons or entities other than the Owner and the Contractor. The Contractor understands and agrees that the obligations of the OPM and the Architect are solely to the Owner and, by performing those obligations properly, the OPM or the Architect may increase the burdens and expenses of the Contractor, its Subcontractors, or sureties or any of them.

### **1.3 OWNERSHIP AND USE OF DOCUMENTS**



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**1.3.1** All Contract Documents and other related materials and copies thereof prepared or furnished to the Contractor are the property of the Owner, subject to the rights of the Architect as provided in the Owner-Architect Agreement. With the exception of one contract set for the Contractor, such documents shall be returned (or suitably accounted for) to the Owner, or if requested by the Owner, lawfully disposed of by the Contractor at the completion of the Work, as a condition precedent to final payment. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project shall not be construed as publication in derogation of the Architect's common law copyright or other reserved rights.

**1.4 OTHER REPRESENTATIONS**

**1.4.1** The Contractor shall perform the Work strictly in accordance with the Contract Documents. The Contractor accepts the relationship of trust and confidence established between it and the Owner established by the Agreement and other Contract Documents. The Contractor covenants with the Owner to furnish its best skill and judgment and to cooperate with the Owner, the Owner's Project Manager, the Architect and any other consultants employed by the Owner in furthering the interests of the Owner. The Contractor agrees to furnish efficient business administration, coordination, and superintendence and to furnish at all times an adequate supply of workers and materials, and to perform the Work in the best way and in the most expeditious and economical manner consistent with the interests of the Owner and to make every effort to achieve time savings and construction efficiencies with respect to the Work.

**ARTICLE 2 ADMINISTRATION OF THE CONTRACT**

**2.1 OWNER'S PROJECT MANAGER**

**2.1.1** The OPM, if one has been retained by the Owner, and the Architect will assist the Owner in the administration of the Contract as provided in the Contract Documents. The OPM and the Architect may act directly or through their properly authorized agents, such agents acting within the scope of the particular duties entrusted to them. The Architect and the OPM will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents or as may be specified in writing by the Owner.

**2.1.2** The Architect and the OPM will be representatives of the Owner during construction of the Work and until final payment is due and will advise and consult with the Owner as to the performance and progress of the Work. The Owner may communicate with the Contractor directly or through the OPM or the Architect. The Owner will endeavor to furnish to the Architect copies of any communications from the Owner to the Contractor, directly or through the OPM.

**2.2 ARCHITECT'S SITE VISITS**

**2.2.1** The Architect will visit the Site at intervals appropriate to the stage of construction as may be required to familiarize itself generally with the progress and quality of the



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Work and to determine in general whether the Work is proceeding in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections. On the basis of its on-site observations as a design professional, it will keep the OPM and the Owner informed of the progress and quality of the Work.

**2.2.2** Neither the Owner, the OPM, nor the Architect will have control, or charge of, or be responsible for, construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and nor will any of them be responsible for the acts or omissions of the Contractor, Subcontractors or any other persons or entities performing any of the Work, or for the failure of any of them to carry out the Work in accordance with the Contract Documents.

**2.2.3** All portions of the Work shall be subject to inspection and testing by the Architect and the OPM. The Architect will have authority to reject Work which does not conform to the Contract Documents. The Contractor shall, at its sole cost and expense, furnish the Architect with such information and assistance (including, without limitation, labor, tools, equipment and transportation) as is required for the Architect to make complete and detailed inspections or tests. Whenever the Architect considers it necessary or advisable for the implementation of the intent of the Contract Documents, the Architect will have authority to require special inspection or testing of portions of the Work in accordance with Article 8 hereof whether or not such Work be then fabricated, installed or completed. However, neither the Architect's authority to act hereunder, nor any decision made by the Architect in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect to the Contractor, any Subcontractor, any of their agents or employees, or any other person or entity performing any of the Work.

## **2.3 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS**

**2.3.1** The Architect will render, in writing, Architect's Supplemental Instructions and other interpretations necessary for the proper execution or progress of the Work, with reasonable promptness. Either party to the Contract may request such interpretations from the Architect by giving written notice of such request to the Architect with a copy thereof given to the other party, or the Architect may initiate such Architect's Supplemental Instructions or other interpretations upon notice to the OPM. The Architect will, as it judges necessary or desirable, issue as a part of such Architect's Supplemental Instructions additional drawings, specifications, or instructions indicating in greater detail the construction or design of the various parts of the Work reasonably inferable from the Contract Documents, and, provided such Architect's Supplemental Instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such Architect's Supplemental Instructions without increase in the Contract Sum or extension of the Contract Time. Such change shall be effected by written order issued by the Architect and delivered to the Contractor. If the Architect determines that implementation of the requested changes would result in a material change to the Contract that may cause an adjustment in the Contract Time or Contract Sum, the Architect may make a recommendation to the Owner, which may authorize further investigation of such change. Upon such authorization, and based upon any information furnished by the OPM,



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the Architect shall review and advise the Owner and the OPM concerning the additional cost and time that might result from such change. With the Owner's approval, the Architect shall request the Contractor to incorporate those estimates into a Change Order or other appropriate documentation for the Owner's execution or negotiation with the Contractor.

## **2.4 ARCHITECT'S INTERPRETATIONS**

**2.4.1** Interpretations and decisions of the Architect shall be consistent with the intent of, and reasonably inferable from, the Contract Documents and shall be in written or graphic form. In the capacity of interpreter, the Architect shall endeavor to secure faithful performance by both the Owner and the Contractor, shall not show partiality to either, and shall not be liable for the result of any interpretation or decision rendered in good faith in such capacity.

## **2.5 SUBMITTALS**

**2.5.1** The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples but only for the purpose of checking for conformance with the design concept and with the information in the Contract Documents. The Architect shall communicate all such approvals or other actions to the Contractor with copy to the OPM. Review of such submittals is not conducted for the purpose of substantiating instructions for installation or performance of equipment or systems designed by the Contractor, all of which remain the responsibility of the Contractor. The Architect's review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not constitute approval of an assembly of which the item is a component. The Architect shall not be required to review partial submittals nor submittals for which necessary correlated submissions have not been received.

## **2.6 REPLACEMENT ARCHITECT**

**2.6.1** In case of the termination of the employment of the Architect, the Owner shall appoint an architect whose status under the Contract Documents shall be that of the former architect. The Contractor shall cooperate with the replacement architect in connection with the completion of the Work. Replacement of the Architect shall not entitle the Contractor to any adjustment in the Contract Sum or the Contract Time.

## **ARTICLE 3 CONTRACTOR'S RESPONSIBILITIES**



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**3.1 DUTY TO REVIEW CONTRACT DOCUMENTS AND SITE CONDITIONS**

**3.1.1** Before starting the Work, and continuously during the progress thereof, the Contractor shall carefully examine the Site, take field measurements, and carefully study and compare the Contract Documents with each other and with conditions at the Site, including work completed or in progress under other contracts, and with such other information, documents, plans and criteria as may be available in connection with the Project and shall immediately communicate to the Architect and the Owner, in writing, all errors, inconsistencies and omissions it discovers. If the Contractor proceeds with the Work without such notice to the Architect and the Owner, having discovered such errors, inconsistencies or omissions, or if by reasonable study of the Contract Documents and other conditions the Contractor could have discovered the same, the Contractor shall perform all necessary corrective work and bear all costs and expenses arising therefrom and shall have no claim for increases in the Contract Sum or extensions of the Contract Time for extra work made necessary thereby.

**3.1.2** The Contractor shall give the Architect timely written notice of any additional Drawings, Specifications, clarifications or instructions required to define the Work in greater detail or otherwise required to permit the proper progress of the Work. The Contractor shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from the Architect. If the Contractor proceeds with such Work without obtaining further drawings or instruction, the Contractor shall correct, at its own expense, Work incorrectly done.

**3.1.3** Without limitation, the Contractor shall review the Contract Documents for clarity, consistency, constructability, maintainability, operability and coordination among trades, and time requirements for procurement, installation and construction, and sequence of construction, including recommendations designed to minimize adverse effects of labor or material shortages.

**3.1.4** If the Contractor recognizes or discovers that any portion of the Drawings and Specifications is at variance with Applicable Laws, the Contractor shall immediately notify the Owner and the Architect in writing and shall not proceed with the such Work without specific written direction by the Owner. If the Contractor performs any Work knowing or having reason to know that said Work is contrary to Applicable Laws and without so notifying the Owner and the Architect, the Contractor shall assume full responsibility therefor and shall bear all costs of correction thereof, and any other costs including any loss, cost or damage sustained by the Owner attributable thereto

**3.1.5** The Contractor shall at all times provide the Architect, its representatives and consultants, the OPM, and the Owner, and its agents, employees, representatives, other contractors, and consultants with access to the Site and the Work wherever it is in preparation and progress. The Contractor shall provide safe and proper facilities for such access and for observation, testing, and inspection of the Work.



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### **3.2 SUPERVISION AND CONSTRUCTION PROCEDURES**

**3.2.1** The Contractor shall supervise, coordinate, and direct the Work competently and efficiently, using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents. The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect or the OPM in their administration of the Contract, or by inspections, tests or approvals required or performed under Article 8 hereof by persons other than the Contractor.

**3.2.2** The Contractor's Project Team shall consist of, as a minimum, a qualified Project Executive, Project Manager, Project Superintendent, and other necessary assistants and technical and administrative personnel. The Project Superintendent shall be licensed by the Commonwealth of Massachusetts. No change shall be made in the composition of the Project Team without the Owner's prior written approval. The removal or replacement without the Owner's consent of any of the identified members of the Contractor's Project Team shall constitute a material breach of the Contract. The Owner may require replacement of any member of the Contractor's Project Team upon notice to the Contractor with or without cause.

**3.2.3** Both the Project Manager and the Project Superintendent shall have full authority to act on behalf of the Contractor. The Project Manager or Project Superintendent and necessary assistants shall be in attendance at the Site at all times during the progress of the Work until Final Completion. The Project Manager and the Project Superintendent shall represent the Contractor and notices or other communications given to the Project Manager or the Project Superintendent shall be as binding as if given to the Contractor directly.

**3.2.4** During the course of construction, the Architect or the OPM shall schedule, convene and conduct Project meetings for the purpose of conducting an orderly review of the progress of the Work, as often as the Architect or the Owner deems necessary, but at least once each week, in accordance with a schedule established by the Architect. Such meetings shall be held at the Site and shall be attended by representatives of the Owner, the Contractor and the Architect. Representatives of Subcontractors shall attend such meetings as necessary when Subcontractors are performing significant work on the Project or when a Subcontractor's presence is requested by the Owner or the Architect. The Contractor's representative(s) at each meeting shall be the Project Manager and the Project Superintendent. The Architect shall take minutes of each meeting in form, substance, and detail acceptable to the Owner.

**3.2.5** The Contractor shall furnish sufficient forces, plant, and equipment as may be necessary to insure the progress of the Work in accordance with the Project Schedule (as defined below). If the Contractor falls behind the Project Schedule, the Contractor shall promptly submit a proposal demonstrating the manner in which the rate of progress may be increased and shall take such steps as may be necessary to meet the Project Schedule at no additional cost to the



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Owner. It shall be the responsibility of the Contractor to maintain its schedule so as not to delay the progress of the Work or the scheduled work of other contractors.

**3.2.6** The Contractor shall be solely responsible for properly laying out the Work, and for all lines, elevations and measurements for all of the Work. It shall verify the figures shown on the Drawings before laying out the Work and will be responsible for any errors or inaccuracies resulting from its failure to do so.

**3.2.7** Where the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of Work implied by the operations described, but the actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the Contractor, who shall notify the OPM and the Architect in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage or liability, or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated, or implied by the Contract Documents, unless the Contractor has given timely notice to the OPM and the Architect in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Contractor has then been instructed in writing to proceed at the Owner's risk.

**3.2.8** If any portion of the Work is suspended by the Contractor for any reason at any time, prior notice shall be given to the OPM of such suspension and of the resumption of such Work.

**3.2.9** If the Contractor observes or determines that any Work previously performed under the Contract or any work performed by the Owner or by a separate contractor is not in accordance with the Contract Documents or is otherwise unsatisfactory, the Contractor shall promptly notify the OPM and the Architect in writing describing the situation in full detail.

### **3.3 LABOR AND MATERIALS**

**3.3.1** The Contractor shall provide competent, suitably qualified personnel to perform all Work as required by the Contract Documents. Unless otherwise specified in the Contract Documents, the Contractor shall furnish at its expense and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other utilities, services, facilities and incidentals necessary for the proper furnishing, performance, testing and completion of the Work.

**3.3.2** All materials and equipment shall be of first quality and new and of recent manufacture, except as otherwise expressly provided in the Contract Documents. If



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required by the Architect, or the OPM, the Contractor shall furnish written information or other satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment, and stating the original sources of supply of materials and products manufactured or produced at locations other than the Site of the Work. In order to permit time for required inspections, testing and approvals, such information shall be furnished at least thirty days (or as otherwise directed by the Architect or the OPM) in advance of the incorporation of any such materials or products in the Work. The Contractor shall make no claim for extra cost or extension of the Contract Time arising directly or indirectly out of its failure to timely select materials or products to permit a reasonable time for completion of inspections, testing or approvals, or because of the Contractor's purchase of materials or products in advance of approval.

**3.3.3** Reference in the Contract Documents to any product, material, equipment, method or process by proprietary name, manufacturer, vendor, supplier, make or catalog number shall be interpreted as establishing a standard of quality.

**3.3.4** Except in the case of minor changes in the Work authorized by the Architect in accordance with the provisions of the Contract Documents, the Contractor may make substitutions only in conformance with the provisions of Section 00.73.73 of the Specifications (M.G.L. c. 30, § 39M(b)).

**3.3.5** The Contractor's attention is directed to M.G.L. c. 30, § 39I which provides criminal penalties for unauthorized deviations from the Drawings and Specifications: "Contractor shall perform all Work required by the Contract in conformity with the plans and specifications contained therein or made a part thereof. No willful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the Owner or by the Architect who is duly authorized by the Owner to approve such deviations. In order to avoid delays in the prosecution of the Work required by the Contract such deviation from the plans or specifications may be authorized by a written order of the Owner or Architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the Owner stating: (1) If such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the Project as a whole; (3) that either the work substituted for the Work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the Owner and the Contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the Owner. Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the Work contracted for. Whoever violates any provision of this section willfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both."

**3.3.6** The Owner will consider formal written requests made through the Architect for the substitution of products in place of those specified only under the conditions set



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forth in the Contract Documents, unless otherwise expressly agreed by Owner in its sole discretion. By making requests for substitutions, the Contractor:

- (a) represents that it has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified, and expressly warrants that such proposed substitute product will perform adequately the functions and achieve the results called for by the Contract Documents;
- (b) represents that it will provide the same warranties and guarantees for the substitute product that it would for that specified;
- (c) certifies that the cost data presented is complete and includes all related costs under the Contract but excluding costs under other contracts (but separately identifying such costs, if any, of other contracts), and excluding the Architect's redesign costs, if any, and waives all claims for additional costs related to the substitution which subsequently become apparent;
- (d) certifies that the proposed substitution will not result in any increase in the Contract Sum and represents and agrees that any cost savings will be passed through to the Owner in the form of a credit against the Contract Sum; and
- (e) will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Notwithstanding approval or acceptance of such substitution by the Owner, any additional cost, or any loss or damage to the Owner arising from the substitution of any material or any method for those originally specified, shall be borne by the Contractor, including, without limitation, the costs of modifying Contract Documents and additional fees of the Architect, the Owner's consultants or engineers, unless such substitution was made at the written request or order of the Owner.

**3.3.7** The Contractor shall at all times enforce strict discipline and good order among and between its employees and the employees of its Subcontractors and shall not employ or permit to be employed on the Work any person who is not properly skilled in the work to be performed by it or who is otherwise unfit. Whenever the Owner shall notify the Contractor in writing that any person employed on the Work is, in the opinion of the Owner or the Architect, incompetent, disorderly or otherwise unsatisfactory, such person shall be discharged immediately and shall not again be employed on the Work except with the prior written consent of the Owner.

**3.3.8** The Contractor shall furnish labor that can and will work in harmony with all other elements of labor employed or to be employed on the Project. The costs of maintaining labor harmony, including without limitation, the cost of security, public safety measures and necessary traffic management shall be paid by the Contractor and the Contractor shall have no claim for any costs of maintaining labor harmony.



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**3.3.9** Any employee found on site subject to M.G.L. c. 30, § 39S without documentation of successful completion of 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 shall be subject to immediate removal and the Contractor shall immediately remove any such employee.

**3.3.10** The Contractor will not be entitled to additional compensation for Work performed outside of regular working hours, except as otherwise expressly authorized in writing by the Owner prior to the performance of such overtime or premium shift work. Additional compensation for such authorized overtime or premium shift work shall be limited to the direct cost of the premium portion of such authorized overtime. The Contractor shall comply with M.G.L. c. 149, §§ 30, 34 and 34A which provide that no laborer, workman, mechanic, foreman or inspector working within the Commonwealth in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or part of the Work shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of extraordinary emergency.

**3.3.11** All materials and equipment shall be delivered, handled, stored, installed and protected to prevent damage in accordance with the best current practice in the industry, in accordance with the manufacturers' specifications and recommendations, and in accordance with Contract Document requirements. The Contractor shall deliver materials and equipment in ample time to facilitate inspection and testing prior to installation. The term "delivery" in reference to any item specified or indicated, means the unloading and storing with proper protection at the Site. Damaged materials or equipment may be rejected and the Contractor shall provide conforming materials or equipment at no additional cost.

**3.3.12** The Contractor shall be responsible for determining that all materials furnished for the Work meet all the requirements of the Contract Documents. The OPM or the Architect may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified 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.

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

**3.3.14** The layout of mechanical and electrical systems, equipment, fixtures, piping, duct work, conduit, specialty items, and accessories indicated on the Contract Documents is diagrammatic, and all variations in alignment, elevations, and detail required to avoid interferences and satisfy architectural, engineering and structural limitations are not necessarily shown. Prior to the commencement of the portion of the Work relating to the mechanical, electrical, plumbing, fire protection or any similar systems, the Contractor shall furnish the Owner with a coordination drawing, illustrating all systems, equipment, fixtures, conduit, pipes, valves



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and all related installations in CADD format. Actual layout of such Work shall be carried out without affecting the architectural, engineering and structural integrity and limitations of the Work and shall be performed in such sequence and manner as to avoid conflicts, provide clear access to all control points, including valves, strainers, control devices, and specialty items of every nature related to such systems and equipment, obtain maximum headroom, provide adequate clearances as required for operation and maintenance, and provide an orderly appearance when exposed. Exact locations of fixtures and outlets shall be obtained from the Architect as provided in the Contract Documents before the Work is roughed in. Work incorrectly installed without such information from the Architect shall be relocated at the Contractor's expense.

### **3.4 PHASES OF THE WORK—CONSTRUCTION PHASE**

**3.4.1** The construction phase shall commence upon the issuance by the Owner of a written notice to proceed with the Work.

**3.4.2** The Contractor shall be responsible for ensuring that adequate quality control programs are developed, implemented and enforced by the Contractor's staff and all Subcontractors, including assigning an experienced quality manager, who may be the Project Superintendent employed by the Contractor, who shall be stationed at the Project Site and who shall be responsible for reviewing and coordinating the quality control activities of all Subcontractors and monitoring the implementation and enforcement thereof in connection with all aspects of the Work.

**3.4.3** The Contractor shall be responsible for overall management, supervision, and coordination of all Subcontracts and of labor relations in connection with the Project 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 and in accordance with the requirements of the Contract Documents. The Contractor shall identify and resolve jurisdictional issues and disputes prior to bidding and award of the applicable Subcontracts, so as to cause no delay in the Work.

**3.4.3.1** In consultation with the OPM and the Architect, the Contractor shall develop and implement procedures for orderly completion of Punch-List items, check out of utilities, operational systems and equipment and initial start-up and testing. The Contractor shall prepare and deliver to the Architect warranties, as-built drawings, maintenance manuals and the like, and generally administer closeout of the Work. In connection with the closeout of the Work, the Contractor shall take steps to ensure the performance of all warranty and guarantee obligations, resolution of all claims and other post construction requirements and will assist in building commissioning in accordance with the terms of the Contract Documents.

### **3.5 PERMITS AND FEES; COMPLIANCE WITH LAW**



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**3.5.1** The Contractor, at its cost, shall secure and pay for all demolition permits, construction or building permits, utility inspection and connection fees, certificates of occupancy and all other permits and approvals and governmental fees or charges (including, without limitation, microfilming charges), licenses, inspections and certificates of inspection necessary for the proper execution, completion and use and occupancy of the Work, including, without limiting the generality of the foregoing, permits for temporary occupancy or obstruction of or projection into, over or under public streets and sidewalks and other public ways, curb-cut permits, and notifications to and permits or approvals from the Massachusetts Department of Environmental Protection or others necessary in connection with the performance of the Work (the “Permits and Approvals”). The Contractor shall promptly deliver to the OPM and the Architect copies of all such Permits and Approvals (and supporting applications), licenses and certificates, and satisfactory evidence that disposal of all waste material in connection with the Project is done in full compliance with Applicable Laws.

**3.5.2** The Contractor shall arrange for and provide at its expense all local policemen required to be present at or adjacent to the Site for traffic control purposes.

**3.5.3** The Contractor shall give all notices required by and shall otherwise comply with all Applicable Laws bearing on the performance of the Work including, without limitation, applicable provisions of the Massachusetts State Building Code, applicable environmental laws and ordinances and regulations concerning noise pollution and dust control.

**3.5.4** The Contractor shall obtain at its expense and deliver to the Owner, as the case may be, an unconditional permanent and full Certificate of Occupancy. Receipt of such Certificate by the Owner, as applicable, shall be a condition precedent to Final Completion of the Work, unless such Certificate is not issued solely for reasons as to which the Contractor has no responsibility or over which it has no control, in which case the Contractor shall continue to use its best efforts to obtain said Certificate as expeditiously as possible and at no additional cost to the Owner.

## **3.6 UTILITIES**

**3.6.1** The Contractor shall be solely responsible for verifying the precise locations of utilities on the Site or serving the Project. The Drawings and Specifications endeavor to indicate all pipes, conduits, lines or other structures or equipment of public and private utility companies (“Utility Equipment”) at and adjacent to the Site of which the Owner is aware. However, the Owner makes no representation or warranty that the utility equipment shown on the Drawings or referred to in the Specifications is the only utility equipment that may be encountered. Prior to commencing the Work, the Contractor shall visit the Site and to the extent possible shall confirm the existence and location of all utility equipment and shall, during the course of the Work, make diligent and continuous efforts to confirm the locations of all utility equipment at and adjacent to the Site. The Contractor shall promptly notify the Owner and Architect in writing, prior to commencing affected portions of the Work, of any Utility Equipment that it discovers and that has not been identified on the Drawings. If and as directed by the Owner, the Contractor shall make necessary arrangements with utility companies for the protection, alteration and relocation



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of utility equipment necessary in connection with performance of the Work, and shall notify all municipal departments and utility companies concerned of the time and location of any work which may affect them. To the extent not covered by insurance, the Contractor shall be responsible for all costs and all claims, damages and liabilities arising directly or indirectly from any damage to Utility Equipment or any intentional or unintentional interruption of service occurring in connection with the performance of the Work and caused by the Contractor or any Subcontractor or other operations of the Contractor.

**3.6.2** The Contractor shall perform the Work so as not to interfere with utility companies or municipal departments that may enter on the Site to make changes in Utility Equipment or to place new utility equipment. Except as otherwise set forth in Section 9.4 hereof, the Contractor shall have no claim for or on account of any delay which may be due to or result from such work of utility companies or municipal departments.

**3.7 DOCUMENTS AND SAMPLES AT THE SITE**

**3.7.1** The Contractor shall maintain at the Site in a safe and secure place one record copy of: (i) all Contract Documents and other Project-related documents marked currently to record all changes made during construction; (ii) approved Shop Drawings, Product Data and Samples; (iii) copies of all building, electrical, plumbing, public safety and other codes and regulations applicable to the Work; (iv) certified payroll reports; and (v) all permits, licenses, approvals, inspection reports and certificates obtained as required by Section 3.5. These shall be available to the Architect, the OPM, and the Owner for reference and shall be delivered to the OPM upon completion of the Work. The Contractor shall keep all such documents in good order and shall maintain current logs of all Project-related documents, which logs shall be in form and detail satisfactory to the Owner and the Architect.

**3.7.2** The Contractor shall keep a separate and complete set of black-line prints of the Drawings and Specifications on which shall be noted neatly, accurately, completely, and promptly, as the Work progresses: (a) the progress of the Work installed by coloring in all pipe lines, ducts and apparatus as constructed or installed; and (b) all changes, deviations, revisions to the plumbing, electrical, HVAC and all other Work, wherever such Work was installed other than as shown on the Contract Documents. The Contractor shall be responsible for assuring that the progress of the Work and all changes, deviations, and revisions are delineated by the Subcontractors responsible for performing the specific Work. Failure to maintain such as-built Drawings and Specifications may result in withholding of payments to the Contractor. The Owner, the OPM, the Architect, and their respective agents, representatives, and other consultants, shall have access to all Project documents maintained by the Contractor at all times. The Contractor shall cooperate with and assist the Architect in connection with the Architect's periodic reviews of the as-built Drawings and other Project documents prepared and maintained by the Contractor.

**3.7.3** Upon Substantial Completion of the Work, the Architect shall make a final review of the as-built Drawings prepared by the Contractor and if any omissions, incorrect information, or inconsistencies are found, the Drawings shall be revised by the Contractor until acceptable to the Architect. When the final as-built Drawings are complete to the satisfaction of



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the Architect, the Contractor shall furnish to the Architect a complete set of as-built Drawings with each sheet being clearly marked "AS-BUILT DRAWING" and containing the date of the print and the Contractor's certification that the as-built Drawing accurately and completely depicts the Work as constructed. The Contractor shall deliver the as-built Drawings to the Architect in hand-marked and electronic form in the Architect's and the Owner's CADD format, containing a full set of CADD as-built Drawings for the Work.

**3.7.4** Upon Substantial Completion of the Work, the Contractor shall prepare and deliver to the Architect four (4) copies of a full and complete operating and maintenance manual for the Project. In accordance with the Specifications, the manual shall contain full information for each item of mechanical, electrical or other operating equipment, copies of warranties therefore, schematic diagrams of control systems, circuit directories for each electric and communications panel board, and charts showing the tagging of all valves. The Contractor shall obtain and include in the manual reduced scale photocopies of the relevant, revised as-built Drawings referred to in Subsection 3.7.3. Each volume of the manual shall contain all information required by the Specifications and these General Conditions, shall be clearly indexed, and shall include a directory of all Subcontractors and maintenance contractors, indicating the area of responsibility of each, and the name, telephone number, and other pertinent contact information for the responsible member of each organization. Such manuals shall be delivered to the Owner prior to, and as a condition precedent to, final payment.

**3.7.5** The Contractor shall arrange for instruction in the operation and maintenance of the fire protection, plumbing, heating, ventilating and air conditioning, electrical and mechanical (including, without limitation, elevators) systems for State University employees. It is the intent of this Subsection 3.7.5 to require the Contractor and the applicable Subcontractors to furnish as much detailed instruction as is required by the Contract Documents to educate State University facilities personnel in the proper use of the facilities equipment. Specifically, instruction and supervision for State University employees and representatives shall be provided during two seasonal conversions of the HVAC systems beyond the building start-up. This instruction shall be provided by the manufacturer's representative for each item of equipment at no additional cost to the Owner. In some cases, this may require several visits to the Project by those responsible for the instruction. The Contractor shall, with written consent of all instructors, videotape all such training sessions, and a copy of each videotape shall be delivered to the Owner, prior to, and as a condition precedent to, final payment.

### **3.8 SUBMITTALS**

**3.8.1** The Contractor shall prepare or review, approve and submit to the Architect, with a copy of the transmittal to the OPM, for review, sufficiently in advance and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate Contractor, all Shop Drawings, Product Data and Samples or other submittals required by the Contract Documents, all in accordance with the requirements set forth in the Specifications. Neither the Owner nor the Architect shall be responsible for Work performed in shop or field prior to approval of any applicable Shop Drawings, Product Data or Samples.



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**3.8.1.1** Within thirty (30) days of receiving a Notice to Proceed with construction from the Owner, the Contractor shall submit to the Architect and the OPM a detailed submittal schedule detailing the submittal and review process for all shop drawings, product data, samples, and other submittals. The submittal schedule shall incorporate appropriate time periods for the Architect's review of Shop Drawings and all other submittals required by the Contract Documents. The submittal schedule shall be coordinated with the Project Schedule and shall be in form, substance, and detail acceptable to the Owner and the Architect.

**3.8.2** By preparing, approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor thereby represents that it has determined and verified all materials, design required in the implementation of the Work, dimensions, quantities, field measurements, details, relations to existing work, coordination with work to be installed later, coordination with information on previously accepted Shop Drawings, Product Data, Samples or similar submittals and compliance with all the requirements of the Contract Documents. The accuracy and completeness of all such information is the responsibility of the Contractor. Approval by the Contractor shall be clearly indicated on each submittal, in ink or by stamp, and signed or initialed and dated by the Contractor. Submittals that have not been reviewed and approved by the Contractor in accordance with the requirements stated in this Section 3.8 and the Specifications shall be returned to the Contractor with no action taken by the Architect. Such submissions shall be re-submitted to the Architect with the Contractor's review and approval provided as required. Language contained in the Contractor's approval of submittals shall not be interpreted to limit in any respect or otherwise affect the Contractor's responsibilities and liabilities hereunder.

**3.8.3** The Architect shall review the Contractor's submittals in accordance with Section 2.5. If corrections are required, a full set of copies of duplicate parts or corrected submittals shall be submitted to the Architect for approval, and this procedure shall be followed until final approval of the submittal has been given by the Architect. All portions of the Work shall be performed strictly in accordance with the approved submittals.

**3.8.4** If Shop Drawings submitted by the Contractor indicate a deviation from the Contract Documents, the Contractor shall specifically inform the Architect and the OPM, in writing, of such deviation at the time of submission. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data or Samples or other submittals, unless the Contractor has specifically informed the Architect and the OPM in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's approval thereof. The Architect's approval of a specific item shall not constitute approval of an assembly of which the item is a component.

**3.8.5** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or other submittals to revisions other than those requested by the Architect on previous submittals. Unless such written notice has been



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given, the Architect's approval of a revised submittal shall not constitute approval of any changes not requested by the Architect on the prior submittal.

**3.8.6** No acceptance or approval of any Shop Drawing, Product Data or Sample, nor any indication or request marked by the Architect on any Shop Drawing shall constitute an authorization for any increase in the Contract Sum.

### **3.9 SITE ACCESS**

**3.9.1** The right of possession of the Site 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 Contractor shall confine its apparatus and equipment, storage of materials, and all operations at the Site to areas permitted by law, ordinances, permits, the Contract Documents, and the directions of the OPM, and shall not unreasonably encumber the Site with any materials or equipment.

**3.9.2** The Contractor shall not use, occupy or obstruct, nor permit any Subcontractor or any other person performing the Work to use, occupy or obstruct, any lands or areas outside of the legal limits of the Site, unless written permission in form and substance satisfactory to the Owner has been obtained by the Contractor at the Contractor's sole cost.

**3.9.3** The Contractor may, subject to the Owner's prior written consent, install a construction sign as provided in the Specifications, but shall not permit the posting of any other sign, trademark, advertisement, or other identification symbol in or about the Site. The Owner shall have the right, without notice to the Contractor, to remove any sign, trademark, advertisement or other identification symbol installed in violation of this Subsection 3.9.3 at the Contractor's expense. The construction sign installed by the Contractor shall also identify the Subcontractors or, alternatively, the Contractor shall provide a single location, approved by the Owner in writing, for Subcontractor signage.

**3.9.4** Any damage to the premises or equipment of the Owner caused by the Contractor or any Subcontractor shall be corrected by the Contractor as directed by the Owner and at the expense of the Contractor, subject to the Contractor's right to coverage under the Owner's builders risk insurance obtained with respect to the Project, but such right shall pertain only to the extent of proceeds actually received by the Owner, the Contractor being responsible for any deductible and for any of the Owner's losses not covered.



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### **3.10 CUTTING AND PATCHING**

**3.10.1** The Contractor shall be responsible for all cutting and patching, as approved by the Architect, necessary for the completion of the Work in accordance with the Contract Documents.

**3.10.2** The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by excavation, cutting, patching or otherwise altering any Work. The Contractor shall not unreasonably withhold from the Owner or any other contractor its consent to excavating, cutting, patching, or otherwise altering the Work.

### **3.11 WEATHER PROTECTION**

**3.11.1** The Contractor shall provide and coordinate temporary enclosures and heat, as may be more particularly set forth in the Contract Documents, to permit the entire Work to be carried on during the months of November through March in compliance with M.G.L. c. 149, § 44F. These specifications are not to be construed as requiring enclosures or heat for operations that are economically infeasible in the judgment of the Architect. Included in this category, without limitation, are such items as site work, excavation, steel erection, erection of certain exterior wall panels, roofing, and similar operations.

### **3.12 WASTE DISPOSAL AND CLEANING**

**3.12.1** All wastes, including any special or hazardous wastes, construction waste, demolition waste, and general rubbish, generated as a part of the Work, shall be properly classified by the Contractor and transported and disposed in accordance with all local, state, and federal laws and regulations that pertain to such materials. The Contractor shall retain the services of a qualified and properly licensed waste transporter. The Contractor shall make all arrangements and give and obtain all notices, communications, documentation, permits, certificates, and approvals necessary for disposal from the owner or officials in charge of such landfills, disposal or recycling facilities. The Contractor shall bear all fees and costs in connection with such classification, removal, transportation, and disposal. The Contractor shall not permit any storage of debris or waste of any name or nature on the premises.

**3.12.2** Chemical waste shall be stored in corrosion resistant containers, removed from the premises, and disposed of in accordance with all applicable laws and any Contract Documents requirements. Disposal of chemical waste shall be performed in accordance with requirements of the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP). The Contractor shall immediately notify the Owner, the Architect, and the appropriate governmental agency of any hazardous materials release large enough to require reporting under applicable laws and regulations. The Contractor shall be responsible for immediately cleaning up, in accordance with applicable law, any oil or hazardous materials releases resulting from its operations on the Project. Any costs incurred by the Contractor in cleaning up any such releases and any damages incurred by the Owner arising from such release shall be borne by the Contractor.



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**3.12.3** The Project and the Site shall be maintained in a neat and orderly condition and kept free from accumulation of waste materials and rubbish during the entire Construction Period. All crates, cartons and other flammable waste materials or trash shall be removed from the work areas at the end of each working day. If the Project and Site are not maintained properly, after 24 hours prior written notice to the Contractor, the Owner may have any accumulations of waste materials or trash removed and charge the cost to the Contractor. Elevator shafts, electrical closets, pipe and duct shafts, chases, furred spaces and similar spaces which are generally unfinished, shall be cleaned and left free from rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt and dust.

**3.12.4** At the completion of the Work, the Contractor shall remove all its tools, construction equipment, machinery and surplus materials, and shall leave the Site in a neat and clean condition satisfactory to the Owner. Immediately prior to the Architect's inspection for Substantial Completion of the entire Work, or any portion thereof, the Contractor shall, when directed to do so by the Owner, completely clean any and all portions of the Project to be inspected. Without limitation, concrete and ceramic surfaces shall be cleaned and washed; resilient coverings shall be cleaned, waxed and buffed; woodwork shall be dusted and cleaned; sash, fixtures, and equipment shall be thoroughly cleaned; stains, spots, dust, marks and smears shall be removed from all surfaces; hardware and all metal surfaces shall be cleaned and polished and glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken and scratched surfaces shall be replaced by the Contractor at the Contractor's sole expense.

**3.12.5** If the Owner elects to take occupancy of specific areas or portions of the Work prior to the completion and acceptance of the entire Work as provided in Article 15 hereof, the Contractor shall carry out final cleaning operations as herein specified in such specific areas or portions of the Work prior to occupancy thereof, as directed by the Owner. The Contractor shall remove or, when appropriate, relocate, all surplus materials, equipment, supplies, construction plant, and facilities as required in order to permit the occupancy and utilization of such specific areas or portions of the Work.

### **3.13 PROJECT COMMUNICATIONS**

**3.13.1** Copies of all communications from the Contractor to the Architect or the OPM shall be provided simultaneously to the other and, if required by the Contract Documents, also to the Owner.

**3.13.2** The Contractor shall forward to the Architect any communications which the Contractor transmits to the Owner relating to any matter within the purview of the Architect pursuant to the provisions of the Contract Documents.

### **3.14 ROYALTIES AND INTELLECTUAL PROPERTY**

**3.14.1** The Contractor shall pay all royalties and license fees, shall defend all suits or claims for alleged infringement of any intellectual property rights, and shall indemnify and save the Owner, the OPM, the Architect, and the State University harmless from loss on account



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thereof, except that the Contractor shall not be responsible for such loss when a particular design, process, or the product of a particular manufacturer or manufacturers is specified, unless the Contractor has reason to believe that the design, process, or product specified is an infringement of intellectual property rights, in which event the Contractor shall be responsible for such loss unless it promptly gives such information to the Owner.

### **3.15 FINANCIAL CONDITION**

**3.15.1** The Contractor warrants and represents that its financial condition is sound and that the Contractor is capable of performing the Work and obtaining any bonds now or hereafter required pursuant to the Contract Documents. Upon request by the Owner, the Contractor shall make available to the Owner, within fourteen (14) days, such audited and unaudited financial statements of the Contractor as the Owner may reasonably request or as may be required by Applicable Law. The Contractor shall promptly advise the Owner of any occurrence, event, fact, or other matter that has had, will have, or might reasonably be predicted to have a material adverse effect upon the financial condition of the Contractor.

### **3.16 PREVAILING WAGE; RECORDKEEPING**

**3.16.1** The Contractor shall comply with the Massachusetts Prevailing Wage Law, M.G.L. c. 149, § 26-27H. The Prevailing Wage Law requires that a true and accurate record be kept of all persons employed on the a project for which the prevailing wage rates have been provided. The Contractor and all Subcontractors shall keep these records and preserve them for a period of three years from the date of completion of the Contract. Such records shall be open to inspection by any authorized representative of the Owner at any reasonable time, and as often as may be necessary. The Contractor shall, and shall cause its Subcontractors to, submit weekly copies of their weekly payroll records to the Owner. In addition, the Contractor and each Subcontractor shall furnish to the Executive Department of Labor within fifteen days after completion of its portion of the Work a signed statement in the form required by the Owner.

**3.16.2** The Contractor shall comply with, and shall cause its Subcontractors to comply with M.G.L. c. 149, § 148 which requires the weekly or biweekly payment of employees within six days of the end of the pay period during which wages were earned if employed for five or six days of a calendar week, and within other periods of time under certain circumstances as set forth therein.

### **3.17 EEO/AA AND M/WBE REQUIREMENTS**

**3.17.1** The Contractor shall comply at all times in all respects with all government laws, regulations and ordinances affecting or regulating employment of persons in connection with the Work, and with the equal employment opportunity and affirmative action requirements set forth in **Exhibit D** and **Exhibit E** to the Agreement.

**3.17.2** The Contractor shall submit a construction employment plan to the Owner pursuant to which the Contractor will specify its plan for meeting and monitoring the



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Owner's employment requirements. The plan shall comply with the provisions set forth in **Exhibit D** and **Exhibit E**. The Contractor shall provide the Owner with such reports concerning its compliance with the construction employment plan as the Owner shall require.

### **3.18 LINES AND GRADES; SURVEY**

**3.18.1** The Contractor agrees that the Work shall be erected within the building lines and contract limit lines established in the Contract Documents and other information made available to the Contractor.

**3.18.2** The Contractor shall engage a land surveyor registered in the Commonwealth of Massachusetts to establish, and the Contractor shall be responsible for the accuracy of, base lines for the Work.

**3.18.3** The Contractor shall establish and plainly mark such points, lines and grades as are necessary to assure that location, orientation and elevations established for each structure or element of the Work are in accordance with the lines and elevations shown on the Drawings.

**3.18.4** After the perimeter foundation walls are in place, the Contractor shall verify that lines and grades meet the requirements of the Drawings and Specifications. Such verification shall be provided by a registered land surveyor or professional engineer who shall record actual as-built lines and grades on the as-built Drawings.

**3.18.5** During the progress of the Work the registered land surveyor or professional engineer shall record actual as-built lines and grades on the as-built Drawings. The Contractor shall, from time to time, furnish to the Owner surveys certified by a registered land surveyor, in such form as may be required by the Owner, of the location of all improvements and utilities on the Site.

## **ARTICLE 4 OWNER**

### **4.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

**4.1.1** If available, the Owner shall furnish to the Contractor surveys describing the physical characteristics, legal limitations for the Site, and a legal description of the Site.

**4.1.2** The Owner may furnish the Contractor with certain reports, plans, studies, tests, information and other documentation relating to utilities and subsurface and other conditions affecting or relating to the performance of the Work (the "Site Conditions Documents"). The Contractor represents that it has thoroughly studied and is familiar with the Site Conditions Documents which it has received. In the case of Site Condition Documents to be supplied by the Owner after execution of the Agreement, the Contractor shall study and become familiar with such documents. The Contractor shall advise the Owner in writing of any errors, omissions, inconsistencies discovered by the Contractor in its review of the Site Condition Documents. The



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Contractor represents further that it has examined the Site and local conditions and as they are developed will carefully study and compare the Contract Documents with each other and with conditions at the Site, and with the Site Conditions Documents. Unless otherwise specifically stated, the Owner does not assume any responsibility for the accuracy or completeness of the Site Condition Documents. Such information and data is furnished to the Contractor for its informational value, but the Owner does not hold out such information or data to the Contractor as being complete nor as an accurate or approximate indication of surface, subsurface or other conditions. No claim for extra cost or any extension of the Contract Time resulting from reliance by the Contractor on the Site Conditions Documents shall be allowed except as expressly provided in the Contract Documents.

**4.1.3** Information or services required of the Owner under the Contract Documents and requested in writing by the Contractor shall be furnished by the Owner, if available, with reasonable promptness so as to endeavor to avoid delay in the orderly progress of the Work.

**4.1.4** The Contractor will be furnished, free of charge, four (4) copies of the Contract Documents.

**4.1.5** The Owner may, but shall not be required to, forward instructions to the Contractor through the OPM. If communicated directly to the Contractor by the Owner, the Owner will endeavor to provide copies of such communications to the OPM and the Architect.

## **4.2 CONFIDENTIAL INFORMATION**

**4.2.1** The Contractor shall not disclose, at any time during or after the Work, either directly or indirectly, any confidential records, knowledge or information which the Contractor may acquire about the Project or the Owner, except as may be required by law or by order of a court of competent jurisdiction. The Contractor shall treat all information relating to the Project and all information supplied to the Contractor by the Owner, the OPM, or the Architect as confidential and proprietary information of the Owner and shall not permit its release to third parties or make any public use of such information without the Owner's prior express written authorization. The Contractor shall require all Subcontractors to comply with this provision.

## **4.3 TAX EXEMPTION**

**4.3.1** The Owner, as an authority of the Commonwealth of Massachusetts, is exempt from certain taxes. The Owner's taxpayer exemption number is 042-379-317. The Contractor hereby acknowledges that the Contract Sum has been established based upon the understanding that the Owner is exempt from certain taxes. It is therefore required that the Contractor and Subcontractors purchasing building materials and supplies to be used in construction of the Project (including rental charges for construction vehicles, equipment and machinery rented specifically for use on the site of the Project or while being used exclusively for the transportation of materials for the Project) ("Construction Materials") apprise vendors of the tax-exempt status of the Owner, so that certain taxes will not be imposed upon the purchase of



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Construction Materials. At the time of purchase of Construction Materials, the purchaser shall provide the vendor with copies of certificates or other documentation necessary to permit the sale of such Construction Materials to be exempt from sales, use and other applicable taxes imposed by any state or federal taxing authority. If such taxes are paid on any Construction Material used in the construction of the Project, the Contractor shall be responsible for reimbursing the Owner, whether the purchases were made by the Contractor, a Subcontractor or Supplier, the full amount of such taxes and the Owner shall have the right to recover any such amounts not promptly reimbursed by reducing any payment due the Contractor under the Contract by such amount. Taxes not applicable to the Owner include, but may not be limited to: (a) Sales and Use Tax imposed by the Commonwealth under M.G.L. c. 64H, §6 (f) and c. 64I, § 7 on Construction Materials; and (b) Federal Excise Taxes as applied to articles which are taxable under Chapter 32 of the Internal Revenue Code of 1954, as amended.

**ARTICLE 5 INDEMNIFICATION**

**5.1 CONTRACTOR'S INDEMNITY**

**5.1.1** The Contractor shall indemnify, defend with counsel acceptable to the Owner, keep and save harmless the Commonwealth, the State University, and the Owner, including their respective board members, trustees, directors, officers, contractors, consultants, agents, employees, and other representatives, in both their respective individual and official capacities, against all liabilities, suits, claims, damages, losses, expenses, penalties, fines, fees including, but not limited, to attorneys' fees, expert witness fees and other legal expenses (including fees and expenses in connection with any alternative dispute resolution process) and other costs and liabilities caused by, arising out of, resulting from, or incidental to, the following, each to the full extent allowed by the laws of the Commonwealth of Massachusetts and not beyond any extent that would render these provisions void or unenforceable:

- (a) breach or default under or failure to perform or comply with the terms of the Contract by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (b) negligent acts or omissions of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (c) infringement of any patent or trademark, or violation of any copyright, right of privacy or any similar right protected by any law affecting intellectual property arising out of or relating to the use of methods, processes or information, or products or other materials or property, in connection with performance of the Work by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible, or otherwise relating to the Work;



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- (d) violation of any Applicable Law in connection with performance of the Work by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (e) violation of or noncompliance with the conditions of any Permits and Approvals by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (f) failure of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible to pay any federal, state or local taxes based upon gross receipts, income, purchases, rentals or sales, the use of any property, unemployment insurance or any other social security or social benefit taxes applicable to employees of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible, or any other taxes imposed in connection with the Contract or the Work;
- (g) personal injury, sickness, emotional distress, disease or death directly or indirectly caused by, arising out of, resulting from, or incidental to the performance of the Contract or otherwise relating to the Work or any act or omission of the Contractor, any Subcontractor or Supplier, or any other party for whose acts or omissions the Contractor is or becomes liable;
- (h) loss or damage to any property of the Contractor, and loss or damage to any property of Subcontractor, Supplier, or other parties for whom the Contractor is or becomes responsible;
- (i) claims by Subcontractors, Suppliers, or others against the Contractor or the Owner on account of amounts due or claimed to be due to such Subcontractor, Supplier, or others in connection with the performance of the Work;
- (j) loss or damage to property owned by the Owner or any third parties located on or about the Site, in whole or in part arising out of, resulting from, or incidental to the performance of the Work or any acts or omissions of the Contractor, any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible;
- (k) neglect or failure to construct the Work within the building lines, or by reason of any encroachment by any element or portion of the Work, or any part or projection thereof, on adjoining land if such encroachment shall result from the Contractor's failure to construct the Work within said building lines;



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- (l) release or threatened release of any hazardous material which: (i) was brought onto the Site by the Contractor, or any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible; or (ii) was negligently removed from, handled on, or disposed of on the Site by the Contractor, any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible, regardless of the source or origin of such hazardous material or the method of deposit of such hazardous material on the Site or, in the case of the removal of any hazardous material from the site, on the Site to which such hazardous material was removed;
- (m) claims or assertions by any separate contractor of disruption, delay or loss caused by interference by the Contractor (or its Subcontractors or others for whom the Contractor is or becomes responsible) with or hindrance of the progress or completion of work being performed by separate contractor, or failure of the Contractor or any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible, to cooperate reasonably with such separate contractor; and
- (n) failure of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible to comply with their obligations to not use undocumented workers to perform any part of the Work.

Such agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or remedy which would otherwise exist as to any party or person described in this Section 5.1.

**5.1.2** Provisions of this Section 5.1 shall be for the benefit of each party indemnified hereunder with the same force and effect as if each individual were in privity of contract with the Contractor, and each party so indemnified shall have the right to bring a direct action against the Contractor to enforce this indemnity. Each party so indemnified is hereby made a third party beneficiary of the Contract with respect to the provisions of this Section 5.1.

**5.1.3** In connection with any and all claims against the Owner, the OPM or the Architect or their consultants or separate contractors, or any of their Subcontractors, agents or employees, by any employee of the Contractor, any Subcontractor or Supplier, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligation under this Section 5.1 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under worker's compensation acts, disability benefit acts or other employee benefit acts.

**5.1.4** In the event that a claim, demand or action is asserted against a party indemnified under this Section 5.1 with respect to which the Contractor is obligated to indemnify



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such party in accordance with this Section, such party shall give timely notice to the Contractor of such claim and may request that the Contractor undertake the defense of such claim with counsel reasonably satisfactory to such indemnified party and without cost to such indemnified party, or the indemnified party may undertake the defense of such claim, with counsel satisfactory to the Contractor, in which case the Contractor shall cooperate and assist in the defense and resolution of such claim, and shall be responsible for all costs of defense, judgments, settlements and other liabilities as provided in this Section 5.1. Failure of the indemnified party to notify the Contractor as provided in the preceding sentence shall not waive, release or otherwise affect the indemnification obligations of the Contractor hereunder, except to the extent that the Contractor establishes that such failure to give notice has prejudiced the Contractor in the defense of such claim.

**5.1.5** The indemnification obligations of the Contractor under the Contract shall survive the termination or expiration of the Contract and completion of the Work.

**5.1.6** The obligations of the Contractor under this Article 5 shall not extend to the liability of the Architect, his agents or employees, arising out of the performance of the Architect's obligations under the Contract Documents.

## **ARTICLE 6 SUBCONTRACTORS**

### **6.1 SUBCONTRACTS**

**6.1.1** All Subcontractors shall look solely to the Contractor for payment for their Work performed in accordance with the Contract Documents except as expressly otherwise permitted by law. The Contractor shall furnish the Owner with executed copies of all Subcontracts promptly upon execution thereof.

**6.1.2** When subcontracting with filed sub-bidders filed pursuant to M.G.L. c. 149, § 44F, Contractor shall use exclusively the form of subcontract set forth in M.G.L. c. 149, § 44F(4)(c), a copy of which is attached as **Exhibit H** to the Agreement.

**6.1.3** Contractor shall make payments to Subcontractors in accordance with M.G.L. c. 30, § 39F. For the purposes of this Contract, the word "forthwith" appearing in paragraph (1)(a) of M.G.L. c. 30, § 39F shall be deemed to mean "within five (5) business days".

**6.1.4** The Contractor hereby conditionally assigns to the Owner all Subcontracts now or hereafter executed by the Contractor in connection with the Work and in accordance with the requirements of the Contract Documents.

(a) Such assignment shall become an effective and present assignment only upon a termination by the Owner of the Contract in accordance with the



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provisions of the Contract Documents and only as to those Subcontracts which the Owner explicitly accepts and assumes in writing. The Owner shall have the sole option to determine which Subcontracts the Owner shall accept as aforesaid.

(b) This Subsection 6.1.4 shall serve as the instrument of assignment at such time as the assignment provided for above becomes effective. The Contractor agrees, however, at the Owner's request, to execute whatever instruments the Owner requests to confirm such assignment.

**6.1.5** The Contractor shall maintain and distribute to the Owner, the OPM, and the Architect a Project Directory listing the names, addresses, email addresses, and telephone numbers of the principal members of the staff of each Subcontractor in addition to any other information requested by the Owner or the Architect regarding Subcontractors. The Contractor shall update such Project Directory periodically during the Project. The principal contact for each Subcontractor and his/her home telephone number shall be indicated in the Project Directory so that such person may be reached in emergency situations.

## **ARTICLE 7 OTHER WORK**

### **7.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS**

**7.1.1** In addition to the Work required to be performed under the Contract, the Owner may perform other work related to the Project at the Site with its own forces, have other work performed by utility suppliers, or award separate contracts for such work or other work on the Site under these or other conditions of the contract. If the fact that such other work is to be performed is not noted in the Contract Documents, notice thereof will be given to the Contractor prior to commencement of such other work.

**7.1.2** If, after commencement of the Work, the plans of the Contractor and any such separate contractors performing work in connection with the Project, or other contractors, are inconsistent with respect to methods, scheduling, progress or otherwise, the Contractor shall promptly take all steps necessary to coordinate its Work with that of other contractors. The Contractor shall have no claims against the Owner or such separate contractors performing work in connection with the Project or other contractors for any delays arising from joint use of any work area or staging area, or from joint use of access. All coordination undertaken by the Contractor shall be acceptable to Owner in all respects.

### **7.2 MUTUAL RESPONSIBILITY**

**7.2.1** The Contractor shall provide the Owner, utility suppliers and other separate contractors proper and safe access to the Site and a reasonable opportunity for the delivery and storage of materials and equipment and the execution of their work, and for reasonable access to, and use of, the Contractor's hoisting facilities, if provided, and temporary electric, water and



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sanitary facilities. Disputes arising with respect to delivery or storage of materials or equipment, or otherwise relating to coordination of the Work under the Contract with the work of utility suppliers or separate contractors shall initially be submitted to the Architect. Recognizing the constraints imposed upon the Contractor by the requirements of this Section, the Owner agrees to give the Contractor as much advance notice as is practicable of the particular needs of separate contractors and utility suppliers for access to the Site and joint use of the Site and site facilities so as to minimize the impacts upon the Contractor's scheduling and operations. The Contractor shall cooperate with the Owner, utility suppliers and separate contractors, and require and enforce the cooperation of its Subcontractors in such manner as to permit the expeditious, efficient connection of utilities and to facilitate completion of the Project as a whole and completion of specific parts of the Project for early use or occupancy by the Owner in accordance with the Project Schedule.

**7.2.2** If any portion of the Contractor's Work depends, for proper execution or results, upon other work of the Owner or any such utility supplier or other separate contractors, the Contractor shall, prior to proceeding with that portion of the Work, inspect and promptly report to the Architect and the Owner, in writing, any delays, discrepancies or defects in such other work discoverable as a result of prudent examination, testing and observation by the Contractor that render such other work unavailable or unsuitable to receive Contractor's Work. Failure of the Contractor to so report shall constitute an acknowledgment that such other work is fit and proper to receive the Contractor's Work, except as to defects not so discoverable.

**ARTICLE 8 INSPECTION AND TESTING**

**8.1 INSPECTION AND TESTING**

**8.1.1** If the Contract Documents, laws, ordinances, rules, regulations or orders of, or conditions imposed by, any government entity having jurisdiction over the Project require any portion of the Work to be inspected, tested or approved, the Contractor shall give the OPM (with a copy to the Architect), the Owner's testing agents or consultants, and if applicable, government entities requiring such inspection, testing or approval, timely notice (at least five (5) full business days) prior to the commencement of Work or operations requiring such inspection, testing or approval so the Architect, such government entities and agents or consultants may perform or observe such inspection, testing or approval. The Contractor shall perform and bear all costs of such inspections, tests and approvals, unless otherwise provided in the Contract Documents. Except in the event of an unforeseen emergency, Work or operations requiring such inspection, testing or approval shall not be performed at times other than during the normal working day without the prior approval of the Owner. The Contractor will provide all required assistance (including, without limitation, labor, tools, equipment and transportation) as the Architect or such government entities or agents or consultants may request in connection with such inspection, testing or approval. The Contractor shall make all necessary arrangements at its expense to permit the Architect to make factory, shop or other inspections of materials or products ordered for the Work and in the process of manufacture, fabrication or extraction or in storage at locations other than the Site of the Work. Where certain testing and inspection requirements are required by the Contract Documents to be performed at the expense of the Owner, the Owner will



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retain the services of testing laboratories, agencies or consultants, to perform such tests or inspections and render such services as may be required to verify that the Work fulfills the requirements and intent of the Contract Documents. Such services will be performed in a manner consistent with the requirements of the Owner and the various agencies having jurisdiction over the Work and in accordance with sound standards of professional architectural and engineering practice applicable thereto. The Contractor and Subcontractors shall place their personnel at the Architect's disposal for field checking during any inspection period. When layouts of the building and site work are to be made, the Contractor shall notify the OPM and the Architect in sufficient time so that they may be present.

**8.1.2** The Contractor shall make no claim for delay or extra costs or extension of the Contract Time arising directly or indirectly out of reasonably required inspection or testing or out of the Contractor's failure to give timely notice so as to permit performance or observance of inspections, testing or approvals. Inspections and testing of the Work shall not relieve the Contractor of any obligations under the Contract Documents. Without limiting any other provisions hereof, defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such Work and materials have been previously inspected by the Architect and accepted or estimated for payment or paid for.

## **8.2 SPECIAL TESTING**

**8.2.1** If the Owner or the Architect determines that any portion of the Work requires special inspection, testing, or approval beyond that required in the Contract Documents, the OPM, upon written authorization from the Owner, or the Owner, will instruct the Contractor to order such special inspection, testing or approval, and the Contractor shall give notice as provided in Section 8.1 hereof. If such special inspection or testing reveals a failure of the Work to comply strictly with the requirements of the Contract Documents, the Contractor shall correct such Work and bear all costs of such inspection, testing and corrections, including compensation for the additional services of the Architect and other consultant made necessary by such failure; otherwise the Owner shall bear the costs of such inspection or testing, and an appropriate Change Order shall be issued. In no event shall the Contractor be entitled to any claim for delay or extra cost or extension of the Contract Time as a result of any such inspection, testing or corrections.

## **ARTICLE 9 CONTRACT TIME**

### **9.1 DEFINITIONS**

**9.1.1** The Contract Time is the period of time stated in the Agreement to achieve Substantial Completion of the Work, as may be adjusted in accordance with the Contract.

**9.1.2** The date of commencement of the Work is date of the issuance of a Notice to Proceed by the Owner for a portion, or all, of the Work.



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**9.1.3** The Date of Substantial Completion of the Work, or a designated portion thereof, is the date certified by the Architect when the requirements of the Contract Documents have been satisfied. Substantial Completion of the Work shall not be deemed to be achieved until:

- (a) the Owner can occupy or utilize the Work, or designated portion thereof, for the use for which it is intended; and
- (b) only minor items of Work remain incomplete, which minor items of Work may be completed without interference with the Owner's intended use of the Work; and
- (c) the minor items of Work remaining incomplete do not exceed one percent (1%) of the Contract Sum; and
- (d) all certificates of inspection, testing and approval, including final and unconditional certificates of occupancy and operating permits for elevators and any mechanical apparatus, which may be required by law to permit full use and occupancy of the completed Work by the Owner, have been actually obtained; and
- (e) all operating and maintenance manuals, warranties and guarantees, parts lists, Project Directory, repair source lists and samples, and all other similar documents or materials required to be delivered to the Owner under the Contract Documents have been delivered to, and approved by, the Architect; and
- (f) the Contractor has complied with all other obligations under the Contract Documents.

For purposes of this Article 9, Substantial Completion refers to Substantial Completion of the entire Project. In the event of any question or dispute as to the date of Substantial Completion, such question or dispute shall be determined by the Architect in its sole discretion, and neither the Architect nor the Owner shall have any liability to the Contractor arising out of such determination made by the Architect in good faith.

## **9.2 PROJECT SCHEDULE**

**9.2.1** The Contractor shall, within 14 days of execution of the Agreement, submit to the Owner and Architect for review and approval, a construction progress schedule in the form of a "critical path method" schedule ("CPM Schedule"). The CPM Schedule shall incorporate the submittal schedule required under Subsection 3.8.1.1. After the CPM Schedule has been so approved, it shall be the Project Schedule.

**9.2.2** The CPM Schedule shall be provided in form and detail acceptable to the Owner and prepared in accordance with the Contract Documents, with an adequate number of



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activities and milestones to properly describe the nature and sequence by which the Contractor intends to carry out the Work and to allow the Owner to properly coordinate the work for any separate contractors and to properly plan on use of portions of the Project prior to Final Completion.

**9.2.3** The CPM Schedule must exhibit, but may not be limited to, the following characteristics: The logic diagrams shall be based on an activity on node concept, the presentation of the logic network shall be time scaled, various analyses of the schedule shall be provided, including, but not limited to, listings of activities by code, by predecessor, by successor, by trade and by float.

**9.2.4** If requested by the Owner, the CPM Schedule shall be supplemented by, or converted to, a bar chart schedule. The CPM Schedule and bar chart schedule shall be updated regularly, at least weekly. The Contractor shall report to the Owner weekly on the status of the Work compared to the current CPM Schedule.

### **9.3 PROGRESS AND COMPLETION**

**9.3.1** Upon execution by the Owner of the Agreement and issuance of a written Notice to Proceed by the Owner, the Contractor agrees to proceed with the Work, or portion thereof covered by a Notice to Proceed with Construction, promptly, continuously, and diligently. The Contractor agrees to adhere to the Project Schedule, to achieve all interim completion milestones, if any, and to achieve Substantial Completion of the Work on or before the Substantial Completion Date set forth in the Agreement. It is agreed that TIME IS OF THE ESSENCE of the Contract Documents.

**9.3.2** Recognizing that, from time to time during the progress of the Work, the Owner may find it necessary to establish the current status of performance under the Contract Documents, the Contractor shall, at the request of the Owner, promptly provide statements, documents or certificates to the Owner regarding the status of the Work, compliance of the Work with the Contract Documents, compliance by the Contractor or any Subcontractor with the Contract Documents, and such other matters within the scope of the Contractor's performance under the Contract Documents as the Owner may require.

**9.3.3** The Contractor shall submit a detailed written report on the status of the Work compared to the current Project Schedule for the Owner's review with each Application for Payment. Each such report shall reflect all items required by the Contract Documents. If the Contractor fails to complete any activity by its latest scheduled completion date, the Contractor shall, within seven (7) days of such failure, submit a written statement showing how the Contractor intends to correct such failure and return to the current Project Schedule. The Contractor shall update the Project Schedule weekly to reflect changed logic, adjusted and modified sequences of Work, and other identifiable changes, including, without limitation, specific strategies for continuing to meet the Substantial Completion Date. With its monthly report on the status of the Work, the Contractor shall submit a written certification by the Contractor's Project Manager that



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the Project Schedule submitted with the report is the actual schedule being utilized for execution of the Work and that the Work is progressing in accordance therewith.

**9.3.4** If, at any time, the Owner determines that the progress of the Work is delayed or has not reached the level of completion required by the current Project Schedule, the Owner shall have the right to direct the Contractor to take all measures necessary to recover any lost time and return the Work to the level of progress required by the current Project Schedule (“Recovery Measures”). In such event, within five (5) business days of receiving the Owner’s direction to take Recovery Measures, the Contractor shall notify the Owner in writing of the steps which the Contractor proposes to take to remedy the situation, shall furnish Owner with an updated Project Schedule reflecting such Recovery Measures, and shall implement such steps promptly. Such Recovery Measures shall continue until the progress of the Work is returned to the stage of completion required by the current Project Schedule. If the Contractor disputes the Owner’s direction to the Contractor to take Recovery Measures, the Contractor shall, nonetheless, promptly and diligently perform the Recovery Measures and shall have no right whatsoever to fail or refuse to take Recovery Measures once so directed by the Owner. If, and to the extent the delays giving rise to a direction from the Owner to the Contractor to take Recovery Measures are not Excusable Delays, the Contractor shall not be entitled to an extension of the Contract Time or an adjustment of the Contract Sum in connection with undertaking Recovery Measures. If and to the extent that any delay giving rise to a direction from the Owner to implement Recovery Measures is an Excusable Delay, the Contractor shall be entitled to assert a claim in accordance with the Contract.

**9.4 EXTENSION OF THE CONTRACT TIME AS A RESULT OF DELAY EVENT**

The provisions of this Section 9.4 govern, and constitute the Contractor’s sole remedy, if a Delay Event is encountered by the Contractor in the course of performance of the Work. Any claim for an extension of the Contract Time associated with a Change in the Work shall be governed by, and subject to, the provisions of Article 13. If the Contractor is entitled, subject to the provisions of this Section 9.4, to an extension of the Contract Time by reason of a Delay Event, then an extension of the Contract Time may be granted for the period of the necessary delay caused to Critical Path Activities, determined in accordance with, and subject to, this Section 9.4, and other applicable provisions of the Contract Documents. A Change Order effecting such extension will be furnished to the Contractor within a reasonable period after such determination. No extension of the Contract Time shall be granted to the Contractor under the Contract (except as expressly authorized in connection with a Change in the Work) unless the requirements of this Section 9.4 shall have been satisfied.

**9.4.1 Types Of Delay Events**

“Delay Event” shall be limited to any of the following acts, omissions, events or conditions which delays completion of the Work or prevents performance of the Contractor’s obligations under the Contract and which could not be prevented by the Contractor even though the Contractor were to take all appropriate care to avoid or diminish the adverse consequences of the Delay Event:



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- (a) Unavoidable casualty;
- (b) Act of war, civil disorder, riot or similar occurrence;
- (c) Order, legislation, judgment or other official action, of any governmental body, agency or official having jurisdiction over the Project;
- (d) Any act or omission of the Owner or the Architect, such as a temporary stoppage or suspension of Work, not resulting from, or caused, in whole or in part, by any act or omission of the Contractor, any Subcontractor or any other person or entity for whom the Contractor is responsible;
- (e) Any work of utility companies or municipal departments that may enter the Site to make changes in utility equipment or to place new utility equipment, to the extent such delay does not result, in whole or in part, from the act or omission of the Contractor, any Subcontractor or any other person or entity for whom the Contractor is responsible;
- (f) Unusually severe weather preventing the Contractor from engaging, on a particular day, at least 75% of the labor force and equipment that was scheduled for engagement on Critical Path Activities on that particular day for at least 50% of that day; and
- (g) Strikes or work shutdowns caused by labor disputes and lockouts (other than lockouts caused by the Contractor, Subcontractors or Sub-Subcontractors unrelated to the Contractor's forces or the forces of any Subcontractor).

The financial difficulties of the Contractor (or any Subcontractor, supplier or other party for whom the Contractor is responsible) or the consequences thereof, shall not constitute a Delay Event.

**9.4.2 NOTICE AND PROCEDURES AS TO DELAY EVENTS**

**9.4.2.1 Initial Notice.** The Contractor shall provide the Owner with an initial written notice of any occurrence, event or condition which the Contractor claims (or may intend to claim) constitutes a Delay Event. Such initial written notice shall be submitted to the Owner within five (5) business days of the commencement of such occurrence, event or condition, and shall:

- (h) State in detail the factual circumstances which form the basis of the delay, and the current and anticipated future effects on the Contractor's performance and Project Schedule; and
- (i) State the date of commencement of the delay and the duration or expected duration of the delay with respect to each affected portion of the Work.



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The submission of such initial written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time. Neither the OPM and nor the Architect nor any other agent, consultant or employee of either shall have authority to modify or waive, expressly or by implication, such condition precedent or the corresponding condition precedents set forth in Subsection 9.4.2. and any action, inaction or statement by any of them to such effect shall not be binding upon the Owner.

**9.4.2.2 Second Notice.** Following submission of the initial written notice, not later than fifteen (15) business days of the commencement of any occurrence, event or condition which the Contractor claims (or intends to claim) constitutes a Delay Event, the Contractor shall submit to the OPM written notice of such occurrence, event or condition. This written notice shall (i) state whether an extension of the Contract Time is claimed and the Contractor's alleged contractual entitlement thereto; (ii) state in detail the factual circumstances which form the basis of the delay; (iii) identify Work activities alleged to have been delayed; (iv) state the calendar dates on which the Work activities were delayed and are anticipated to be further delayed; (v) state the number of calendar days by which the Contractor is requesting the Contract Time to be extended; (vi) fully and completely state the CPM analysis justifying the request, including a schedule impact (fragnet) analysis worksheet prepared in a time-scale to graphically illustrate the effect of the alleged delay on affected activities; (vii) state the date of commencement and duration or expected duration of the delay and its effect on the various portions of the Work; and (viii) state any other information reasonably requested by Owner.

**9.4.2.2.1** The Contractor shall provide such detailed supporting documentation, including, where appropriate, an updated Project Schedule indicating all of the activities affected by the circumstances which form the basis for the claim. The submission of such written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time.

**9.4.2.2.2** Because the possible necessity for an extension of the Contract Time might materially alter the scheduling, plans and other actions of the Owner and because, with sufficient opportunity, the Owner might (if it knew of the Contractor's claim) attempt to mitigate the effect of a delay for which an extension of the Contract Time was to be claimed, and only oral notice might cause disputes as to the existence or substance of such claim, and because delayed notice might seriously hinder or prevent the Owner's investigation of the pertinent facts, the giving of written notice within the time periods stated above in Subsections 9.4.2.1, and 9.4.2.2 shall be of the essence of the Contractor's obligations, and failure of the Contractor to comply with these requirements shall be deemed a conclusive, full and final waiver of any claim for extension of the Contract Time.

**9.4.2.2.3** It shall in all cases be presumed that no extension or further extension of the Contract Time is appropriate unless the Contractor shall affirmatively demonstrate the Contractor's entitlement to such extension under all applicable terms and conditions of the Contract Documents. To this end, the Contractor shall maintain adequate records supporting any claim for an extension of the Contract Time, and in the absence of such records, the foregoing presumption shall be conclusive.



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### 9.4.3 Limitations On Delay Computation

**9.4.3.1** Whenever the Contractor claims an extension of the Contract Time as a result of a Delay Event, only the unavoidable delay caused to completion of the Work as a whole shall be considered in measuring or evaluating the extent of the delay. If, for example, extra work can be (or could have been) performed along with the regular Work called for by the Contract Documents so as to reduce or eliminate a delay in the progress of the Work or some portion thereof, without causing necessary delay to such regular work, no claim for extension of the Contract Time shall be granted. An extension of the Contract Time may be granted only for Delay Events affecting Critical Path Activities. In any event, even though a Delay Event meets all of the above conditions, an extension may be granted only to the extent that the effect of such cause cannot be (or could not have been) avoided or mitigated by the exercise of all reasonable precautions, efforts and measures (including planning, scheduling and rescheduling, resequencing Work activities, and reallocating and redeploying work forces), whether before or after the occurrence of the cause of delay. If a concurrent delay occurs (*i.e.*, either a single delay resulting from two or more causes where at least one delay is the responsibility of the Contractor, or multiple delays, where at least one delay is the responsibility of the Contractor), no extension of the Contract Time shall be granted to the Contractor during the period of any such concurrent delay for which the Contractor is responsible.

### 9.4.4 Sole Remedy

**9.4.4.1** Except as expressly provided in the Contract Documents, the Contractor assumes the financial risk of all delays of any kind or duration, whether or not within the contemplation of the parties and whether foreseeable or unforeseeable. The Contractor shall have no right to rescind or terminate the Contract except as expressly provided herein, and the Contractor shall have no cause of action under any theory of quasi-contract or *quantum meruit* by reason of any such delay. The Contractor agrees that extensions of the Contract Time, as provided herein, shall be the Contractor's sole and exclusive remedy against the Owner in the event the Work is delayed, except to the extent otherwise provided in Subsections 9.4.4.2 and 9.4.4.3 below.

#### 9.4.4.2 Adjustment of the Contract Sum as a Result of Certain Delays

If, and to the extent that, the Contractor establishes that all of the following have occurred:

- (j) The Contractor is entitled to an extension of the Contract Time pursuant to this Section 9.4,
- (k) The Contractor suffered Compensable Losses (as defined below) as a result of the delay, and
- (l) The Contractor could not have avoided or mitigated such Compensable Losses despite having taken all reasonable precautions, efforts and measures to avoid or reduce the amount thereof, including, without



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limitation, mitigating delays by resequencing Work activities, and reallocating and redeploying work forces of the Contractor, Subcontractors and Sub-Subcontractors to the maximum extent practicable.

In such event the Owner may adjust the Contract Sum by an amount equal to the Contractor's Compensable Losses directly attributable to the Delay Event giving rise to the extension of the Contract Time. A Change Order effecting the adjustment to the Contract Sum will be furnished to the Contractor within a reasonable period after such determination.

"Compensable Losses" include only the reasonable verified amounts of necessary direct costs of: (i) idle time of equipment; (ii) idle time of workers; and (iii) moving of equipment and extended field office overhead expenses. No mark-up of Compensable Losses will be allowed for home office overhead or profit. For purposes of the Contract, "extended field office overhead" expenses shall mean those indirect costs incurred at the Site (sometimes also referred to as general conditions costs or job site overhead costs): (i) which cannot reasonably be allocated to any specific work item within the Work, and (ii) which increase or decrease as a function of the duration of the Contract Time. Examples of extended field office overhead items include: project manager, superintendent, temporary utilities and temporary facilities, clerical staff, office equipment and supplies and project trucks and automobiles. The Contractor shall provide to the Owner all documentation and information reasonably requested by the Owner to substantiate the sum of Compensable Losses.

**9.4.4.3** The following clauses (a) and (b) of this Subsection 9.4.4.3 are included herein pursuant to requirements of M.G.L. c. 30, § 39O. In the event that a suspension, delay, interruption or failure to act of the Owner increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the Contractor for payment for an increase in the cost of its performance as provisions (a) and (b) give the Contractor against the Owner, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the Contractor or the Subcontractor may have against each other.

(a) The Owner may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the Owner; provided, however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the Owner to act within the time specified in the Contract, the Owner shall make an adjustment in the Contract Sum equal to the actual increase in the cost of the Work but shall not include any profit to the Contractor with respect to such increase; and provided further, that the Owner shall not make any adjustment in the Contract Sum under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which the Contract provides for an equitable adjustment of the Contract Sum under any other contract provisions.

(b) The Contractor must submit the amount of a claim under provision (a) hereof to the Owner in writing as soon as practicable after the end of the



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suspension, delay, interruption or failure to act and, in any event, not later than the date of submission of the Application for Payment seeking final payment under the Contract and, except for costs due to a suspension order, the Owner shall not approve any costs in the claim incurred more than twenty (20) days before the Contractor notified the Owner in writing of the act or failure to act involved in the claim.

**ARTICLE 10 PAYMENTS AND COMPLETION**

**10.1 SCHEDULE OF VALUES**

**10.1.1** Prior to the first Application for Payment, and as a condition precedent to the making of any payments to the Contractor, the Contractor shall submit to the OPM, for approval by the Owner, a preliminary Schedule of Values allocating the Contract Sum among the various portions of the Work, prepared in such form and detail and supported by such data to substantiate its accuracy as the Owner may require. Such Schedule of Values shall be based upon, and consistent with, the Project Schedule. The Schedule shall be reviewed and revised from time to time to reflect changes in the Work, or if found by the OPM to be inaccurate. Once approved by the Owner and so long as the Schedule of Values remains up to date and accurate, the approved Schedule of Values shall be used as a basis for the Contractor's Applications for Payment.

**10.2 APPLICATIONS FOR PAYMENT**

**10.2.1** The Contractor shall submit to the OPM and the Architect for review, no later than the first day of each month, a draft of the Application for Payment which the Contractor intends to submit that month. Such draft Applications shall not be considered the Application for Payment for purposes of Subsection 10.2.2.

**10.2.2** The Contractor shall submit to the OPM and the Architect an itemized Application for Payment for Work completed as of the end of the preceding month, based upon the approved Schedule of Values and supported by such data substantiating the Contractor's right to payment as the Owner may require, including invoices with check vouchers attached, payrolls, receipted bills, requisitions from Subcontractors and Suppliers, and reflecting the retainage set forth in the Contract. The format of such Applications for Payment shall be AIA Documents No. G702 and G703 (Contractor's Application for Payment) or such other form as may be required by the Owner. The Contractor shall submit its Applications for Payment no later than the fifth (5<sup>th</sup>) calendar day of each month for each payment period constituting the preceding calendar month. The Application for Payment shall show the total cost of the Work performed and materials furnished by the Contractor and each Subcontractor to date, based on a percentage of the work completed.

**10.2.3** Unless otherwise provided in the Contract Documents, such Application for Payment may include materials or equipment not incorporated in the Work but delivered and suitably stored at the Site and, if approved in advance in writing by the Owner, in its sole discretion, payment may be requested for materials or equipment suitably stored at some other location agreed upon in writing, all in accordance with Section 10.9, below. Payments for materials or equipment



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stored on or off the Site shall be conditioned upon submission by the Contractor of bills of sale, invoices or such other documents, information or procedures as may be required by the Owner to establish the Owner's title to such materials or equipment free and clear of all liens, claims, security interests or encumbrances (collectively referred to in the Contract Documents as "liens"), or otherwise to protect the Owner's interests, and if off-site storage is involved, compliance in full with the requirements of Section 10.9, below.

**10.2.4** The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner automatically without further action by the parties, free and clear of all liens or other encumbrances and upon the first to occur of: (i) incorporation in the construction, or (ii) the receipt of payment by the Contractor. Transfer of title to the Owner shall not relieve the Contractor of any of its duties or obligations under the Contract Documents or of any responsibility or liability for the safe delivery and safeguarding, custody, or warehousing of the materials or equipment, nor shall it constitute any waiver of the Owner's right to absolute fulfillment by the Contractor of all of the terms of the Contract, nor shall it commence any warranty or guarantee period prior to Substantial Completion. The Contractor warrants that no Work, materials or equipment covered by an Application for Payment shall have been acquired by the Contractor, or by any other person performing Work at the Site or furnishing materials or equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or any other secured party or otherwise imposed by the Contractor or any other person or entity.

**10.2.5** At the request of the Owner, each Application for Payment shall be accompanied by an affidavit or certificate from each Subcontractor stating that it has been paid all amounts due it on the basis of the previous periodic payment(s) to the Contractor, or stating the amount not so paid and the reason for any discrepancy. In the event of any such discrepancy, the Contractor shall furnish its own written explanation to the Owner through the OPM. If requested by the Owner, the Contractor shall furnish a statement accounting for the disbursement of funds received under prior Applications for Payment.

**10.2.6** Each Application for Payment shall include a monthly status report on the progress of the Work, including those items more particularly set forth in the Contract, in these General Conditions, and in the Specifications. The Contractor acknowledges that such status report is of significant importance to the Owner in determining whether the Contractor is entitled to payment pursuant to such Application for Payment, and failure to deliver such status report, in form, substance, or detail satisfactory to the Owner, shall be deemed to be just cause for withholding payment to the Contractor. Any waiver by the Owner of the requirement of submission of such status report (or any portion thereof) with respect to any Application for Payment shall not be deemed to be a waiver of the Owner's right to require the full and complete status report with respect to any future Application for Payment. Each status report shall include the items specified in the Agreement, in these General Conditions, and in the Specifications and any other reports or items requested by the OPM or the Owner. All status reports shall be in form and substance satisfactory to the Owner.

### **10.3 CERTIFICATES FOR PAYMENT**



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**10.3.1** Within five (5) days after receipt of the Contractor's Application for Payment, the Architect will either issue a Certificate for Payment to the Owner, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Owner and Contractor in writing its reasons for withholding a Certificate for Payment, or any portion thereof, as provided in Subsection 10.6.1.

**10.3.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's observations, that the Work has progressed to the point indicated, that to the best of the Architect's knowledge, information and belief the quality of the Work indicated therein is in accordance with the Contract Documents (subject to evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate), that the submission includes all necessary prevailing wage submittals and that the Contractor is entitled to payment in the amount certified. The Architect shall not certify the final payment until an inspection for Final Completion has been performed and the Owner has acted affirmatively on the Architect's recommendation that the Project be accepted.

#### **10.4 PROGRESS PAYMENTS TO THE CONTRACTOR**

**10.4.1** The Owner shall make payments in accordance with the following provisions:

(a) Within thirty (30) days after receipt from the Contractor, at the place designated by the Owner if such a place is so designated, of an Application for Payment with respect to which the Architect has issued a Certificate for Payment, the Owner will make a periodic payment to the Contractor for the work performed during the preceding month and for the materials not incorporated in the Work but delivered and suitably stored at the Site (or at some location agreed upon in writing) to which the Contractor has title or to which a Subcontractor has title and has authorized the Contractor to transfer title to the Owner, upon certification by the Contractor that it is the lawful owner and that the materials are free from all encumbrances, but less (1) a retention based on the Owner's estimates of the fair value of its claims against the Contractor and less (2) a retention not exceeding five (5) percent of the approved amount of the periodic payment. After the receipt of an Application for Payment requesting final payment and within sixty-five (65) days after (a) the Contractor achieves Final Completion or achieves Substantial Completion of the Work so that the value of the Work remaining to be done is, in the estimate of the Owner, less than one percent of the original Contract Sum, or (b) the Contractor achieves Substantial Completion of the Work and the Owner takes possession for occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the Contract less (1) a retention based on the Owner's estimate of the fair value of its claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of Work and less (2) a retention based on the record of payments by the Contractor to the Subcontractors under the Contract if such record of payments indicates that the Contractor has not paid Subcontractors as provided in M.G.L. c. 30, § 39F. If



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the Owner fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston, commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the Contractor; provided, that no interest shall be due, in any event, on the amount due on an Application for Payment for final payment until twenty-four (24) days after receipt of such Application for Payment from the Contractor and bearing the Architect's Certificate for Payment, at the place designated by the Owner if such a place is so designated. The Contractor agrees to pay to each Subcontractor a portion of any such interest paid in accordance with the amount due each Subcontractor.

(b) The Owner may make changes in any Application for Payment submitted by the Contractor and the payment due on said Application for Payment shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected Application for Payment shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the period payment computed in accordance with the changes made, as provided herein; provided, that the Owner may, within seven (7) days after receipt, return to the Contractor for correction, any Application for Payment which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such Application for Payment shall be the date of receipt of the corrected Application for Payment in proper form and with arithmetically correct computations. The date of receipt of the Application for Payment received on a Saturday shall be the first working day thereafter.

(c) The Applications for Payment shall be submitted to the OPM and the Architect and the date of receipt shall be marked on the Application. All Applications for Payment shall contain a separate item for each subtrade and a column listing the amount paid to such Subcontractor as of the date of the Application for Payment is filed. The person making payment for the Owner shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

(d) A certificate of the Architect to the effect that the Contractor has achieved Substantial Completion or Final Completion of the Work shall, subject to the provisions of M.G.L. c. 30, §39J, be conclusive for the purposes of this Section.

**10.4.2** Within twenty-five (25) days after receipt of a Certificate for Payment issued by the Architect, the Owner shall make payment of amounts properly due to the Contractor, subject to the terms and conditions of the Contract Documents.

**10.4.3** Upon receipt of payment from the Owner, the Contractor shall promptly pay each Subcontractor out of the amount paid to the Contractor on account of such Subcontractor's work, the amount to which the Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its lower tier Subcontractors in similar manner.



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**10.4.4** Neither the Owner nor the OPM nor the Architect shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as set forth in this Section 10.4.

**10.4.5** (a) Forthwith after the Contractor receives payment on account of an Application for Payment, the Contractor shall pay to each Subcontractor the amount paid to the Contractor for the labor performed and the materials furnished by that Subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the Contractor.

(b) Not later than the sixty-fifth (65<sup>th</sup>) day after each Subcontractor substantially completes its Work in accordance with the plans and specifications, the entire balance due under the subcontract, less amounts retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the Owner shall pay that amount to the Contractor. The Contractor shall forthwith pay to the Subcontractor the full amount received from the Owner less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the Contractor.

(c) Each payment made by the Owner to the Contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a Subcontractor shall be made to the Contractor for the account of that Subcontractor; and the Owner shall take reasonable steps to compel the Contractor to make each such payment to each such Subcontractor. If the Owner has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the Subcontractor as provided in subparagraphs (a) and (b), the Owner shall act upon the demand as provided in this Subparagraph 10.4.5.

(d) If, within seventy (70) days after the Subcontractor has substantially completed the subcontract work, the Subcontractor has not received from the Contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less any amount retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, the Subcontractor may demand direct payment of that balance from the Owner. The demand shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the Contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the Subcontractor has substantially completed the subcontract work. Within ten days after the Subcontractor has delivered or so mailed the demand to the Owner and delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the Subcontractor at the same time. The reply shall contain a



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detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor and of the amount due for each claim made by the Contractor against the Subcontractor.

(e) Within fifteen (15) days after receipt of the demand by the Owner, but in no event prior to the seventieth day after substantial completion of the subcontract work, the Owner shall make direct payment to the Subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor, less any amount (i) retained by the Owner as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the Contractor in the sworn reply; provided that the Owner shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The Owner shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

(f) The Owner shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the Contractor and the Subcontractor in a bank in Massachusetts selected by the Owner or agreed upon by the Contractor and the Subcontractor and shall notify the Contractor and the Subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the Contractor and the Subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the Contractor at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the Contractor and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the Owner to the Contractor to the extent of such payment.

(h) The Owner shall deduct from payments to the Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be earmarked for such direct payments, and the Subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the Contractor.

(i) If the Subcontractor does not receive payment as provided in subparagraph (a) or if the Contractor does not submit Application for Payment for the value of the labor or materials performed or furnished by the Subcontractor and the Subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the Subcontractor may demand direct payment by following the procedure in subparagraph (d)



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and the Contractor may file a sworn reply as provided in that same subparagraph. A demand made after the first day of the month following that for which the Subcontractor performed or furnished the labor and materials for which the Subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the Contractor. Thereafter the Owner shall proceed as provided in subparagraphs (e), (f), (g) and (h).

### **10.5 PAYMENT NOT ACCEPTANCE**

**10.5.1** No Certificate for Payment, nor any progress payment made by the Owner, nor any partial or full use or occupancy of the Work or the Project by the Owner, shall constitute an acceptance of the Work, or any portion thereof, that is not in accordance with the Contract Documents.

### **10.6 PAYMENTS WITHHELD**

**10.6.1** The Architect may decline to certify payment, and may withhold its Certificate for Payment, in whole or in part, to the extent necessary to protect the Owner, if in the Architect's opinion the Architect is unable to make representations to the Owner as provided in Subsection 10.3.2. In such case, the Architect will notify the Owner and the Contractor as provided in Subsection 10.3.1. The Architect will issue a Certificate for Payment for the amount for which it is able to make all of the representations to the Owner set forth in Subsection 10.3.2. The Architect may also decline to issue a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, it may nullify or amend the whole or any part of any Certificate for Payment previously issued, or, notwithstanding that the Architect has issued a Certificate for Payment, the Owner (in addition to and without limitation of any other rights and remedies of the Owner under the Contract Documents) may withhold payment of any amounts claimed to be due by the Contractor and certified for payment by the Architect, in each case to such extent as may be necessary in order to provide for retention covering the fair value of any possible claims the Owner may have against the Contractor, which amounts may include, but shall not be limited to, the fair value of costs or losses arising from:

- (a) defective Work not remedied,
- (b) third party claims filed or reasonable evidence indicating probable filing of such claims,
- (c) failure of the Contractor to make payments properly due to Subcontractors or Suppliers,
- (d) reasonable evidence that the Work cannot be completed in accordance with the Contract Documents for the unpaid balance of the Contract Sum,
- (e) reasonable evidence of any previous overpayment or improperly issued payment upon an Application for Payment,



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- (f) improper prior allocation of the Owner's contingency,
- (g) damage to the Owner or another contractor,
- (h) reasonable evidence that the Work is not progressing in accordance with the Project Schedule or will not be completed within the Contract Time,
- (i) failure to carry out the Work in accordance with the Contract Documents or other default by the Contractor under, or failure of the Contractor to comply with any provisions of, the Contract Documents,
- (j) claims for damages for delay (including accrued liquidated or actual damages, if any), or
- (k) any lien, attachment or other encumbrance not discharged as required by the Contract Documents.

If and when the grounds set forth above are removed without cost to the Owner, payment may be requested and shall be made for amounts withheld because of such grounds, less any cost or damage incurred by the Owner as a result thereof.

## **10.7 SUBSTANTIAL COMPLETION**

**10.7.1** When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete as defined in Subsection 9.1.3, the Contractor shall prepare and submit to the OPM for delivery to the Architect and to the Owner all documents, records, permits and licenses required by the Contract Documents in a form satisfactory to the Architect and the Owner, and a monetized punch list of items to be completed or corrected. Failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**10.7.2** When on the basis of an inspection the OPM and the Architect determine that the Work or a designated portion thereof is substantially complete, and when the Contractor has complied with and satisfied all conditions precedent to Substantial Completion provided for in the Contract Documents, the Architect will then prepare and execute a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the respective responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein, which time shall not exceed thirty (30) days. The Contractor shall complete or correct the punch list items within the period specified on the Certificate of Substantial Completion or, if the nature of the corrective work is such that it cannot reasonably be completed, using best efforts, within this period the Contractor shall notify the Owner and the Architect, in writing, of all reasons why the punch list items cannot be completed and provide a schedule for the completion of this work. In the event that Final Completion is delayed beyond thirty (30) days after the Substantial Completion Date, the Owner may withhold from the amounts due to the



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Contractor an amount sufficient to pay any additional costs incurred in connection with the Architect's additional work arising from such delays. Upon such completion and/or correction, the Architect shall promptly reinspect the Work.

**10.7.3** Warranties and guarantees 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.

## **10.8 FINAL COMPLETION AND FINAL PAYMENT**

**10.8.1** At such time as the Contractor has fully performed the Work, including all obligations set forth in the Contract Documents and all Work listed on the Certificate of Substantial Completion, the Contractor shall give notice to the Architect and the Owner. The Contractor shall also provide a certificate to the Owner regarding completion of the Work in accordance with the Contract Documents, compliance by the Contractor with the Contract Documents, and such other matters within the scope of the Contractor's performance under the Contract Documents as the Owner may require. Such certificate shall be in form and substance acceptable to the Owner.

**10.8.2** Upon receipt of written notice that the Work is ready for final inspection and acceptance, the Architect and the OPM will promptly make such inspection and, if they find the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a Certificate of Final Completion stating that, based on its observations and inspections, the Work has been completed and that to its best knowledge, information and belief 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 said certificate, is due and payable.

**10.8.3** The Architect's Certificate of Final Completion will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in this Section 10.8, and elsewhere in the Contract Documents, have been fulfilled in accordance with the requirements of the Contract Documents.

**10.8.4** Notwithstanding anything to the contrary in this Section 10.8 contained, if the Owner elects to take occupancy of the Project in stages, final inspection may be performed, at the request of the Contractor or the Owner, in stages (i.e., in respect of the portion of the Work to be occupied by the Owner and such systems, (e.g., mechanical, sanitary, etc.), as are necessary for the Owner's occupancy of such portion of the Project). The provisions of this Section 10.8 shall apply to any staged final inspection, except that in no event shall Final Completion be deemed to have occurred until final inspection has occurred with respect to the entire Work.

**10.8.5** Final Completion shall mean the completion of all of the Work in accordance with all of the terms and conditions of the Contract Documents and acceptance thereof after final inspection in accordance with Subsections 10.8.1 through 10.8.4. The date of issuance of the Owner's written notice of acceptance shall be designated as the date of Final Completion.



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Upon Final Completion, the Owner may take over the Site for permanent use and occupancy. A final Application for Payment may be made at any time after the date of Final Completion.

**10.8.6** Prior to, and as a condition precedent to, Final Completion, all of the following matters shall have been resolved and documents and items shall have been received and approved in writing by the Owner:

- (a) final documents of similar nature to those required by the Contract Documents in connection with any Application for Payment hereunder; and
- (b) all final permits, approvals, (including, without limitation, the approval of the Owner's insurance company, if required) certificates and affidavits (including, without limitation, certificates in respect of elevator, plumbing, sprinklers, electrical systems and life safety systems, required by governmental authorities) and authorizations for use and occupancy of the Project required by any authority having jurisdiction, including an unconditioned permanent and full Certificate of Occupancy and any other necessary occupancy and use permits (unless such Certificate is not issued solely for reasons as to which the Contractor has no responsibility or over which it has no control); and
- (c) full record "as built" Drawings in the Owner's CADD software approved by the Architect; records and related data including all field notes and daily reports of all the Work, all in accordance with the requirements of the Contract Documents; and
- (d) satisfactory proof that all claims arising out of the Work have been released or bonded; and
- (e) acknowledgment of prior payments (to the extent permitted by law) from all Subcontractors and the Contractor; and
- (f) the Architect's certificate certifying that the Work is complete; and
- (g) a written statement from the Architect that all practical orientation and operating instructions for all materials, systems, and equipment have been satisfactorily completed, and that all required training of Owner's personnel has been completed; and
- (h) a satisfactory report by the Contractor which is approved by the Architect that all mechanical systems have been and are properly balanced; and
- (i) a certificate of insurance for product liability and completed operations insurance coverage for the three year period following Final Completion; and



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- (j) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible, have been paid or otherwise satisfied; and
- (k) consent of surety, if required, to final payment; and
- (l) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts and releases arising out of the Contract, to the extent and in such form as may be designated by the Owner; and
- (m) delivery of all spare parts required to be submitted pursuant to the Contract Documents; and
- (n) delivery of all Contract Documents and other related materials, with the exception of one record contract set, by the Contractor to the Owner or certification by the Contractor that all such documents were lawfully disposed; and
- (o) a general release of the Owner from the Contractor and each Subcontractor.

If the final documentation submitted by the Contractor is determined not to be complete by the Owner or if the Owner deems the Work incomplete in any respect, the Contractor shall promptly complete any such Work and shall promptly resubmit the final documentation.

**10.8.7** The Owner shall not be required to make final payment of any remaining amounts due to the Contractor until Final Completion has occurred. The making of final payment shall not constitute a waiver of any claims by the Owner against the Contractor. The Owner shall have the right, in its sole and absolute discretion, but the Owner shall have no obligation, to accept the Work and make final payment prior to Final Completion, subject to such incomplete items which shall be set forth in a notice sent by the Owner to the Contractor of items, completion of which are necessary for Final Completion. In such event, an amount equal to 200% of the cost of such uncompleted items (as determined by the Architect) (plus any amounts being withheld pursuant to Subsection 10.6.1) shall be retained by the Owner. The amount so retained shall not become due and payable to the Contractor until the Architect certifies that said item or items so listed have subsequently been completed, the Architect's and the OPM's inspection shall have confirmed such to be correct, and the Contractor shall have submitted an Application for Payment with respect to such items. If such items are not completed within forty-five (45) days after such notice to the Contractor, the Owner may, in its sole discretion, cause the same to be completed by such persons or entities as the Owner may choose, and the cost of same shall be paid by the Contractor or deducted, to the extent possible, from any sums then due the Contractor hereunder.

**10.8.8** After Final Completion and receipt by the Owner of a proper final Application for Payment, the Owner will calculate the amount of the final payment as follows:

- (a) Take the sum of the remaining contract balance; and



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- (b) Subtract amounts, if any, which the Owner is withholding pursuant to Subsection 10.6.1; and
- (c) Subtract the aggregate of all previous payments made by the Owner.

If at any time the aggregate of previous payments made by the Owner exceeds the amount due the Contractor, the Construction Manager shall reimburse the difference to the Owner.

**10.8.9** The acceptance of final payment shall constitute a release and waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final payment.

## **10.9 STORAGE OF MATERIALS OFF-SITE**

**10.9.1** The Contractor and its Subcontractors shall obtain prior written approval from the Owner, for permission to store at off-site locations materials or equipment to be incorporated in the Work, for which progress payments will be requested. No out-of-state storage will be permitted by the Owner. Any and all charges for storage, including insurance, shall be borne solely by the Contractor. Before approval, the Owner may require, without limitation, (i) evidence that the location is properly secure, (ii) proper proof of insurance and proof of satisfactory contractual arrangements for transportation to the Site, (iii) proof that Owner will obtain clear title to the materials, and (iv) a certificate from the Contractor stating:

- (a) The name of the Contractor and/or Subcontractor leasing or owning the storage area;
- (b) The location of such storage space, including the storage area; i.e., the entire premises or certain areas of a warehouse giving the number of floors or portions thereof, and a certification that the Contractor has visited such location, verified the storage of such material or equipment therein or thereon, and payment of all current storage charges;
- (c) The date on which the material or equipment is first stored; and
- (d) A description, including quantities and the value of the material or equipment stored.

**10.9.2** The Contractor shall furnish to the Owner, not less often than once per month, a current inventory of all materials or equipment being stored at any off-site location.

**10.9.3** The Contractor and its Subcontractors shall mark each sealed carton or other item with the name of the Project and the Owner, and all materials or equipment stored off-site shall be segregated to the extent required by the Owner, the OPM, or the Architect.



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**10.9.4** Payment for materials or equipment stored off-site shall be at the sole discretion of the Owner. Title to materials or equipment stored off-site shall be transferred at the time at which the Owner pays for them.

**ARTICLE 11 SAFETY AND PROTECTION**

**11.1 SAFETY PRECAUTIONS AND PROGRAMS**

**11.1.1** The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, including, but not limited to, compliance by the Contractor and all Subcontractors with all safety precautions and programs required by the Occupational Safety and Health Act, other applicable laws and regulations, the Contract Documents, and any insurance carrier providing insurance coverage for the Owner or the Contractor in connection with the Project. Without limiting the generality of the foregoing, the Contractor shall, promptly after execution of the Agreement, prepare a written safety program which shall be submitted to the OPM and the Owner and issued to all Subcontractors and all forces employed on the Work. Such program shall include weekly safety meetings with representatives of all Subcontractors working on the Site, and the Contractor shall prepare, circulate and maintain on file at the Site minutes of all safety meetings. The Contractor shall ensure that all forces employed on the Work are free of drugs and alcohol and are provided with all necessary personal protective equipment. The Contractor's written safety program shall identify, by trade, tasks for which specific safety planning and precautions are necessary and the steps necessary to implement such precautions. The Contractor shall plan hazardous sequences in advance, shall institute procedures for reporting any injuries and providing for emergency medical care and shall report to the OPM when such sequences are to commence and when completed.

**11.1.2** The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents. This person shall be the Contractor's Project Superintendent unless otherwise designated by the Contractor in writing to the OPM.

**11.2 SAFETY OF PERSONS AND PROPERTY**

**11.2.1** The Contractor shall take all necessary precautions for the safety of, and shall provide all protection necessary to prevent damage, injury or loss to:

- (a) all employees on the Work and all other persons or other entities who may be affected thereby;
- (b) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the Site; and
- (c) other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, improvements and utilities not



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designated for removal, relocation or replacement in the course of construction.

Without limitation, the Contractor shall provide security watch service at all such times as are necessary to protect the interests of the Contractor and the Owner and to provide for the safety and security of the general public, employees and agents of the Owner, the OPM and the Architect, and other persons who may be affected by the Work, and to exclude unauthorized persons from the Site.

**11.2.2** The Contractor shall give all notices and comply with all Applicable Laws bearing on the safety of persons or property or their protection from damage, injury or loss.

**11.2.3** The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including fencing and posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities and other improvements as more particularly set forth in the Specifications.

**11.2.4** The Contractor shall satisfactorily conduct its work at all highway crossings and along all highways, street and other ways in accordance with the permission and requirements of the proper authorities. Vehicular traffic shall be routed over temporary detours during construction when required to maintain proper flow of traffic. The Contractor shall plan and conduct its operations in such a manner that the continuous flow of traffic is uninterrupted and with a minimum of inconvenience to the general public. The Contractor shall prepare a plan for construction and traffic management acceptable to the Owner and the municipal authorities. The Contractor shall arrange for and provide all policemen required by the town or city in which the Project is located to be present at or adjacent to the Site for traffic control purposes. The cost of all policemen so required shall be borne by the Contractor and included in the Contract Sum.

**11.2.5** The Contractor shall assume all responsibility for the protection of property of adjacent owners so far as affected by its operations. The Contractor shall provide temporary protection at all openings in the outside fences or walls to prevent unauthorized persons from obtaining access during the night and at other non-working hours. The Contractor acknowledges that there may be Construction projects being undertaken on adjacent properties and will coordinate the Work with such other projects as required.

**11.2.6** Blasting operations, if any, shall be specifically approved in advance in writing by the Architect, shall be conducted by experienced personnel and in strict accordance with the rules and regulations of the Massachusetts Department of Public Safety governing the keeping, storage, use, manufacture, sale, handling, transportation or other disposition of explosives, and such other rules and regulations as may be promulgated from time to time by authorities having jurisdiction, and shall not be commenced until the Contractor provides written evidence to the Owner that XCU coverage is in force and effect as required by Subsection 12.2.3 hereof. When the use or storage of explosives or other hazardous materials or equipment is



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

**11.2.7** The Contractor shall promptly remedy all damage or loss (excluding damage or loss insured under the property insurance carried by the Owner, if any, as provided in the insurance requirements contained in the Contract Documents, but including losses within the deductibles of such insurance) to any property referred to in Subsection 11.2.1 caused in whole or in part by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under this Article 11, except to the extent that the damage or loss is attributable to the acts or omissions of the Owner, the OPM or the Architect. The foregoing obligations of the Contractor are in addition to its obligations under Article 5.

**11.2.8** The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

**11.2.9** The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment, and shall comply with all recommendations regarding fire protection made by the representatives of the insurance company or companies carrying insurance on the Work or by the local fire chief or fire marshal. The Site shall be kept orderly and clean, and all combustible rubbish shall be removed from the Site daily.

**11.2.10** The Contractor shall at all times protect excavations, trenches, structures, materials, equipment and fixtures from damage from rain water and other weather, ground water, back-up or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water at the Project Site. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end. The Contractor shall remove snow and ice which might create a hazard on or about the Site or result in damage or delay.

**11.2.11** The Contractor shall take all necessary precautions to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner forming part of the Work, or located within those areas of the Project to which the Contractor has access. The Contractor shall have full responsibility for the security of such property of the Owner and shall reimburse the Owner for any such loss, damage or injury resulting from vandalism, theft, burglary, pilferage, unexplained disappearance or any other cause, to the extent that the same is not covered by the Owner's insurance.

**11.2.12** In the event the Contractor discovers any active utility line which had not yet been disclosed in any survey, it shall cease all work in the immediate area which may affect such line and shall promptly notify the Owner, OPM, and the affected utility company. The Contractor shall not restart work without notice from and approval of the OPM.

**11.2.13** The Contractor shall at all times provide and maintain adequate protection against weather so as to preserve the Work, materials, equipment, apparatus, and fixtures free from injury or damage.



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**11.2.14** The Contractor shall protect all finished surfaces of the Work, including the jambs and soffits of all openings used as passageways or through which materials are handled, against any possible damage resulting from the conduct of Work by the Contractor or by any separate Contractors.

**11.2.15** In the event of temporary suspension of Work and during inclement weather, or whenever further directed by the Owner or Architect, Work and materials shall be adequately protected against damage. The Contractor shall take special precautions to prevent damage to materials and work installed in cold or freezing weather, by providing adequate temporary heat and suitable enclosures or covering. The ground surfaces under footings and under pipe lines, and all concrete and masonry work, shall be protected against frost and freezing. The minimum measures to be taken shall be in accordance with the requirements for winter conditions as set forth in the current edition of ACI-318-83 "Building Code Requirements for Reinforced Concrete" published by the American Concrete Institute. The Contractor shall provide temporary weathertight enclosures for all exterior openings to protect the Work from freezing weather and to maintain proper building temperatures for operations of all trades.

**11.2.16** The Contractor shall provide ventilation of enclosed areas during construction as required to permit proper curing and drying out, and to prevent excessive humidity, moisture and condensation. Ventilation shall be by natural or artificial means as required by the conditions involved.

**11.2.17** The Contractor shall control the safe handling and storage of all explosives, welding materials, acetylene and oxygen tanks, and other equipment required for blasting operations, welding and cutting work at the Site. All welding materials and equipment shall be removed promptly from the premises and upon completion of the welding and cutting work. No welding torch or other open flames will be used within any building without a fire watch with an appropriate fire extinguisher or within one hour of quitting time.

**11.2.18** The Work shall be performed in such a manner as to prevent fire, and during any Work involving a fire hazard the Contractor shall take all necessary precautions against fires starting and spreading on the Site, within buildings and temporary structures. The Contractor shall provide and maintain sand buckets, suitable fire extinguishers and hoses where and as required to provide adequate means of extinguishing fires. Fire prevention requirements may be directed by the Owner's insurance agents and the local Fire Department. Permanent standpipes shall be made available during construction. Gasoline and other flammable liquids shall not be stored within buildings; shall be stored in and dispensed from U.L. listed safety containers in conformance with N.B.F.U. recommendations and the requirements of all authorities having jurisdiction. The Contractor shall make arrangements for periodic inspection by town/city fire protection authorities and insurance underwriters' inspectors, cooperate with them and promptly carry out their recommendations.

### **11.3 EMERGENCIES**



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**11.3.1** In any emergency affecting the safety of persons or property, the Contractor shall act, at its discretion, to prevent threatened damage, injury or loss and shall as promptly as conditions permit notify insurance carriers and the OPM of the nature of the emergency and circumstances related thereto. Immediately thereafter, the Contractor shall prepare a written report setting forth in detail the action taken and describing in detail all circumstances and conditions which are related to such action. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 13 for Changes in the Work.

**ARTICLE 12 BONDS AND INSURANCE**

**12.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND**

**12.1.1** The Contractor shall furnish a performance bond and a labor and materials payment bond, each for the full amount of the Contract Sum. The performance bond and the labor and materials payment bond shall be in the unmodified form of the AIA A312-2010 performance and payment bonds. The Owner reserves the right to specify any alternative form for the performance or payment bond. Each bond shall name the Owner as obligee and each shall be issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and whose name appears on the United States Treasury Department Circular 570. The bond premiums shall be included in the Contract Sum and shall be paid by the Contractor. If the Agreement provides for the imposition of liquidated or actual damages in the event that the Contractor fails to complete the Work within the Contract Time, then the obligations assumed by the surety under the performance bond shall include the payment of such liquidated or actual damages. These bonds shall remain in effect for the entire Guarantee Period, as defined in Subsection 14.2.2. All bonds shall be executed in the required number of counterparts and shall be submitted to the Owner for insertion into the Contract Documents prior to the execution of the Agreement.

**12.2 CONTRACTOR'S LIABILITY INSURANCE**

**12.2.1** The Contractor shall purchase and maintain such insurance as will protect it and the other parties specified or referred to in Subsection 12.2.10 below from claims referred to below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by itself 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.

**12.2.2** The Contractor shall purchase and maintain during the life of the Agreement:

- (a) Insurance sufficient to discharge its obligations under all applicable workers' compensation laws of the Commonwealth of Massachusetts and the United States.



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- (b) Employer's liability insurance with minimum limit per accident or disease of \$1,000,000.
- (c) Statutory disability and other employee benefit insurance.

**12.2.3** The Contractor shall purchase and maintain commercial general liability insurance, which coverage shall be in a form no less broad than ISO CG 00 01 12 07 or its equivalent and covering the full scope of this contract with limits not less than \$1,000,000 per occurrence and \$2,000,000 aggregate for personal or bodily injuries and for property damage. A per occurrence limit of not less than \$5,000,000 is acceptable. All policies issued shall include permission for partial or total occupancy of the premises by the Owner within the scope of the Contract. Such insurance shall include at least the following:

- (a) Commercial general liability insurance, including all products, premises-operations, completed operations for at least three (3) years following acceptance and final payment, independent contractors, additional interests of employees, sudden and accidental pollution and contamination, and incidental medical malpractice, and including notice of occurrence and knowledge of occurrence endorsements satisfactory to the Owner.
- (b) Blanket contractual liability insurance covering all liabilities assumed under the Contract Documents, including, but not limited to, the Contractor's obligations under Article 5 of the General Conditions.
- (c) Coverage for the so-called "XCU" hazards (explosion, collapse of buildings, blasting, undermining, and damage to underground property). Before any blasting is done, the Contractor shall provide to the Owner written evidence that blasting damage is included in the Contractor's insurance coverage.

**12.2.4** The Contractor shall purchase and maintain automobile liability insurance, which coverage shall be in a form no less broad than ISO CA 00 01 03 10 or its equivalent and covering all owned, non-owned and hired vehicles with a limit of not less than \$1,000,000 per accident for bodily injury, including death and property damage.

**12.2.5** The Contractor shall also purchase and maintain umbrella form excess liability insurance in the limits specified below and containing coverage no less restrictive than that required under Subsections 12.2.2, 12.2.3, and 12.2.4 above. The required primary insurance shall be listed as underlying coverage in the first layer of the umbrella policy. Nothing contained herein shall be interpreted to restrict or prohibit the Contractor from carrying, or requiring any of its Subcontractors to carry, insurance in addition to that required hereby. The Contractor's umbrella excess policies shall contain a minimum total occurrence and aggregate limit of \$10,000,000.



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**12.2.6** The Owner shall have the right to require that the coverages and limits of liability set forth in Subsections 12.2.2, 12.2.3, 12.2.4, and 12.2.5 be expanded or raised if required by law or any lender of the Owner, or if in the Owner's judgment economic conditions or other factors so warrant. If additional costs are incurred because of raised limits, the additional cost shall be added to the Contract Sum. The Owner shall also have the right to reduce the coverages and limits of liability set forth in Subsections 12.2.2, 12.2.3, 12.2.4, and 12.2.5 if in the Owner's judgment the degree of risk associated with any portion of the Work warrants reduced coverage and limits of liability.

**12.2.7** Insurance coverages similar to those required of the Contractor shall be provided by or on behalf of all Subcontractors to cover their operations performed under the Contract Documents. The Contractor shall be held responsible for compliance with and enforcement of the insurance requirements and for any modifications of these insurance requirements as they apply to Subcontractors. The Contractor shall not permit any Subcontractor to commence work until such Subcontractor has furnished evidence that insurance has been procured and certificates of insurance have been obtained by the Contractor providing that, in the event of non-renewal or cancellation of Subcontractor's policies, thirty (30) days advance written notice will be given to the Contractor by registered mail. Copies of such certificates and, upon Owner's written request, copies of the insurance policies shall be delivered to the Owner, who shall be designated as a certificate holder.

**12.2.8** Prior to the commencement of the Work, the Contractor shall cause its insurance company or companies to provide insurance certificates, which shall be attached as **Exhibit G** to the Agreement, and, upon Owner's written request, copies of insurance policies acceptable to the Owner and the other additional insureds specified in Subsection 12.2.10 below evidencing the above coverages to be furnished the Owner and the other additional insureds specified in Subsection 12.2.10 below by the Contractor's insurance company. Such certificates and all insurance policies required by this Article 12 shall contain provisions requiring at least 30 days' prior written notice to the Owner and to other certificate holders of any cancellations or non-renewals of the policies. Certificates shall indicate effective dates and dates of expiration of policies. An additional certificate evidencing continuation of all insurance coverages required to remain in force after final payment shall be submitted with the application for final payment, and neither final payment nor any remaining retainage under this Contract shall be due until such certificate has been submitted to the Owner.

**12.2.9** The Owner is to be furnished originals or certified copies of the policy or policies including all endorsements required to provide stated coverage within 10 days after commencement of Work under this Contract.

**12.2.10** All insurance policies provided pursuant to the Contract shall be written by companies licensed to do business in the Commonwealth of Massachusetts and having an A.M. Best rating of A-, VIII or better, or otherwise acceptable to Owner, in its reasonable discretion, and shall be in form satisfactory to the Owner. All such policies shall name as additional insureds, under endorsements no less broad than CG 20/10 (11-85) or both CG 2026 (7/04 version) and CG 2037 (7/04 version), the Owner, affiliates and participants of the Owner, the State University, the



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Commonwealth of Massachusetts, and any other parties as the Owner may identify by notice to the Contractor from time to time. All such policies shall contain provisions or endorsements necessary to assure coverage of claims by one additional insured against another additional insured. All required insurance policies are to be endorsed to state that the Contractor's policies shall be primary to all other insurance available to the Owner, which insurance shall be excess of all other valid and collectible insurance policies. The Contractor shall bear all costs of any amounts deductible, retained or self-insured under the policies required to be maintained by the Contractor.

**12.2.11** The purchase of insurance to satisfy the above requirements, or the furnishing of certificates evidencing same, shall not be a satisfaction of the Contractor's liability under this Contract or in any way modify the Contractor's indemnification of the Owner.

**12.2.12** Certificates and policies of insurance shall be filed with the Owner.

### **12.3 PROPERTY INSURANCE**

**12.3.1** The Owner shall purchase and maintain property insurance insuring against the perils of fire and extended coverage and including "all risk" builders' risk insurance for physical loss or damage to the Work, including all labor, materials, supplies, machinery, equipment, fixtures, temporary structures and all other work of whatever nature, used or to be used in or incidental to the construction, fabrication, erection or completion and testing of the Work, until Final Completion. Limits shall be 100% of the replacement value of the Work. Such insurance shall protect the interests of the Owner, the Contractor and all Subcontractors performing work at the Site, and the proceeds in case of loss may be held by the Owner and applied by it in the manner hereafter set forth. The Owner shall have power to adjust and settle any loss with the insurers, using due diligence to protect the interests of the Contractor and Subcontractors, subject to the rights of the Owner. The Owner's property insurance will not cover any tools, equipment, materials, supplies, temporary structures or other property owned or rented by the Contractor or Subcontractors which is not to be incorporated in the Work. The Contractor and Subcontractors assume these excluded risks, and waive all rights they may have against the Owner for damage to such items, and any policy of insurance covering the Contractor's own tools, equipment, facilities and other property against loss by physical damage shall include an endorsement providing that the underwriters waive their rights of subrogation against the Owner. Upon request, the Owner will furnish the Contractor with a certificate of such insurance coverage, which shall be attached as **Exhibit G** to the Agreement. In the event a claim is made on the Owner's builder's risk insurance policy, then, upon the Contractor's written request, the Owner will furnish the Contractor with a copy of the policy. The Contractor shall not be entitled to be listed as an additional named insured on such property insurance policy, but upon written request of the Contractor, the Contractor shall be a loss payee of such policy.

**12.3.2** The Owner, as trustee for the parties in interest, shall receive the proceeds of any insurance upon the occurrence of an insured loss, and shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or in accordance with an award or finding of a court of competent jurisdiction. If after such loss no other agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.



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**12.3.3** The Contractor shall be completely responsible for the proper care and protection of the Work. The Contractor shall be responsible for all losses within the deductible specified above, and the Contractor shall promptly, and in any event so as not to delay the progress of the Work, replace or reimburse the Owner for any property to the extent loss or damage to such property is within the deductible.

**12.3.4** If there is a casualty resulting in a loss of more than 20% of the Contract Sum, as determined by the Owner, then the Owner may elect to terminate the Contract upon seven (7) days' notice to the Contractor and the Architect, and the Contractor shall be entitled to payment for all Work executed in accordance with the Contract Documents prior to said termination. Contractor shall have no claim for payment for loss of profit on that portion of the Work not executed.

**12.3.5** The Owner and the Contractor waive all rights against (i) each other and the Subcontractors, consultants, agents and employees each of the other, and (ii) the Architect, the OPM, and separate contractors, if any, and their Subcontractors, sub-Subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Section 12.3 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Owner. The foregoing waiver afforded the Architect, its agents and employees shall not extend to the liability imposed by Subsection 5.1.4. The Owner or the Contractor, as appropriate, shall require of the Architect, separate contractors, and Subcontractors by written agreements, similar waivers each in favor of all other parties enumerated in this Subsection 12.3.5.

## **12.4 PROFESSIONAL LIABILITY INSURANCE**

**12.4.1** If the Work performed by the Contractor or any Subcontractor requires design and/or other professional services, the Contractor shall purchase and maintain, and shall cause any such Subcontractor to purchase and maintain, professional liability insurance for claims arising out of the negligent performance of such professional services. Professional liability coverage shall be written for minimum limits of \$2,000,000 per claim and annual aggregate with a deductible no greater than \$100,000. Professional liability coverage may be provided on a "claims made" basis if it includes a retroactive date that is no later than the effective date of this Agreement, and such insurance coverage shall be maintained for a period at least six (6) years after the earlier of: (1) the date of official acceptance of the completed Project by the Owner; (2) the date of the opening of the Project to public use; (3) the date of acceptance by the Contractor of final payment under this Agreement; or (4) the date of final completion of the Project and the taking of possession of the Project for occupancy by the Owner. Throughout the term of this Agreement and the entire six (6) year period, the Contractor and any such Subcontractor shall provide renewal certificates of professional liability insurance to the Owner as evidence that this coverage is being maintained. Alternatively, the six (6) year maintenance period for this coverage may be satisfied by providing an extended reporting period endorsement.

## **ARTICLE 13 CHANGES IN THE WORK**



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### **13.1 CHANGE ORDERS**

**13.1.1** The Contract Sum and the Contract Time may be changed only by duly executed Change Order. A Change Order signed by the Contractor indicates its agreement therewith, including the adjustment, if any, in the Contract Sum or the Contract Time. The compensation specified in the executed Change Order includes full payment for the changes in the Work covered thereby, and the Contractor waives all rights to any other compensation for the changes in the Work, damage, or expense including, but not limited to, all claims of cumulative impact.

**13.1.2** The Owner, without invalidating the Contract, may order Changes in the Work consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly, if necessary. All such Changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

**13.1.3** With respect to Change Orders, upon the request of the Owner or the Architect, the Contractor shall submit to the Owner and the Architect, as soon as reasonably possible but in any event within twenty (20) days of the Contractor's receipt of a request therefor, an accurate written statement setting forth in detail, with a suitable breakdown for each trade and work classification, and including a breakdown of the items set forth in Subsection 13.1.5 below. The Contractor shall state in such proposal any change to the Contract Time required for the completion of the Work if the Change Order is approved. The Contractor shall promptly revise and resubmit such proposal if the Owner or the Architect determines that the proposal is not in compliance with the requirements of this Article, or that it contains errors or ambiguities. Once it has been reviewed and approved by the Owner and Architect, the Change Order shall be submitted to the Contractor for Execution.

**13.1.4** The amount by which the Contract Sum shall be adjusted as a result of a Change Order shall be determined in one or more of the following ways, as the Owner in its sole discretion shall determine:

- (a) by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- (b) by unit prices stated in the Contract Documents or subsequently agreed upon; or
- (c) by the actual cost of the changed Work pursuant to Subsection 13.1.5.

**13.1.5** The cost of such changed Work shall be computed as follows:

(a) the allowance for combined overhead, superintendence, and profit shall not exceed the following percentages of the net cost of the changed Work:

(i) for changed Work performed by the Contractor, ten (10) percent of the Contractor's net cost;



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(ii) for changed Work performed by Subcontractors; ten (10) percent of the Subcontractors' combined net cost, plus ten (10) percent of the total amount paid the Subcontractors as Contractor's overhead, superintendence, and profit. In no event shall the aggregate markup for overhead, superintendence, and profit of the Contractor and all Subcontractors exceed twenty (20) percent.

(b) It shall be the Contractor's obligation to ensure an equitable division of the 10 percent paid to a Subcontractor with the Subcontractor's lower tier subcontractors. No additional markup shall be permitted for lower tier subcontractors.

(c) Contractor and each subcontractor involved in the changed Work shall, in addition to the cost of the changed Work plus allowable markups, be compensated for actual increased cost of required bonds. Bond increases shall be calculated based on the total cost of the change, including overhead, superintendence, and profit mark-ups.

(d) Cost of the Work Definition: Cost of the changed Work shall include the cost at prevailing rates for direct labor, material, and use of equipment, plus the cost of workmen's compensation insurance, liability insurance, federal social security and Massachusetts unemployment compensation. No mark-up shall be paid on the premium portion of overtime pay.

(e) Overhead, Superintendence and Profit Definition: The mark-ups by the Contractor or Subcontractor for overhead, superintendence, and profit shall include (and no additional payment shall be made for) general conditions, management, supervision, pricing, documentation, coordination, insurance, mobilization, record drawings, engineering/layout, small tools/computers, "tools of the trade", transit, staging/scaffolding, lifting, hoisting, dumpster, handling, clean-up, shipping/receiving, administration, accounting, punch-list, O&M manuals, estimator time, schedule updating, safety protection, certified payrolls, and the like.

(f) Where the changes in the Work involve both, an increase and a reduction in similar or related Work, the overhead, superintendence, and profit allowance shall be applied only to the cost of the increase that exceeds the cost of the reduction, i.e., the net cost.

(g) The Contractor shall review all quotations from Subcontractors and shall assure that pricing is fair and equitable before forwarding such proposed pricing to the Owner and the Architect.

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

**13.1.7** Proposals as provided for in Subsection 13.1.4(a), above, shall be accompanied by a detailed breakdown of estimated costs of labor, materials, equipment and insurance, including a similar breakdown of costs for subcontracted Work. Such proposals shall



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be subject to the Architect's review and acceptance by the Owner which will be based upon the Contractor's satisfactory demonstration that all costs and charges included therein are fair and reasonable, consistent with current price indexes for labor, materials and equipment, and do not in any way reflect exorbitant or non-applicable charges. Proposals shall be based on the approved Schedule of Values where applicable. The Contractor shall cooperate fully with the OPM and the Architect to whatever extent necessary in providing adequate substantiation of cost and in conducting negotiations pertaining thereto.

**13.1.8** The Contractor shall not subcontract any Work under a Change Order unless work under the basic Contract of a similar type was previously subcontracted, or unless the Owner specifically approves and accepts such subcontracting in advance and in writing; and Subcontractors will not be allowed to further subcontract any Work under a Change Order without the prior written approval and acceptance of the Owner, unless Work under the basic Contract of a similar type was previously subcontracted by them. No mark-up shall be allowed on bond premiums of the Contractor or any of the Subcontractors.

### **13.2 CONSTRUCTION CHANGE DIRECTIVES**

**13.2.1** The Owner may order the Contractor to proceed with changes in the Work consisting of additions, deletions or other revisions prior to incorporation thereof in the Contract by issuance of a Change Order or in the event of the Owner and the Contractor to agree on an appropriate Change Order. All such changes shall be authorized by Construction Change Directives issued by the Owner through the Architect.

**13.2.2** The Construction Change Directive shall include a description of the work involved and the basis for revision, if any, in the Contract Sum or Contract Time or both.

**13.2.3** Within the time period specified in Subsection 13.1.3, the Contractor shall submit to the Architect and the Owner final costs for work required by the Construction Change Directive in accordance with Subsections 13.1.6 through 13.1.8, and request for change, if any, in the Contract Sum or Contract Time or both, for review by the Architect and inclusion in a subsequent Change Order.

### **13.3 DIFFERING SUBSURFACE OR LATENT PHYSICAL CONDITIONS**

**13.3.1** Pursuant to Section 39N of Chapter 30 of the Massachusetts General Laws, changes in the Work based on concealed subsurface or latent conditions shall be in accordance with the following:

If, during the progress of the Work, the Contractor or the Owner discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the plans or indicated in the Contract Documents, either the Contractor or the Owner may request an equitable adjustment in the contract price of the Contract applying to the work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such



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claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from the Contractor, or upon its own initiative, the Owner shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the Contract Documents from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the Owner shall make an equitable adjustment in the contract price and the Contract Documents shall be modified in writing accordingly.

### **13.4 CLAIMS FOR ADDITIONAL COST OR DAMAGES**

**13.4.1** If the Contractor wishes to make a claim for an increase in the Contract Sum by reason of any work required to be performed or materials furnished by it or by reason of any event, circumstance, occurrence, direction or interpretation, or if it wishes to make a claim for damages by reason of any act or omission of the Owner or the Architect, including, without limitation, any order by the Owner to stop the Work pursuant to Section 17.1 where the Contractor was not at fault, the Contractor shall give the Owner written notice thereof within seven (7) days after the occurrence of the event giving rise to such claim, otherwise it shall be waived. Such notice shall be given by the Contractor before proceeding to execute the work involved, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Section 11.3. A written report by the Contractor setting forth the facts and reasons for proceeding under Section 11.3 shall be submitted by it in support of its claim for relief under Section 11.3. No such claim for an increase in the Contract Sum or any other matter described above shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment, if any, to the Contract Sum or the Contract Time, it shall be determined by the Architect, subject to the provisions of Article 19.

**13.4.2** The Contractor understands that no director, member, trustee, officer, principal, employee, agent or other representative of the Owner, the OPM or the Architect has authority to waive compliance with the notice provisions of this Section 13.4.

**13.4.3** The Contractor shall maintain a current listing of unresolved claims under this Section 13.4 and under Section 9.4

### **13.5 PENALTIES FOR FALSE CLAIMS**

**13.5.1** The attention of the Contractor and all Subcontractors is drawn to the following provisions of the Massachusetts General Laws:



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(a) Chapter 93, Section 9B: Any person who shall make or cause to be made, or present or cause to be presented, for payment or approval, to or by any employee, department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, any claim upon or against any department, agency, public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious or fraudulent, or who, for the purpose of obtaining or aiding to obtain the payment or approval of such claim, makes, uses, or causes to be made or used, any false bill, receipt, voucher, roll, account, claim, certificate, affidavit, or deposition, knowing the same to contain any fraudulent or fictitious statement or entry, shall forfeit and pay to the commonwealth, or any political subdivision thereof, the sum of two thousand dollars and, in addition double the amount of damages which the commonwealth or political subdivision thereof may have sustained by reason of the doing or committing of such act, together with the costs of the action. Any such action may be brought in the superior court of the county in which the person resides or has his principal place of business, or in the superior court department of the trial court for Suffolk County.

(b) Whoever makes or presents to any employee, department, agency or public instrumentality of the commonwealth, or of any political subdivision thereof, any claim upon or against any department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious, or fraudulent, shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two and one-half years, or both.

**13.5.2** The Contractor's attention is also directed to M.G.L. c. 266, § 67B which provides criminal penalties for false claims by Contractor under this Contract: "Whoever makes or presents to any employee, department, agency or public instrumentality of the commonwealth, or of any political subdivision thereof, any claim upon or against any department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious, or fraudulent, shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two and one-half years, or both."

## **13.6 MINOR CHANGES IN THE WORK**

**13.6.1** The Architect will have authority to order minor Changes in the Work not involving an adjustment in the Contract Sum or an adjustment of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written Architect's Supplemental Instructions, and shall be binding on the Owner and the Contractor. The Contractor shall carry out such Architect's Supplemental Instructions promptly.

## **ARTICLE 14 CORRECTION OF WORK**

### **14.1 UNCOVERING OF WORK**



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**14.1.1** If any portion of the Work should be covered contrary to the request of the Architect or the OPM or contrary to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, the OPM, or the Owner, be uncovered for observation by the Architect and replaced at the Contractor's expense.

**14.1.2** If any other portion of the Work has been covered which the Architect has not specifically requested to observe prior to being covered, the Architect through the OPM, may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor as provided in Article 7, in which event the Owner shall be responsible for the payment of such costs.

**14.2 CORRECTION OF WORK**

**14.2.1** The Contractor shall promptly correct all Work rejected by the Architect or the Owner as defective or as failing to conform to the Contract Documents, whether observed before or after Substantial Completion or Final Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Architect's additional services made necessary thereby.

**14.2.2** Without limiting any other rights which the Owner has hereunder or pursuant to law, if, within two (2) years after the date of Substantial Completion of the Work or portion thereof designated by the Owner or within two years after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable guarantee or warranty required by or referred to in the Contract Documents (the "Guarantee Period"), any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct such defective work promptly after receipt of a written notice from the Owner to do so and shall reimburse the Owner for any expenses it shall have incurred in inspecting or testing such portion of the Work. The obligations provided in this Section 14.2 shall survive termination of the Contract and the making of final payment hereunder and may be extended pursuant to the provisions of Subsection 18.1.4.

**14.2.3** The Contractor shall remove from the Site all portions of the Work which are defective or nonconforming and which have not been corrected under Article 18 or Subsections 14.2.1 and 14.2.2, unless removal is specifically waived in writing by the Owner.

**14.2.4** If the Contractor fails to correct defective or nonconforming Work as provided in Article 18 or Subsections 14.2.1 and 14.2.2, the Owner may correct it in accordance with Section 17.2.

**14.2.5** If the Contractor does not proceed with the correction of such defective or nonconforming work within a reasonable period of time (fixed by the OPM or the Architect in writing) after receipt of a written notice from the OPM or the Architect to correct such Work, the



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Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days' written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Architect's additional services made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

**14.2.6** The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

**14.2.7** Nothing contained in this Section 14.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Article 18 hereof, or under law. The establishment of the Guarantee Period of two years after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any guarantee or warranty required by or referred to in the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which its 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 its obligations other than specifically to correct the Work.

**14.3 ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK**

**14.3.1** If the Owner prefers to accept defective or nonconforming Work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

**ARTICLE 15 PARTIAL USE OR OCCUPANCY**

**15.1 OWNER'S RIGHT TO USE AND OCCUPY**

**15.1.1** The Owner shall have the right to use and occupy spaces, areas, systems and other portions of the Work prior to completion and acceptance of all the Work or of other portions of the Work, provided that in the opinion of the Architect such use or occupancy shall not interfere with the Contractor's operations nor delay it in completing the entire Work. If the Owner desires to exercise its right of partial occupancy and use under this Section 15.1, the Owner shall give, through the OPM, reasonable notice thereof to the Architect and the Contractor. If the Architect determines that the proposed use or occupancy would not interfere with the Contractor's operations or delay it in completing the entire Work, the Contractor shall cooperate with the Owner in providing basic services and facilities reasonably required for the proposed use or the health,



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safety and comfort of the users or occupants and other parties lawfully present on or entering or leaving the Site such as heating, ventilating, cooling, water, lighting, power, fire protection, elevator and telephone services for the space or spaces to be occupied. If the equipment required to furnish such services is not entirely completed at the time the Owner desires to use or occupy the aforesaid space or spaces, the Contractor shall make every reasonable effort to complete the same as soon as possible so that the necessary equipment can be put into operation and use. Mutually acceptable arrangements shall be made between the Owner and the Contractor with regard to procedures, terms, and conditions governing the operation and maintenance of such services and facilities as may be utilized for the benefit of the Owner. The Owner will assume proportionate and reasonable responsibility for operation of systems, equipment and/or utilities required to provide such services, in part or in total, including proportionate and reasonable expenses of operation incidental thereto, and mutually acceptable arrangements shall be made as to guarantees and warranties affecting designated portions or elements of the Work associated therewith.

## **15.2 PARTIAL USE NOT ACCEPTANCE**

**15.2.1** The Owner's use or occupancy of such designated areas or portions of the Work prior to completion and acceptance of all or portions of the Work pursuant to Section 15.1 shall not constitute acceptance of systems, materials, or elements of the Work which are not in accordance with the requirements of the Contract Documents, nor relieve the Contractor from its obligation to complete the Work, or its responsibility for loss or damage due to or arising out of defects in, or malfunctioning of, systems, materials, equipment, or elements of the Work, nor from other unfulfilled obligations or responsibilities of the Contractor under the Contract. If, however, damage results to such designated areas or portions of the Work, in whole or in part, from any act of the Owner, then the Owner will assume its proportionate responsibility for such damage, to the extent that such damage is not covered by insurance provided in accordance with the terms of the Contract Documents.

## **15.3 NO CLAIM FOR DELAY**

**15.3.1** The Contractor shall make no claim for any adjustment to the Contract Sum or the Contract Time or for damages of any kind arising directly or indirectly out of the exercise by the Owner of the rights reserved under this Article 15.

## **ARTICLE 16 TERMINATION OF THE CONTRACT**

### **16.1 TERMINATION BY THE CONTRACTOR**

**16.1.1** If the Owner has failed to make a progress payment properly due and payable to the Contractor, then the Contractor, if not in default hereunder, may give the Owner written notice of its intention to terminate the Contract and if, after thirty (30) days after the Owner's receipt of such notice, the default of the Owner shall not have been cured or action by the Owner to effect such cure shall not have been commenced within such thirty (30) day period and



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diligently pursued, as the case may be, then the Contractor may terminate the Contract and recover from the Owner payment for all Work executed in accordance with the Contract Documents based on the percentage of the Work properly completed as determined by the Architect.

## **16.2 TERMINATION BY THE OWNER**

**16.2.1** If any one (1) or more of the following events set forth in clauses (i) through (xiii) hereof shall occur:

- (i) a petition is filed by the Contractor, or against the Contractor with its consent, under any federal or state law concerning bankruptcy, reorganization, insolvency or relief from creditors; or
- (ii) such a petition is filed against the Contractor without its consent; or
- (iii) the Contractor becomes insolvent or is generally not paying its debts as they become due; or
- (iv) the Contractor consents to the appointment of a receiver, trustee, liquidator, custodian or the like of the Contractor or of all or any substantial portion of its assets; or
- (v) a receiver, trustee, liquidator, custodian or the like is appointed with respect to the Contractor or takes possession of all or any substantial portion of its assets; or
- (vi) the Contractor makes an assignment for the benefit of creditors; or
- (vii) there has been a material adverse change in the financial condition of the Contractor; or
- (viii) the Contractor's bonding or surety company shall refuse to issue a labor or material payment or performance bond or other similar guarantee of performance with respect to the Project; or
- (ix) due to the fault of the Contractor (and not due to causes beyond the Contractor's reasonable control): (a) the Work is unreasonably delayed or discontinued, or (b) the execution of the Work ceases for more than three (3) days, or (c) the Work is delayed so that, in the Owner's judgment, the Work cannot be completed on or prior to the expiration of the Contract Time;
- (x) the Contractor defaults in its obligation to perform the Work in a skilled and expeditious manner or refuses or fails to supply sufficient labor, materials, equipment and facilities to assure the proper progress of the Work; or



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- (xi) the Contractor fails to make prompt payment to any Subcontractor(s);
- (xii) the Contractor fails to comply with Applicable Laws; or
- (xiii) the Contractor otherwise violates or fails to comply with any material provision of the Contract Documents;

then, in any such event, the Owner may, without prejudice to any other right or remedy, and after giving the Contractor seven (7) days written notice, terminate the Contract and the employment of the Contractor and hold the Contractor and its sureties liable in damages for breach of the Contract Documents, or may direct the Contractor to discontinue the Work or any designated portion thereof and take possession of the Site or any portion thereof and possession and use of any and all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work or any portion thereof by whatever method it may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is fully completed. The Owner shall not be liable for any depreciation, loss or damage to such materials, equipment or tools during such use thereof, nor thereafter prior to removal thereof by the Contractor after completion of the Work. The Owner may, at its option, require the Contractor's surety or sureties to complete the Work in accordance with the Contract Documents. If the Owner elects to terminate this Contract pursuant to the provisions of this Section and it is subsequently determined that none of the foregoing events have occurred, then such termination, at Owner's election, may be deemed a termination pursuant to Subsection 16.2.3.

**16.2.2** When the Work is fully completed by the Owner, if the costs incurred by the Owner in finishing the Work, including the cost of any additional services of the Architect or others, when added to the payments made to the Contractor prior to termination, exceed the Contract Sum, the Contractor or its sureties shall pay the amount of such excess to the Owner, together with interest thereon from the date incurred by the Owner until paid by the Contractor at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston. If the sum of such costs and payments is less than the Contract Sum, the Contractor shall be paid for any costs, as certified by the Architect on the basis of its determination of "cost" under Subsection 13.1.8, incurred by the Contractor but not paid for prior to the termination, to the extent that such payment does not cause the total of payments to the Contractor when added to the cost of finishing the Work to exceed the Contract Sum. In case of such termination of the Contract pursuant to this Article 16, the Owner may, at its election, assume and become liable for obligations, commitments and unsettled claims that the Contractor has previously undertaken or incurred in good faith in connection with the Work. Without limiting the generality of the foregoing, the Owner shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of such assumption or assignment by the Owner, no such Subcontractor shall have any claim against the Owner or such third party for Work performed by such Subcontractor or other matters arising prior to termination of the Contract except as expressly provided by law, and the Owner or such third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after such assumption. Should the Owner



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so elect, the Contractor shall execute and deliver all such documents and take all such steps, including the legal assignment of its contractual rights, as the Owner may require, for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the Owner for expenses and damages suffered by the Owner as a result of any default, acts or omissions of the Contractor.

**16.2.3** Upon fifteen (15) days' written notice, the Owner shall have the right to terminate the Contract at any time and for any reason whether or not any of the events specified in Subsection 16.2.1 shall have occurred, and the Owner shall incur no liability to the Contractor or any other person by reason of such termination. In the event of such termination, the Owner shall pay to the Contractor a sum equivalent to the unpaid Contract Sum attributable to the percentage of Work completed, as determined by the Architect, pursuant to the Contract Documents and accepted by the Owner.

**16.2.4** In the event of a termination of the Contract pursuant to this Article 16, the Owner and the Contractor shall forthwith return to the other all papers, materials and other properties of the other held by each for the purposes of execution and performance of the Contract Documents. In addition, each party will assist the other party in an orderly termination of this Contract.

**ARTICLE 17 OWNER'S RIGHT TO STOP THE  
WORK AND TO CARRY OUT THE WORK**

**17.1 OWNER'S RIGHT TO STOP THE WORK**

**17.1.1** If, in the sole judgment of the Owner, the Contractor fails to commence to correct and diligently pursue the correction of defective work as required by Section 14.2 or fails to carry out the Work in accordance with the Contract Documents, the Owner may, by a written order through the OPM, and without prejudice to any other remedy the Owner may have, order the Contractor to stop the Work or any portion thereof, and the Contractor shall not thereafter incur any further cost or expense therefor without the Owner's prior written approval, until the cause for such order has been eliminated. Notwithstanding the foregoing, the right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

**17.2 OWNER'S RIGHT TO CARRY OUT THE WORK**

**17.2.1** If the Contractor fails to perform the Work diligently and in a timely manner or defaults or neglects to carry out the Work in accordance with the Contract Documents or otherwise fails to perform its obligations under the Contract Documents, the Owner may, without prejudice to any other remedy it may have, make good such deficiencies, provided, however, that the Owner shall not take any action to perform the Work or to make good such deficiencies, except in the event of an emergency, unless the Contractor shall have failed, within



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seven (7) business days after receipt of written notice from the Owner of such failure, default or neglect, to commence corrective action and thereafter to promptly and diligently pursue the corrective action to completion. If the Owner undertakes to make good such deficiencies, the Owner may take possession of the Site or any portion thereof and possession and use of any and all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor in order to make good such deficiencies by whatever method it may deem expedient. The Owner shall not be liable for any depreciation, loss or damage to such materials, equipment or tools during such use thereof. Further, if the Owner undertakes to make good such deficiencies, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation additional services of the Architect and others made necessary by such default, neglect or failure, and the Contract Sum shall be likewise reduced. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, then, as provided in Subsection 16.2.2, the Contractor shall, within thirty (30) days of receipt of an invoice therefor, pay to the Owner the difference with interest thereon. Further, if the Contractor fails, within such seven (7) business day notice period, to commence corrective action and thereafter to promptly and diligently pursue correction of such deficiencies, or fails to carry out the Work in a timely manner in accordance with the Contract Documents, or if the Architect advises the Owner that the Project cannot reasonably be completed by the Contractor within the Contract Time, then, at the request of the Owner, the Contractor's surety shall promptly complete the Work in accordance with the terms of the Contract Documents.

**ARTICLE 18 POST-COMPLETION  
WARRANTY AND CORRECTIVE WORK**

**18.1 CONTRACTOR'S WARRANTIES**

**18.1.1** In addition to the Contractor's obligations under Subsection 14.2.2 hereof, the Contractor guarantees and warrants to the Owner and the Architect that all materials and equipment furnished under the Contract Documents will be new and of recent manufacture unless otherwise expressly required or permitted by the Contract Documents, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents in all respects. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective or as failing to conform to the Contract Documents.

**18.1.2** It is specifically agreed that the Contractor's warranties of materials, equipment and labor under this Article 18 and all other warranties, guarantees, responsibilities and liabilities of the Contractor under the Contract Documents or otherwise provided under law, shall apply to products and equipment, if any, furnished by the Owner as referred to in the Specifications and to the installation thereof by the Contractor or its Subcontractors under this Contract as fully as if such products and equipment had been purchased directly by the Contractor for incorporation in the Work. The Contractor acknowledges that it has received and approved all information and specifications for such Owner-furnished products and equipment sufficient so as to permit the Contractor to make this agreement. Such specifications for Owner-furnished products and



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equipment shall be considered a part of the Contract Documents, and such Owner-furnished products and equipment, upon delivery to and acceptance by the Contractor, shall become part of the Work. The Owner shall assign to the Contractor all warranties of any materials or equipment furnished by the Owner and installed by the Contractor or its Subcontractors under the Contract. The Owner and the Contractor agree to cooperate as necessary to facilitate any claims under such warranties.

**18.1.3** The Contractor shall obtain and preserve for the benefit of the Owner manufacturer's warranties on materials, fixtures and equipment incorporated into the Work, and the Contractor shall prepare and execute a written guarantee and warranty applicable to all phases of the Work in accordance with the provisions of this Article and all other applicable provisions of the Contract Documents pertaining to warranties and guarantees, and shall also secure and pass through to the Owner written guarantees and warranties prepared in a similar manner from each Subcontractor engaged in the performance of the Work and, prior to Substantial Completion, shall deliver complete sets of all such guarantees and warranties to the Architect for review and approval in accordance with Subsection 3.7.4.

**18.1.4** In the event that any work is performed to correct, repair or remedy any portion of the Work pursuant to any warranty or guarantee provided under the Contract Documents or otherwise available to the Owner, all such work, and all materials, equipment, supplies, appliances, fixtures and specialty devices requiring replacement during any guarantee period specified in the Contract Documents, shall be subject to a supplementary guarantee and warranty extending the guarantee or warranty period to cover all such work and all such items for the full guarantee or warranty period specified, beginning as of the date of acceptance of each such replacement item or element of work.

**18.1.5** The warranty and guarantee provisions of this Article 18 shall be in addition to and not in limitation of any other warranties, guarantees, or remedies allowed by law or the Contract Documents.

**18.1.6** No additional charge shall be made by the Contractor or by any Subcontractor for attending meetings at the Site to diagnose problems or to instruct the Owner's personnel in the proper operation or maintenance of the Work, or for making initial or seasonal adjustments (not including normal maintenance) of mechanical systems or other movable work during the applicable guarantee or warranty period (as it may be extended with respect to certain items pursuant to Subsection 18.1.4). The Contractor shall provide such service promptly upon notice from the Owner. In case of emergency, service shall be provided as necessary to avoid loss or damage or to maintain normal use of the premises. The Contractor shall furnish to the Architect and to the Owner a list of names and telephone numbers, with a back-up name and telephone number, covering each area of potential emergency.

## **ARTICLE 19 DISPUTE RESOLUTION**

### **19.1 GOVERNING LAW; VENUE**



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**19.1.1** The Contract and all modifications, amendments, or alterations thereto, if any, shall be governed by the laws of the Commonwealth of Massachusetts. The Contractor, all Subcontractors, and other persons performing any part of the Work agree that each of them shall be subject to the jurisdiction of the courts of the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts with respect to any actions or suits at law or in equity arising out of or related to the bidding, award or performance of the Contract, subject to the dispute resolution provisions set forth herein.

**19.2 CLAIMS AND DISPUTES**

**19.2.1** All claims, disputes or other matters in controversy between the Contractor and the Owner relating to the execution and progress of the Work or the interpretation of the Contract Documents, and any claims, disputes, and other matters in question relating to whether the Contractor's performance of the Work complies with the Contract Documents, which cannot be resolved by agreement between them, shall be referred to the Architect in writing for initial determination, with a copy to the other party. The Architect shall afford both parties a reasonable opportunity to present written evidence in support of their respective positions. The Architect shall render its decision in writing to each of the parties within a reasonable time and in no event later than thirty (30) days after the receipt of submissions from the parties.

**19.2.2** No such claim, dispute or other matter in question shall constitute grounds for the Contractor to delay progress of the Work, and the Contractor shall carry on the Work and maintain its progress during consideration of any such claim, dispute or other matter by the Architect. The decision of the Architect with respect to any and all such claims, disputes or other matters in question shall be final and conclusive, provided that any party having complied with the provisions of Subsection 19.2.3, below, may file an action in a court of competent jurisdiction challenging the decision of the Architect or otherwise seeking final resolution of the claim, dispute or other matter in question.

**19.2.3** The decision of the Architect on any such claim, dispute or other matter in question shall be final and binding upon the Owner and the Contractor, unless the Owner or the Contractor gives written notice to the other and to the Architect of its objection to such decision within ten (10) days after receipt by such aggrieved party of the Architect's decision and commences an action challenging the Architect's decision in a court of competent jurisdiction within the time permitted by law. If either party fails to give notice of objection to the Architect's decision within such ten (10) day period, it shall be conclusively deemed to have waived its right to object to such decision. If the Architect renders a decision after court proceedings have been commenced, such decision may be entered as evidence but will not supersede any such proceedings unless the decision is acceptable to all parties concerned. Nothing contained in this Article 19 shall limit the Owner's right to damages for delays by the Contractor or any other rights or remedies of the Owner under the Contract Documents or otherwise available under applicable law.

**19.2.4** Prior to commencing litigation as to any claim, dispute or other matter in controversy, the parties shall discuss the possibility of resolution of such claim, dispute or



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controversy through non-binding mediation or other alternative dispute resolution methods. If the parties agree to mediation, the fees and expenses of the mediator shall be borne equally by the parties unless otherwise agreed.

**19.2.5** Pursuant to M.G.L. c. 30, § 39J, notwithstanding any contrary provision of this Contract, no decision by the Owner or by the Architect on a dispute, whether of fact or of law, arising under the Contract shall be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily, is unsupported by substantial evidence, or is based upon error of law.

**ARTICLE 20 MISCELLANEOUS PROVISIONS**

**20.1 NOTICE**

**20.1.1** Whenever written notice is required or permitted pursuant to the Contract Documents, the same shall be deemed to have been properly given if in writing and delivered by hand in person or by registered or certified mail, postage prepaid, or express overnight courier service, return receipt requested; and, in the case of notices to the Owner, to the address set forth at the beginning of the Agreement and, in the case of notices to the OPM or the Architect, to the address set forth at the beginning of the Agreement, marked to the attention of the OPM or Architect, as the case may be, and, in the case of notices to the Contractor, to the Contractor's Project Executive or Project Manager, addressed to such person at the Contractor's mailing address set forth at the beginning of the Agreement or the Contractor's field office at the Site. Any of the persons or addresses specified above for notice purposes may be changed by notice given in the manner provided herein from the party concerned to each of the other parties. Written notice shall be deemed to be given on the day received, if delivered by hand in person; on the next business day after mailing if sent by express overnight courier service; and three (3) business days after mailing if sent by registered or certified mail.

**20.2 CONTRACT DOCUMENTS**

**20.2.1** The Contract Documents form the comprise the entire Contract between the Owner and the Contractor, and supersede all prior negotiations, representations and agreements, whether written or oral. Subject to the provisions of Article 6, the Contractor may not assign its rights or obligations under all or any portion of the Contract Documents nor shall the Contractor assign any moneys due or to become due under the Contract Documents without the written consent of the Owner, which consent may be withheld or granted in its sole discretion. Any such assignment without the written consent of the Owner shall be void and the assignee in such case shall acquire no rights in the Contract or to receive any moneys. Nothing contained in the Contract Documents shall be construed to modify or affect in any way the rights and obligations of the Owner and the Architect under any contract or agreement between the Owner and the Architect.



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**20.2.2** The Contract shall be governed by the laws of the Commonwealth of Massachusetts. The Contractor, all Subcontractors, and other persons performing any part of the Work agree that each of them shall be subject to the jurisdiction of the courts of Suffolk County in the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts with respect to any actions or suits at law or in equity arising out of or related to the bidding, award or performance of the Contract, and that any such actions or suits commenced by any of such parties shall be commenced in the courts or appropriate administrative tribunals of Suffolk County in the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts and not otherwise.

### **20.3 RIGHTS AND REMEDIES**

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

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

**20.3.3** No consent, express or implied, by the Owner, the OPM, or the Architect to any breach of any covenant, condition or duty of the Contractor, or waiver, express or implied, by any of same, shall be construed as a consent to or waiver of any other breach of the same or any other covenant, condition or duty.

### **20.4 DECISIONS AND INTERPRETATIONS**

**20.4.1** Pursuant to M.G.L. c. 39, § 39P, in every case in which this Contract requires the Owner, any official, the OPM, or the Architect to make a decision on interpretation of the Specifications, approval of equipment, material or any other approval, or progress of the Work, the decision shall be made promptly and, in any event, no later than thirty (30) days after the written submission for decision containing all information necessary in the judgment of the Architect to render such decision; but if such decision requires extended investigation and study, the Owner, the official, the OPM, or the Architect shall, within thirty (30) days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made.

### **20.5 ANTI-BOYCOTT COVENANT**

**20.5.1** The Contractor warrants, represents and agrees that during the time the Contract is in effect, neither it nor any affiliated company, as hereafter defined, shall participate in



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or cooperate with an international boycott, as defined in Section 999(b)(3) and (4) of the Internal Revenue Code of 1954, as amended, or shall engage in conduct declared to be unlawful by M.G.L. c. 151E, § 2. If there shall be a breach in the warranty, representation, and agreement contained in this Subsection, then without limiting such other rights as it may have, the Owner shall be entitled to rescind the Agreement. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interest of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor. This provision is included in the Agreement pursuant to Commonwealth of Massachusetts Executive Order No. 130.

## **20.6 RIGHT OF AUDIT**

**20.6.1** Without limiting any of the Owner's other rights under the Contract Documents, the Governor of the Commonwealth of Massachusetts or his or her designee, the Secretary of Administration and Finance of the Commonwealth of Massachusetts, and the State Auditor or his or her designee shall have the right at reasonable times and upon reasonable notice to examine the books, records and other compilations of data of the Contractor and all Subcontractors which pertain to the performance of the provisions and requirements of the Contract. This provision is included in the Contract pursuant to Commonwealth of Massachusetts Executive Order No. 195.

## **20.7 RECORD KEEPING AND REPORTING**

**20.7.1** The Contractor shall maintain at the Site or at such other location as shall be approved by the Owner, on a current basis, during the term of the Agreement and shall retain for a period of six (6) years after the date of Final Payment, records of all Subcontracts, material orders, Shop Drawings, Samples, and other Project-related documents and revisions thereto which arise out of the Contract, the Contract Documents or the Work, including, but not limited to, the following:

- (a) A detailed daily log of all events occurring on the Site or connected with progress of the Project. Such log shall include a listing of the Contractor staffing, manpower by Subcontractors, relevant weather information and names and purpose of all visitors to the Site. Copies of such daily logs shall be distributed weekly to the OPM;
- (b) Copies of the Project Schedule as more specifically set forth in Article 9 of these General Conditions, and Schedules of Values as more specifically set forth in Article 10 of these General Conditions, and all updates thereto to reflect current conditions;
- (c) A set of as-built Drawings and Specifications which records all changes made during construction and actual as-built conditions in accordance with the requirements of the Contract Documents; and



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- (d) Correspondence, meeting notes and minutes, clarifications and interpretations of the Contract Documents issued by the Architect, progress reports, all other Project related documents.

**20.7.2** The Contractor shall furnish to the Owner on a weekly basis, a Progress Report for the preceding week, in form and substance acceptable to the Owner, containing, without limitation, the following information:

- (a) Project Schedule, updated against baseline;
- (b) List and status of outstanding issues, claims or disputes, or information required from the Owner;
- (c) Safety record report.
- (d) Certified payroll reports; and
- (e) Suggestions for solutions to outstanding issues and schedule delays.

**20.7.3** The Contractor shall provide a system of Project monitoring and reporting. The Contractor shall assist the Owner in developing and implementing a Change Order control system. Such reports and other information shall be included in the weekly progress reports to be submitted to the Owner in accordance with the Contract Documents, and the provisions of Subsection 20.7.2 hereof.

**20.7.4** The Contractor shall establish and implement procedures for preparing and/or reviewing and processing Requests for Information and/or clarifications and interpretations of the Contract Documents, Shop Drawings, Samples and other submittals, requests for Construction Change Directives, requests for Change Orders, proposals for substitutions, Payment Applications, as-built Drawings and maintenance of logs.

**20.7.5** The Contractor shall check all materials, equipment and labor entering into the Work and shall keep such full and detailed accounts as may be necessary for proper accounting and financial management under the Contract, utilizing such procedures as shall be satisfactory to the Owner. The Owner shall, upon request, be afforded copies of, and access to, all of the Contractor's records, books, correspondence, subcontracts, instructions, drawings, estimates, budgets, receipts, invoices, vouchers, memoranda, breakdowns, accounting data, bid proposals, cost control information and any other documents relating to the Work, in a form acceptable to the Owner.

**20.7.6** Without limitation of the foregoing, the Owner shall have the right, at any time and from time to time, upon notice to the Contractor, to monitor and audit the Contractor's books and records in connection with any aspect of the Agreement or the Contract Documents at the Contractor's offices at the Contractor's sole cost and expense. The Contractor shall facilitate any such audit by making necessary facilities available to the Owner and its representatives.



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Further provisions concerning the Contractor's records and the Owner's right to audit such records are set forth in the General Conditions.

**20.7.7** If any inspection of the Contractor's books, records or other documents reveals an overcharge with respect to the Contract Sum, the Contractor shall pay the Owner or, at the Owner's election, the Owner may reimburse itself by taking as a credit against future payments due the Contractor, an amount equal to the overcharge plus the administrative and auditing expenses incurred by the Owner in determining the existence and amount of the overcharge. Nothing contained in this provision is intended as a limitation of any other rights or remedies which may be available to the Owner, be they civil or criminal.

**20.8 FINANCIAL RECORDS OF CONTRACTOR**

**20.8.1** The provisions of this Section 20.8 are included in this Contract pursuant to Massachusetts General Laws Chapter 30, § 39R:

- (a) The Contractor shall make, and keep for at least six (6) years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor, and
- (b) until the expiration of six years after final payment, the Office of Inspector General, and the Commissioner of Capital Asset Management and Maintenance shall have the right to examine any books, documents, papers or records of the Contractor or of its Subcontractor that directly pertain to, and involve transactions relating to, the Contractor or its Subcontractors, and
- (c) the Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the Owner, including in its description the date of the change and reasons therefor, and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes, and
- (d) the Contractor has filed a statement of management on internal accounting controls as set forth in Subsection 20.8.2 below prior to the execution of the Contract, and
- (e) the Contractor has filed prior to the execution of the Contract and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in Subsection 20.8.4.

**20.8.2** Every Contractor awarded a contract shall file with the Owner a statement of management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:



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- (a) transactions are executed in accordance with management's general and specific authorization;
- (b) transactions are recorded as necessary
  - i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and
  - ii. to maintain accountability for assets;
- (c) access to assets is permitted only in accordance with management's general or specific authorization; and
- (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

**20.8.3** Every Contractor awarded a contract shall also file with the Owner a statement prepared and signed by an independent certified public accountant, stating that s/he has examined the statement of management on internal accounting controls, and expressing an opinion as to:

- (a) whether the representations of management in response to this Section and Subsection 20.8.1 above are consistent with the result of management's evaluation of the system of internal accounting controls and
- (b) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial condition.

**20.8.4** Every Contractor awarded a contract by the Commonwealth or by any political subdivision thereof shall annually file with Commissioner of Capital Asset Management and Maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the Owner upon request.

**20.8.5** Records and statements required to be made, kept or filed under the provisions of M.G.L. c. 30, § 39R shall not be public records as defined in M.G.L. c. 4, § 7, and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of Subsection 20.8.1(b).

**20.8.6** As used in this Section 20.8, the following terms have the meanings set forth below:



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- (a) “Contract” means any contract awarded or executed pursuant to sections thirty B through thirty P, inclusive, of chapter seven [now sections 38A½ through 38O] and any contract awarded or executed pursuant to section thirty-nine M of chapter thirty, or sections forty-four A through H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.
- (b) “Records” means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.
- (c) “Independent Certified Public Accountant” means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his/her residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant’s independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.
- (d) “Audit”, when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.
- (e) “Accountant’s Report”, when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which s/he has made and sets forth his/her opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant’s report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the Contractor.
- (f) “Management”, when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the Contractor.

**20.9 FALSE ENTRY**



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**20.9.1** The attention of the Contractor is called to M.G.L. c. 266, § 67C, which provides:

Any person who knowingly and willfully, directly or indirectly makes, or knowingly and willfully causes to be made, a false entry or omission of a true entry in any books, record or account subject to the provisions of section thirty-nine R of chapter thirty shall be punished by a fine of not more than five thousand dollars, or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two years, or both.

END OF DOCUMENT

Rev. 11/2017



**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:** Everett **City/Town:** EVERETT  
**Contract Number:** EPD-26-07  
**Description of Work:** Removal of all existing roofing materials to the structural decking and replacement with new materials to meet current building code regulations.  
**Job Location:** 45 Elm Street

**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 from 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	12/1/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$0.00	\$79.24
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$0.00	\$80.24
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$0.00	\$80.74
	12/1/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$0.00	\$78.31
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$0.00	\$80.31
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$0.00	\$80.81
	12/1/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$0.00	\$79.43
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$0.00	\$80.43
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$0.00	\$80.93
	12/1/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT	1/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/1/2025	\$44.80	\$14.50	\$4.30	\$6.75	\$0.00	\$70.35
HEAT & FROST INSULATORS LOCAL 6							
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							
ASPHALT RAKER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
BOILER MAKER	1/1/2024	\$48.12	\$7.07	\$14.60	\$6.00	\$0.00	\$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

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

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: BOILER MAKER</b>							
<b>Effective Date: 1/1/2024</b>							
<b>Step</b>	<b>Percent</b>	<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
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
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	8/1/2025	\$67.95	\$11.49	\$15.57	\$8.02	\$0.00	\$103.03
BRICKLAYERS LOCAL 3	2/1/2026	\$69.30	\$11.49	\$15.57	\$8.02	\$0.00	\$104.38
BRICKLAYERS LOCAL 3 (BOSTON)	8/1/2026	\$71.50	\$11.49	\$15.57	\$8.02	\$0.00	\$106.58
	2/1/2027	\$72.90	\$11.49	\$15.57	\$8.02	\$0.00	\$107.98
<b>Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)</b>							
<b>Effective Date: 8/1/2025</b>							
<b>Step</b>	<b>Percent</b>	<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$33.98	\$11.49	\$15.57	\$8.02	\$0.00	\$69.06
2	60.00	\$40.77	\$11.49	\$15.57	\$8.02	\$0.00	\$75.85
3	70.00	\$47.57	\$11.49	\$15.57	\$8.02	\$0.00	\$82.65
4	80.00	\$54.36	\$11.49	\$15.57	\$8.02	\$0.00	\$89.44
5	90.00	\$61.16	\$11.49	\$15.57	\$8.02	\$0.00	\$96.24
<b>Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)</b>							
<b>Effective Date: 2/1/2026</b>							
<b>Step</b>	<b>Percent</b>	<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$34.65	\$11.49	\$15.57	\$8.02	\$0.00	\$69.73
2	60.00	\$41.58	\$11.49	\$15.57	\$8.02	\$0.00	\$76.66
3	70.00	\$48.51	\$11.49	\$15.57	\$8.02	\$0.00	\$83.59
4	80.00	\$55.44	\$11.49	\$15.57	\$8.02	\$0.00	\$90.52
5	90.00	\$62.37	\$11.49	\$15.57	\$8.02	\$0.00	\$97.45
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS	12/1/2025	\$49.85	\$10.15	\$9.50	\$9.80	\$0.00	\$79.30
LABORERS - FOUNDATION AND MARINE	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	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.80	\$0.00	\$78.15

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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"

CAISSON & UNDERPINNING TOP MAN LABORERS	12/1/2025	\$49.03	\$10.15	\$9.50	\$9.80	\$0.00	\$78.48
LABORERS	6/1/2026	\$50.58	\$10.15	\$9.50	\$9.80	\$0.00	\$80.03
LABORERS - FOUNDATION AND MARINE	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	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

CARPENTER	9/1/2025	\$61.44	\$10.33	\$11.47	\$8.50	\$0.00	\$91.74
CARPENTERS	3/1/2026	\$62.94	\$10.33	\$11.47	\$8.50	\$0.00	\$93.24
CARPENTERS -ZONE 1 (Metro Boston)	9/1/2026	\$64.44	\$10.33	\$11.47	\$8.50	\$0.00	\$94.74
	3/1/2027	\$65.94	\$10.33	\$11.47	\$8.50	\$0.00	\$96.24

Apprentice: CARPENTER							
Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.65	\$10.33	\$0.00	\$1.73	\$0.00	\$39.71
2	45.00	\$27.65	\$10.33	\$0.00	\$1.73	\$0.00	\$39.71
3	55.00	\$33.79	\$10.33	\$0.00	\$3.40	\$0.00	\$47.52
4	55.00	\$33.79	\$10.33	\$0.00	\$3.40	\$0.00	\$47.52
5	70.00	\$43.01	\$10.33	\$11.41	\$5.10	\$0.00	\$69.85
6	70.00	\$43.01	\$10.33	\$11.41	\$5.10	\$0.00	\$69.85
7	80.00	\$49.15	\$10.33	\$11.44	\$6.80	\$0.00	\$77.72
8	80.00	\$49.15	\$10.33	\$11.44	\$6.80	\$0.00	\$77.72

Apprentice: CARPENTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$28.32	\$10.33	\$0.00	\$1.73	\$0.00	\$40.38
2	45.00	\$28.32	\$10.33	\$0.00	\$1.73	\$0.00	\$40.38
3	55.00	\$34.62	\$10.33	\$0.00	\$3.40	\$0.00	\$48.35
4	55.00	\$34.62	\$10.33	\$0.00	\$3.40	\$0.00	\$48.35
5	70.00	\$44.06	\$10.33	\$11.41	\$5.10	\$0.00	\$70.90
6	70.00	\$44.06	\$10.33	\$11.41	\$5.10	\$0.00	\$70.90
7	80.00	\$50.35	\$10.33	\$11.44	\$6.80	\$0.00	\$78.92

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: CARPENTER</b>							
<b>Effective Date: 3/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
8	80.00	\$50.35	\$10.33	\$11.44	\$6.80	\$0.00	\$78.92
<b>Apprentice to Journeyworker Ratio: 1:5</b>							

CARPENTER WOOD FRAME	10/1/2025	\$32.91	\$7.10	\$4.47	\$2.20	\$0.00	\$46.68
CARPENTERS	10/1/2026	\$34.21	\$7.10	\$4.47	\$2.20	\$0.00	\$47.98
CARPENTERS -ZONE 2 (Wood Frame)							
All Aspects of New Wood Frame Work							

<b>Apprentice: CARPENTER WOOD FRAME</b>							
<b>Effective Date: 10/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$16.46	\$7.02	\$0.00	\$0.00	\$0.00	\$23.48
2	50.00	\$16.46	\$7.02	\$0.00	\$0.00	\$0.00	\$23.48
3	55.00	\$18.10	\$7.02	\$0.00	\$2.00	\$0.00	\$27.12
4	55.00	\$18.10	\$7.02	\$0.00	\$2.20	\$0.00	\$27.32
5	70.00	\$23.04	\$7.02	\$4.47	\$2.20	\$0.00	\$36.73
6	70.00	\$23.04	\$7.02	\$4.47	\$2.20	\$0.00	\$36.73
7	80.00	\$26.33	\$7.02	\$4.47	\$2.20	\$0.00	\$40.02
8	80.00	\$26.33	\$7.02	\$4.47	\$2.20	\$0.00	\$40.02

<b>Apprentice: CARPENTER WOOD FRAME</b>							
<b>Effective Date: 10/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$17.11	\$7.10	\$0.00	\$0.00	\$0.00	\$24.21
2	50.00	\$17.11	\$7.10	\$0.00	\$0.00	\$0.00	\$24.21
3	55.00	\$18.82	\$7.10	\$0.00	\$2.20	\$0.00	\$28.12
4	55.00	\$18.82	\$7.10	\$0.00	\$2.20	\$0.00	\$28.12
5	70.00	\$23.95	\$7.10	\$4.47	\$2.20	\$0.00	\$37.72
6	70.00	\$23.95	\$7.10	\$4.47	\$2.20	\$0.00	\$37.72
7	80.00	\$27.37	\$7.10	\$4.47	\$2.20	\$0.00	\$41.14
8	80.00	\$27.37	\$7.10	\$4.47	\$2.20	\$0.00	\$41.14

**Apprentice to Journeyworker Ratio: 1:5**

CEMENT MASONRY/PLASTERING	1/1/2026	\$53.24	\$13.35	\$16.43	\$7.78	\$1.80	\$92.60
PLASTERERS AND CEMENT MASONS LOCAL 534	7/1/2026	\$54.49	\$13.35	\$16.43	\$7.78	\$1.80	\$93.85
Plasterers and Cement Masons - Zone 1	1/1/2027	\$55.94	\$13.35	\$16.43	\$7.78	\$1.80	\$95.30
	7/1/2027	\$57.29	\$13.35	\$16.43	\$7.78	\$1.80	\$96.65
	1/1/2028	\$58.64	\$13.35	\$16.43	\$7.78	\$1.80	\$98.00

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: CEMENT MASONRY/PLASTERING</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.62	\$13.35	\$16.43	\$0.00	\$0.00	\$56.40
2	60.00	\$31.94	\$13.35	\$16.43	\$7.78	\$1.80	\$71.30
3	65.00	\$34.61	\$13.35	\$16.43	\$7.78	\$1.80	\$73.97
4	70.00	\$37.27	\$13.35	\$16.43	\$7.78	\$1.80	\$76.63
5	75.00	\$39.93	\$13.35	\$16.43	\$7.78	\$1.80	\$79.29
6	80.00	\$42.59	\$13.35	\$16.43	\$7.78	\$1.80	\$81.95
7	90.00	\$47.92	\$13.35	\$16.43	\$0.00	\$0.00	\$77.70
<b>Apprentice: CEMENT MASONRY/PLASTERING</b>							
<b>Effective Date: 7/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.25	\$13.35	\$16.43	\$0.00	\$0.00	\$57.03
2	60.00	\$32.69	\$13.35	\$16.43	\$7.78	\$1.80	\$72.05
3	65.00	\$35.42	\$13.35	\$16.43	\$7.78	\$1.80	\$74.78
4	70.00	\$38.14	\$13.35	\$16.43	\$7.78	\$1.80	\$77.50
5	75.00	\$40.87	\$13.35	\$16.43	\$7.78	\$1.80	\$80.23
6	80.00	\$43.59	\$13.35	\$16.43	\$7.78	\$1.80	\$82.95
7	90.00	\$49.04	\$13.35	\$0.00	\$7.78	\$0.00	\$70.17
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
CHAIN SAW OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	12/1/2025	\$60.48	\$16.05	\$13.25	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.81	\$16.05	\$13.25	\$3.25	\$0.00	\$94.36
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$63.29	\$16.05	\$13.25	\$3.25	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	12/1/2025	\$37.97	\$16.05	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.83	\$16.05	\$13.25	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.78	\$16.05	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE) PAINTERS LOCAL 35	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35 - ZONE 1							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: DELEADER (BRIDGE)</b>							
<b>Effective Date: 1/1/2026</b>							
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	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	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	12/1/2025	\$49.75	\$10.15	\$9.50	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	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	12/1/2025	\$49.50	\$10.15	\$9.50	\$9.65	\$0.00	\$78.80
LABORERS - ZONE 1	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: CONCRETE CUTTER/SAWYER LABORERS	12/1/2025	\$49.75	\$10.15	\$9.50	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	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

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR	12/1/2025	\$49.50	\$10.15	\$9.50	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$51.05	\$10.15	\$9.50	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 1	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	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$50.30	\$10.15	\$9.50	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 1	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"							
DIRECTIONAL DRILL MACHINE OPERATOR	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
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	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
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)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT)	8/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction)	7/1/2020	\$26.77	\$6.67	\$3.93	\$0.00	\$0.16	\$37.53
DRAWBRIDGE - SEIU LOCAL 888							
DRAWBRIDGE - SEIU LOCAL 888							
ELECTRICIAN	9/1/2025	\$66.17	\$13.00	\$14.37	\$8.72	\$0.00	\$102.26
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

<b>Apprentice: ELECTRICIAN</b>							
<b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$26.47	\$13.00	\$0.79	\$0.00	\$0.00	\$40.26
2	40.00	\$26.47	\$13.00	\$0.79	\$0.00	\$0.00	\$40.26
3	45.00	\$29.78	\$13.00	\$13.27	\$3.92	\$0.00	\$59.97
4	45.00	\$29.78	\$13.00	\$13.27	\$3.92	\$0.00	\$59.97
5	50.00	\$33.09	\$13.00	\$13.37	\$4.36	\$0.00	\$63.82
6	55.00	\$36.39	\$13.00	\$13.47	\$4.80	\$0.00	\$67.66
7	60.00	\$39.70	\$13.00	\$13.57	\$5.23	\$0.00	\$71.50
8	65.00	\$43.01	\$13.00	\$13.67	\$5.67	\$0.00	\$75.35
9	70.00	\$46.32	\$13.00	\$13.77	\$6.10	\$0.00	\$79.19
10	75.00	\$49.63	\$13.00	\$13.87	\$6.54	\$0.00	\$83.04

<b>Apprentice: ELECTRICIAN</b>							
<b>Effective Date: 3/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
2	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
3	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
4	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
5	50.00	\$33.43	\$13.00	\$13.63	\$4.50	\$0.00	\$64.56
6	55.00	\$36.77	\$13.00	\$13.73	\$4.95	\$0.00	\$68.45
7	60.00	\$40.12	\$13.00	\$13.83	\$5.40	\$0.00	\$72.35
8	65.00	\$43.46	\$13.00	\$13.93	\$5.85	\$0.00	\$76.24
9	70.00	\$46.80	\$13.00	\$14.03	\$6.30	\$0.00	\$80.13
10	75.00	\$50.15	\$13.00	\$14.13	\$6.75	\$0.00	\$84.03

**Apprentice Notes**  
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**Apprentice to Journeyworker Ratio: 2:3**

ELEVATOR CONSTRUCTOR	1/1/2026	\$77.26	\$16.38	\$11.06	\$10.70	\$0.00	\$115.40
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$80.55	\$16.48	\$11.16	\$11.00	\$0.00	\$119.19
ELEVATOR CONSTRUCTORS LOCAL 4							

<b>Apprentice: ELEVATOR CONSTRUCTOR</b>							
<b>Effective Date: 1/1/2026</b>							
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
<b>Apprentice: ELEVATOR CONSTRUCTOR</b>							
<b>Effective Date: 1/1/2026</b>							
<b>Step</b>	<b>Percent</b>	<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$38.63	\$0.00	\$0.00	\$0.00	\$0.00	\$38.63
2	55.00	\$42.49	\$16.38	\$11.06	\$10.70	\$0.00	\$80.63
3	65.00	\$50.22	\$16.38	\$11.06	\$10.70	\$0.00	\$88.36
4	70.00	\$54.08	\$16.38	\$11.06	\$10.70	\$0.00	\$92.22
5	80.00	\$61.81	\$16.38	\$11.06	\$10.70	\$0.00	\$99.95
<b>Apprentice: ELEVATOR CONSTRUCTOR</b>							
<b>Effective Date: 1/1/2027</b>							
<b>Step</b>	<b>Percent</b>	<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$40.28	\$0.00	\$0.00	\$0.00	\$0.00	\$40.28
2	55.00	\$44.30	\$16.48	\$11.16	\$11.00	\$0.00	\$82.94
3	65.00	\$52.36	\$16.48	\$11.16	\$11.00	\$0.00	\$91.00
4	70.00	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
5	80.00	\$64.44	\$16.48	\$11.16	\$11.00	\$0.00	\$103.08
<b>Apprentice to Journeyworker Ratio: 1:1</b>							
ELEVATOR CONSTRUCTOR HELPER	1/1/2026	\$54.08	\$16.38	\$11.06	\$10.07	\$0.00	\$91.59
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$53.56	\$16.05	\$13.25	\$3.25	\$0.00	\$86.11
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$55.00	\$16.05	\$13.25	\$3.25	\$0.00	\$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$56.29	\$16.05	\$13.25	\$3.25	\$0.00	\$88.84
	5/1/2027	\$57.72	\$16.05	\$13.25	\$3.25	\$0.00	\$90.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	11/1/2025	\$55.17	\$16.05	\$13.25	\$3.25	\$0.00	\$87.72
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$56.62	\$16.05	\$13.25	\$3.25	\$0.00	\$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$57.92	\$16.05	\$13.25	\$3.25	\$0.00	\$90.47
	5/1/2027	\$59.37	\$16.05	\$13.25	\$3.25	\$0.00	\$91.92
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$26.03	\$16.05	\$13.25	\$3.25	\$0.00	\$58.58
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$26.88	\$16.05	\$13.25	\$3.25	\$0.00	\$59.43
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$27.64	\$16.05	\$13.25	\$3.25	\$0.00	\$60.19
	5/1/2027	\$28.49	\$16.05	\$13.25	\$3.25	\$0.00	\$61.04

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/1/2025	\$66.17	\$13.00	\$14.37	\$9.00	\$0.00	\$102.54
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

For apprentice rates see "Apprentice- ELECTRICIAN"

FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING	9/1/2025	\$52.94	\$13.00	\$13.97	\$6.98	\$0.00	\$86.89
ELECTRICIANS LOCAL 103	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92
ELECTRICIANS LOCAL 103	9/1/2026	\$55.02	\$13.00	\$14.28	\$7.20	\$0.00	\$89.50
	3/1/2027	\$55.98	\$13.00	\$14.31	\$7.20	\$0.00	\$90.49
	9/1/2027	\$57.50	\$13.00	\$14.36	\$7.20	\$0.00	\$92.06
	3/1/2028	\$58.46	\$13.00	\$14.38	\$7.20	\$0.00	\$93.04

For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"

FIREMAN (ASST. ENGINEER)	12/1/2025	\$47.69	\$16.05	\$13.25	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$48.75	\$16.05	\$13.25	\$3.25	\$0.00	\$81.30
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$49.93	\$16.05	\$13.25	\$3.25	\$0.00	\$82.48

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FLAGGER & SIGNALER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$28.09	\$10.15	\$9.50	\$9.65	\$0.00	\$57.39
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$29.21	\$10.15	\$9.50	\$9.65	\$0.00	\$58.51
	12/1/2026	\$29.21	\$10.15	\$9.50	\$9.65	\$0.00	\$58.51

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FLOORCOVERER	9/1/2025	\$57.74	\$10.33	\$11.47	\$8.80	\$0.00	\$88.34
FLOORCOVERERS LOCAL 2168	3/1/2026	\$59.24	\$10.33	\$11.47	\$8.80	\$0.00	\$89.84
FLOORCOVERERS LOCAL 2168 ZONE I	9/1/2026	\$60.74	\$10.33	\$11.47	\$8.80	\$0.00	\$91.34
	3/1/2027	\$62.24	\$10.33	\$11.47	\$8.80	\$0.00	\$92.84

<b>Apprentice: FLOORCOVERER</b>							
<b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.98	\$10.33	\$0.00	\$1.76	\$0.00	\$38.07
2	45.00	\$25.98	\$10.33	\$0.00	\$1.76	\$0.00	\$38.07
3	55.00	\$31.76	\$10.33	\$0.00	\$3.52	\$0.00	\$45.61
4	55.00	\$31.76	\$10.33	\$0.00	\$3.52	\$0.00	\$45.61
5	70.00	\$40.42	\$10.33	\$11.47	\$5.28	\$0.00	\$67.50
6	70.00	\$40.42	\$10.33	\$11.47	\$5.28	\$0.00	\$67.50
7	80.00	\$46.19	\$10.33	\$11.47	\$7.04	\$0.00	\$75.03
8	80.00	\$46.19	\$10.33	\$11.47	\$7.04	\$0.00	\$75.03



**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.88	\$0.00	\$0.00	\$0.00	\$0.00	\$32.88
2	60.00	\$35.87	\$16.05	\$13.25	\$3.25	\$0.00	\$68.42
3	65.00	\$38.86	\$16.05	\$13.25	\$3.25	\$0.00	\$71.41
4	70.00	\$41.85	\$16.05	\$13.25	\$3.25	\$0.00	\$74.40
5	75.00	\$44.84	\$16.05	\$13.25	\$3.25	\$0.00	\$77.39
6	80.00	\$47.82	\$16.05	\$13.25	\$3.25	\$0.00	\$80.37
7	85.00	\$50.81	\$16.05	\$13.25	\$3.25	\$0.00	\$83.36
8	90.00	\$53.80	\$16.05	\$13.25	\$3.25	\$0.00	\$86.35

Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$33.32	\$0.00	\$0.00	\$0.00	\$0.00	\$33.32
2	60.00	\$36.35	\$16.05	\$13.25	\$3.25	\$0.00	\$68.90
3	65.00	\$39.38	\$16.05	\$13.25	\$3.25	\$0.00	\$71.93
4	70.00	\$42.41	\$16.50	\$13.25	\$3.25	\$0.00	\$75.41
5	75.00	\$45.44	\$16.50	\$13.25	\$3.25	\$0.00	\$78.44
6	80.00	\$48.46	\$16.50	\$13.25	\$3.25	\$0.00	\$81.46
7	85.00	\$51.49	\$16.50	\$13.25	\$3.25	\$0.00	\$84.49
8	90.00	\$54.52	\$16.50	\$13.25	\$3.25	\$0.00	\$87.52

**Apprentice to Journeyworker Ratio: 1:6**

HVAC (DUCTWORK)	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS)	9/1/2025	\$66.17	\$13.00	\$14.37	\$8.72	\$0.00	\$102.26
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR)	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							

For apprentice rates see "Apprentice- SHEET METAL WORKER"

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

HVAC MECHANIC PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
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For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

HYDRAULIC DRILLS LABORERS	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS - ZONE 1	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25

For apprentice rates see "Apprentice- LABORER"

HYDRAULIC DRILLS (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12

<b>Apprentice: INSULATOR (PIPES &amp; TANKS)</b>							
<b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$30.17	\$14.75	\$9.27	\$5.05	\$0.00	\$59.24
2	60.00	\$36.20	\$14.75	\$9.32	\$6.05	\$0.00	\$66.32
3	70.00	\$42.24	\$14.75	\$9.37	\$7.06	\$0.00	\$73.42
4	80.00	\$48.27	\$14.75	\$9.42	\$8.07	\$0.00	\$80.51

<b>Apprentice: INSULATOR (PIPES &amp; TANKS)</b>							
<b>Effective Date: 9/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$31.88	\$14.75	\$9.27	\$5.05	\$0.00	\$60.95
2	60.00	\$38.26	\$14.75	\$9.32	\$6.05	\$0.00	\$68.38
3	70.00	\$44.63	\$14.75	\$9.37	\$7.06	\$0.00	\$75.81
4	80.00	\$51.01	\$14.75	\$9.42	\$8.07	\$0.00	\$83.25

**Apprentice to Journeyworker Ratio: 1:4**

IRONWORKER/WELDER	9/16/2025	\$57.87	\$9.05	\$12.75	\$14.50	\$0.00	\$94.17
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**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
IRONWORKERS LOCAL 7							
IRONWORKERS LOCAL 7 (BOSTON AREA)							

<b>Apprentice: IRONWORKER/WELDER</b>							
<b>Effective Date: 9/16/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$34.72	\$9.05	\$12.75	\$4.50	\$0.00	\$61.02
2	75.00	\$43.40	\$9.05	\$12.75	\$4.50	\$0.00	\$69.70
3	85.00	\$49.19	\$9.05	\$12.75	\$4.50	\$0.00	\$75.49
4	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**Apprentice to Journeyworker Ratio: 1:4**

JACKHAMMER & PAVING BREAKER OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LABORER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

<b>Apprentice: LABORER</b>							
<b>Effective Date: 12/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.16	\$10.15	\$9.50	\$9.65	\$0.00	\$58.46
2	70.00	\$34.02	\$10.15	\$9.50	\$9.65	\$0.00	\$63.32
3	80.00	\$38.88	\$10.15	\$9.50	\$9.65	\$0.00	\$68.18
4	90.00	\$43.74	\$10.15	\$9.50	\$9.65	\$0.00	\$73.04

<b>Apprentice: LABORER</b>							
<b>Effective Date: 6/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$30.09	\$10.15	\$9.50	\$9.65	\$0.00	\$59.39

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: LABORER</b>							
<b>Effective Date: 6/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	70.00	\$35.11	\$10.15	\$9.50	\$9.65	\$0.00	\$64.41
3	80.00	\$40.12	\$10.15	\$9.50	\$9.65	\$0.00	\$69.42
4	90.00	\$45.14	\$10.15	\$9.50	\$9.65	\$0.00	\$74.44

**Apprentice to Journeyworker Ratio: 1:5**

LABORER (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.65	\$0.00	\$81.05

<b>Apprentice: LABORER (HEAVY &amp; HIGHWAY)</b>							
<b>Effective Date: 12/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.22	\$10.15	\$9.50	\$9.65	\$0.00	\$58.52
2	70.00	\$34.09	\$10.15	\$9.50	\$9.65	\$0.00	\$63.39
3	80.00	\$38.96	\$10.15	\$9.50	\$9.65	\$0.00	\$68.26
4	90.00	\$43.83	\$10.15	\$9.50	\$9.65	\$0.00	\$73.13

<b>Apprentice: LABORER (HEAVY &amp; HIGHWAY)</b>							
<b>Effective Date: 6/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$30.15	\$10.15	\$9.50	\$9.65	\$0.00	\$59.45
2	70.00	\$35.18	\$10.15	\$9.50	\$9.65	\$0.00	\$64.48
3	80.00	\$40.20	\$10.15	\$9.50	\$9.65	\$0.00	\$69.50
4	90.00	\$45.23	\$10.15	\$9.50	\$9.65	\$0.00	\$74.53

**Apprentice to Journeyworker Ratio: 1:5**

LABORER: CARPENTER TENDER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	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"

LABORER: MASON TENDER LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

LABORER: MULTI-TRADE TENDER LABORERS	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

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"

LABORER: LASER BEAM OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

MARBLE & TILE FINISHERS	8/1/2025	\$52.08	\$11.49	\$15.57	\$6.05	\$0.00	\$85.19
BRICKLAYERS LOCAL 3	2/1/2026	\$53.16	\$11.49	\$15.57	\$6.05	\$0.00	\$86.27
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$54.92	\$11.49	\$15.57	\$6.05	\$0.00	\$88.03
	2/1/2027	\$56.04	\$11.49	\$15.57	\$6.05	\$0.00	\$89.15

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$11.49	\$15.57	\$6.05	\$0.00	\$59.15
2	60.00	\$31.25	\$11.49	\$15.57	\$6.05	\$0.00	\$64.36
3	70.00	\$36.46	\$11.49	\$15.57	\$6.05	\$0.00	\$69.57
4	80.00	\$41.66	\$11.49	\$15.57	\$6.05	\$0.00	\$74.77
5	90.00	\$46.87	\$11.49	\$15.57	\$6.05	\$0.00	\$79.98

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.58	\$11.49	\$15.57	\$6.05	\$0.00	\$59.69
2	60.00	\$31.90	\$11.49	\$15.57	\$6.05	\$0.00	\$65.01
3	70.00	\$37.21	\$11.49	\$15.57	\$6.05	\$0.00	\$70.32
4	80.00	\$42.53	\$11.49	\$15.57	\$6.05	\$0.00	\$75.64
5	90.00	\$47.84	\$11.49	\$15.57	\$6.05	\$0.00	\$80.95

Apprentice to Journeyworker Ratio: 1:5

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3	8/1/2025	\$67.97	\$11.49	\$15.57	\$7.99	\$0.00	\$103.02
BRICKLAYERS LOCAL 3 - MARBLE & TILE	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: MARBLE MASONS, TILELAYERS & TERRAZZO MECH							
Effective Date: 8/1/2025							
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
<b>Apprentice Notes</b>							
Step 1&2 Appr. indentured after 1/6/2020 receive no pension,							
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
MORTAR MIXER LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/1/2025	\$25.68	\$16.05	\$13.25	\$3.25	\$0.00	\$58.23
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$26.27	\$16.05	\$13.25	\$3.25	\$0.00	\$58.82
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$26.94	\$16.05	\$13.25	\$3.25	\$0.00	\$59.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OILER (TRUCK CRANES, GRADALLS)	12/1/2025	\$31.65	\$16.05	\$13.25	\$3.25	\$0.00	\$64.20
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$32.37	\$16.05	\$13.25	\$3.25	\$0.00	\$64.92
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$33.17	\$16.05	\$13.25	\$3.25	\$0.00	\$65.72
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PAINTER (BRIDGES/TANKS)	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

<b>Apprentice: PAINTER (BRIDGES/TANKS)</b>							
<b>Effective Date: 1/1/2026</b>							
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) *	1/1/2026	\$56.25	\$10.35	\$12.00	\$12.60	\$0.00	\$91.20
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**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: PAINTER / TAPER (BRUSH, NEW) *</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.43	\$10.35	\$0.00	\$0.00	\$0.00	\$37.78
2	55.00	\$30.17	\$10.35	\$0.00	\$6.93	\$0.00	\$47.45
3	60.00	\$32.91	\$10.35	\$0.00	\$7.56	\$0.00	\$50.82
4	65.00	\$35.65	\$10.35	\$0.00	\$8.19	\$0.00	\$54.19
5	70.00	\$38.40	\$10.35	\$12.00	\$8.82	\$0.00	\$69.57
6	75.00	\$41.14	\$10.35	\$12.00	\$9.45	\$0.00	\$72.94
7	80.00	\$43.88	\$10.35	\$12.00	\$10.08	\$0.00	\$76.31
8	90.00	\$49.37	\$10.35	\$12.00	\$11.34	\$0.00	\$83.06
<b>Apprentice to Journeyworker Ratio: 1:1</b>							
PAINTER / TAPER (BRUSH, REPAINT) PAINTERS LOCAL 35 PAINTERS LOCAL 35 - ZONE 1	1/1/2026	\$52.91	\$10.35	\$12.00	\$12.60	\$0.00	\$87.86
<b>Apprentice: PAINTER / TAPER (BRUSH, REPAINT)</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.46	\$10.35	\$0.00	\$0.00	\$0.00	\$36.81
2	55.00	\$29.10	\$10.35	\$0.00	\$6.93	\$0.00	\$46.38
3	60.00	\$31.75	\$10.35	\$0.00	\$7.56	\$0.00	\$49.66
4	65.00	\$34.39	\$10.35	\$0.00	\$8.19	\$0.00	\$52.93
5	70.00	\$37.04	\$10.35	\$12.00	\$8.82	\$0.00	\$68.21
6	75.00	\$39.68	\$10.35	\$12.00	\$9.45	\$0.00	\$71.48
7	80.00	\$42.33	\$10.35	\$12.00	\$10.08	\$0.00	\$74.76
8	90.00	\$47.62	\$10.35	\$12.00	\$11.34	\$0.00	\$81.31
<b>Apprentice to Journeyworker Ratio: 1:1</b>							
PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.65	\$0.00	\$78.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.65	\$0.00	\$79.55
	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.65	\$0.00	\$81.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$0.00	\$79.07
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$0.00	\$80.07
	8/1/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$0.00	\$80.57
	12/1/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$0.00	\$82.31
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
For apprentice rates see "Apprentice- PILE DRIVER"							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PILE DRIVER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							

<b>Apprentice: PILE DRIVER</b>							
<b>Effective Date: 8/1/2024</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.11	\$10.08	\$0.00	\$2.53	\$0.00	\$37.72
2	55.00	\$30.68	\$10.08	\$0.00	\$5.07	\$0.00	\$45.83
3	70.00	\$39.05	\$10.08	\$11.62	\$7.60	\$0.00	\$68.35
4	80.00	\$44.63	\$10.08	\$11.62	\$10.14	\$0.00	\$76.47

**Apprentice to Journeyworker Ratio: 1:5**

PIPEFITTER & STEAMFITTER	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							

<b>Apprentice: PIPEFITTER &amp; STEAMFITTER</b>							
<b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$27.63	\$13.45	\$13.75	\$9.30	\$0.00	\$64.13
2	45.00	\$31.09	\$13.45	\$13.75	\$9.30	\$0.00	\$67.59
3	60.00	\$41.45	\$13.45	\$13.75	\$9.30	\$0.00	\$77.95
4	70.00	\$48.36	\$13.45	\$13.75	\$9.30	\$0.00	\$84.86
5	80.00	\$55.26	\$13.45	\$13.75	\$9.30	\$0.00	\$91.76

**Apprentice to Journeyworker Ratio: 1:3**

PIPELAYER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

PLUMBERS & GASFITTERS	9/1/2025	\$71.74	\$14.32	\$12.61	\$8.00	\$0.00	\$106.67
PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$73.89	\$14.32	\$12.61	\$8.00	\$0.00	\$108.82
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$76.04	\$14.32	\$12.61	\$8.00	\$0.00	\$110.97
	3/1/2027	\$78.19	\$14.32	\$12.61	\$8.00	\$0.00	\$113.12

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	8/30/2027	\$80.34	\$14.32	\$12.61	\$8.00	\$0.00	\$115.27
	2/28/2028	\$82.54	\$14.32	\$12.61	\$8.00	\$0.00	\$117.47
	9/4/2028	\$84.74	\$14.32	\$12.61	\$8.00	\$0.00	\$119.67
	3/5/2029	\$86.94	\$14.32	\$12.61	\$8.00	\$0.00	\$121.87
	9/3/2029	\$89.14	\$14.32	\$12.61	\$8.00	\$0.00	\$124.07
	3/4/2030	\$91.09	\$14.32	\$12.61	\$8.00	\$0.00	\$126.02

<b>Apprentice: PLUMBERS &amp; GASFITTERS</b>							
<b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.11	\$14.32	\$4.61	\$2.80	\$0.00	\$46.84
2	40.00	\$28.70	\$14.32	\$5.22	\$3.20	\$0.00	\$51.44
3	55.00	\$39.46	\$14.32	\$7.07	\$4.40	\$0.00	\$65.25
4	65.00	\$46.63	\$14.32	\$8.30	\$5.20	\$0.00	\$74.45
5	75.00	\$53.81	\$14.32	\$9.53	\$6.00	\$0.00	\$83.66

<b>Apprentice: PLUMBERS &amp; GASFITTERS</b>							
<b>Effective Date: 3/2/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.86	\$14.32	\$4.61	\$2.80	\$0.00	\$47.59
2	40.00	\$29.56	\$14.32	\$5.22	\$3.20	\$0.00	\$52.30
3	55.00	\$40.64	\$14.32	\$7.07	\$4.40	\$0.00	\$66.43
4	65.00	\$48.03	\$14.32	\$8.30	\$5.20	\$0.00	\$75.85
5	75.00	\$55.42	\$14.32	\$9.53	\$6.00	\$0.00	\$85.27

**Apprentice to Journeyworker Ratio: 1:2**

PNEUMATIC CONTROLS (TEMP.)	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

POWDERMAN & BLASTER	12/1/2025	\$49.60	\$10.15	\$9.50	\$9.65	\$0.00	\$78.90
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**Construction**

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
LABORERS	6/1/2026	\$51.15	\$10.15	\$9.50	\$9.65	\$0.00	\$80.45
LABORERS - ZONE 1	12/1/2026	\$52.65	\$10.15	\$9.50	\$9.65	\$0.00	\$81.95
	6/1/2027	\$54.25	\$10.15	\$9.50	\$9.65	\$0.00	\$83.55
	12/1/2027	\$55.85	\$10.15	\$9.50	\$9.65	\$0.00	\$85.15
	6/1/2028	\$57.53	\$10.15	\$9.50	\$9.65	\$0.00	\$86.83
	12/1/2028	\$59.20	\$10.15	\$9.50	\$9.65	\$0.00	\$88.50
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$49.70	\$10.15	\$9.50	\$9.65	\$0.00	\$79.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$51.25	\$10.15	\$9.50	\$9.65	\$0.00	\$80.55
	12/1/2026	\$52.75	\$10.15	\$9.50	\$9.65	\$0.00	\$82.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$37.97	\$16.05	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.83	\$16.05	\$13.25	\$3.25	\$0.00	\$71.38
	12/1/2026	\$39.78	\$16.05	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012) TEAMSTERS 25 (Metro) - Aggregate TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$0.00	\$57.56
READY-MIX CONCRETE DRIVER TEAMSTERS 25 (Metro) - Aggregate TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$0.00	\$61.57
RECLAIMERS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)	8/1/2025	\$53.53	\$13.28	\$12.67	\$9.03	\$0.00	\$88.51
ROOFERS LOCAL 33	2/1/2026	\$54.78	\$13.28	\$12.67	\$9.03	\$0.00	\$89.76
ROOFERS LOCAL 33							

Apprentice: ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)							
Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$13.28	\$6.52	\$9.03	\$0.00	\$55.60
2	60.00	\$32.12	\$13.28	\$12.67	\$9.03	\$0.00	\$67.10
3	65.00	\$34.79	\$13.28	\$12.67	\$9.03	\$0.00	\$69.77
4	75.00	\$40.15	\$13.28	\$12.67	\$9.03	\$0.00	\$75.13
5	85.00	\$45.50	\$13.28	\$12.67	\$9.03	\$0.00	\$80.48

Apprentice: ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.39	\$13.28	\$6.52	\$9.03	\$0.00	\$56.22
2	60.00	\$32.87	\$13.28	\$12.67	\$9.03	\$0.00	\$67.85
3	65.00	\$35.61	\$13.28	\$12.67	\$9.03	\$0.00	\$70.59
4	75.00	\$41.09	\$13.28	\$12.67	\$9.03	\$0.00	\$76.07
5	85.00	\$46.56	\$13.28	\$12.67	\$9.03	\$0.00	\$81.54

**Apprentice Notes**  
 \*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

**Apprentice to Journeyworker Ratio: 1:5**

ROOFER SLATE / TILE / PRECAST CONCRETE	8/1/2025	\$53.78	\$13.28	\$12.67	\$9.03	\$0.00	\$88.76
ROOFERS LOCAL 33	2/1/2026	\$55.03	\$13.28	\$12.67	\$9.03	\$0.00	\$90.01
ROOFERS LOCAL 33							

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							

Apprentice: SHEETMETAL WORKER							
Effective Date: 8/1/2025							
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
<b>Apprentice: SHEETMETAL WORKER</b>							
<b>Effective Date: 8/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
2	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
3	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
4	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
5	52.00	\$31.71	\$14.91	\$11.74	\$1.50	\$1.74	\$61.60
6	52.00	\$31.71	\$14.91	\$11.74	\$1.75	\$1.75	\$61.86
7	60.00	\$36.59	\$14.91	\$12.90	\$2.00	\$1.93	\$68.33
8	65.00	\$39.64	\$14.91	\$13.63	\$2.25	\$2.04	\$72.47
9	75.00	\$45.74	\$14.91	\$15.09	\$2.75	\$2.28	\$80.77
10	85.00	\$51.83	\$14.91	\$16.55	\$2.75	\$2.49	\$88.53
<b>Apprentice: SHEETMETAL WORKER</b>							
<b>Effective Date: 2/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
2	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
3	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
4	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
5	52.00	\$32.72	\$14.91	\$11.66	\$1.50	\$1.74	\$62.53
6	52.00	\$32.72	\$14.91	\$11.66	\$1.75	\$1.75	\$62.79
7	60.00	\$37.76	\$14.91	\$12.84	\$2.00	\$1.93	\$69.44
8	65.00	\$40.90	\$14.91	\$13.58	\$2.25	\$2.04	\$73.68
9	75.00	\$47.20	\$14.91	\$15.06	\$2.75	\$2.28	\$82.20
10	85.00	\$53.49	\$14.91	\$16.53	\$2.75	\$2.49	\$90.17
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$0.00	\$79.82
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$0.00	\$80.82
	8/1/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$0.00	\$81.32
	12/1/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$0.00	\$83.06
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 550 SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1	1/1/2026	\$72.05	\$13.45	\$7.45	\$18.25	\$0.00	\$111.20





**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: TERRAZZO FINISHERS</b>							
<b>Effective Date: 2/1/2026</b>							
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
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
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
TEST BORING DRILLER LABORERS	12/1/2025	\$52.70	\$10.15	\$9.50	\$9.80	\$0.00	\$82.15
LABORERS - FOUNDATION AND MARINE	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	12/1/2025	\$48.82	\$10.15	\$9.50	\$9.80	\$0.00	\$78.27
LABORERS - FOUNDATION AND MARINE	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"							
TEST BORING LABORER LABORERS	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.80	\$0.00	\$78.15
LABORERS - FOUNDATION AND MARINE	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"							
TRACTORS/PORTABLE STEAM GENERATORS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$0.00	\$80.11
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$0.00	\$81.11
	8/1/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$0.00	\$81.61
	12/1/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR LABORERS	12/1/2025	\$60.93	\$10.15	\$9.50	\$10.25	\$0.00	\$90.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$62.48	\$10.15	\$9.50	\$10.25	\$0.00	\$92.38
	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) LABORERS	12/1/2025	\$62.93	\$10.15	\$9.50	\$10.25	\$0.00	\$92.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$64.48	\$10.15	\$9.50	\$10.25	\$0.00	\$94.38
	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

**Construction**

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
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"							
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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"							
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VAC-HAUL	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77
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WAGON DRILL OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
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WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
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WASTE WATER PUMP OPERATOR	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
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WATER METER INSTALLER	9/1/2025	\$71.74	\$14.32	\$12.61	\$8.00	\$0.00	\$106.67
PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$73.89	\$14.32	\$12.61	\$8.00	\$0.00	\$108.82
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$76.04	\$14.32	\$12.61	\$8.00	\$0.00	\$110.97
	3/1/2027	\$78.19	\$14.32	\$12.61	\$8.00	\$0.00	\$113.12
	8/30/2027	\$80.34	\$14.32	\$12.61	\$8.00	\$0.00	\$115.27
	2/2/2028	\$82.54	\$14.32	\$12.61	\$8.00	\$0.00	\$117.47
	9/4/2028	\$84.74	\$14.32	\$12.61	\$8.00	\$0.00	\$119.67
	3/5/2029	\$86.94	\$14.32	\$12.61	\$8.00	\$0.00	\$121.87
	9/3/2029	\$89.14	\$14.32	\$12.61	\$8.00	\$0.00	\$124.07
	3/4/2030	\$91.09	\$14.32	\$12.61	\$8.00	\$0.00	\$126.02
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.

# **BID DOCUMENTS**



# **PROJECT MANUAL**

## **Design Specifications**

*2026 Roof Replacement Project*

**EVERETT POLICE DEPARTMENT**

**45 Elm Street**

**Everett, MA 02149**

*Created for:*

**City of Everett**

**484 Broadway, Room 14**

**Everett, MA 02149**

**Designer/Owner's Representative:**

ARM Consultants LLC  
PO Box 4, Chester, NH 03036  
(603) 234-6030  
info@armroofs.com

**Created on: 12/12/2025**

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Section 23 00 00 - Temporary Mechanical Disconnects

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ES-1-UL-31 Metal profile

Everett Police Station  
45 Elm Street  
Everett, MA 02149  
c/o STV/DPM



**Roof Plans and Detail Drawing Section:**

Title Page (**RP-001**)

Code Review Sheet (**RP-002**)

Roof Plan (**RP-101**)

Roof Detail Drawings (**RP-501 thru RP-503**)

**SECTION 01 11 13**

**WORK COVERED BY CONTRACT  
DOCUMENTS**

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- SECTION 01 11 13 -

**WORK COVERED BY CONTRACT DOCUMENTS**

**PART 1 GENERAL**

**1.1 SCOPE OF WORK**

- A. Provide labor and materials necessary to remove the designated existing materials and install the new specified roofing and related components for **Everett Police Department**, located at **45 Elm Street Everett, Massachusetts, 02149**.
- B. SUMMARY OF WORK**
1. The work involves removing all gravel and pea stone surface, designated roofing materials, flashings, insulation, deteriorated wood blocking, obsolete units and other related items.
  2. The existing structural steel roof deck will be inspected and repaired, on a unit price basis (Base bid quantity with additional ADD/DEDUCT pricing).
  3. The existing wood blocking will be inspected and, if necessary, replaced on a Unit Price basis (Base Bid quantity with additional ADD/DEDUCT pricing).
  4. **Low Slope preparation involves removal and legal disposal of:**
    - a. **All gravel and pea stone surface shall be removed via vacuum. Verify work hours prior to providing a price.**
    - b. **All built up roof membrane, roof flashings and accessories.**
    - c. **All wood and wood fiber cants in place under the existing roof insulation or around the perimeter blocking.**
    - d. **All existing fiberglass and polyisocyanurate insulation.**
    - e. **All blocking and curbs for the existing units if they are not high enough for the new insulation heights.**
    - f. **All existing flashings are to be removed in their entirety unless otherwise shown in the detail drawings. Installing new membrane adhered to existing flashings is not permitted.**
    - g. **All sheet metal edge.**
    - h. **All counter flashings and metal aprons designated for removal.**
    - i. **All designated obsolete equipment.**
    - j. **All other obsolete equipment as shown on the roof plans RP-101.**
    - k. **All pitch pockets shall be removed completely.**
    - l. **All temporary mechanical disconnects, and reconnections as required to install proper flashings at each unit. This includes but is not limited to adjusting duct work to units, adding height to curbs etc.**
    - m. **All temporary electrical disconnects and reconnections as required to install proper flashings at each unit.**
    - n. **All existing rusted, damaged or deteriorated structural steel roof deck.**
    - o. **All existing damaged or deteriorated wood blocking.**

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- p. All roof drains and accessories in their entirety. This includes up to 5'-0" of interior piping.
  - q. All existing skylights and associated curbs designated for removal and disposal.
  - r. All pipe frame railing and ladders shall be removed, stored, painted and reinstalled in the same locations. Carry this cost and the cost to replace all connection pins and/or screws in the base bid.
  - s. Remove all existing string lights around roof perimeter and store in a location designated by the Everett Police Department.
5. As part of the preparation, walk the entire site and take pictures of all unsatisfactory conditions which include but are not limited to all items to be reused, or site conditions near areas where the work will be conducted. The process shall also be utilized for the onsite foreman to bring forth conditions they feel are not as designed or not capable of being completed. These pictures, with descriptions shall be provided to the Owner and Owner's Representative a minimum of 48 hours prior to the start of work. All items not shown will be considered the contractor's responsibility for damage. The work and materials needed to repair the items shall be completed, to the Owner's satisfaction, at no additional cost to the Owner or Owner's Representative.
  6. Any unit, regardless of size, that is required to be moved for installation of new roofing are to be included in the base bid. This includes evacuations and disconnects of all electrical, plumbing, duct work or other items, as required, to remove the equipment. The work also includes all reconnections of the aforementioned items as well as all testing as required by the manufacturer for the unit and/or the building facilities team to complete this work.
  7. Include all costs of crane lifts, labor and police details required to load, unload, and remove trash as required.
  8. All asbestos containing material as shown in the reports in section 02 26 23 shall be treated and disposed of in accordance with all state and federal regulations. Any flashings listed are considered all materials 14" in from edges and 14" around all units, pipes etc. that are flashed into the roof assembly. See the roof plan for additional information and locations.
  9. Installation includes:
    - a. Membrane:
      - i. .090, fully adhered, non-reinforced reinforced, black, EPDM.
      - ii. Utilize "roll on" bonding adhesive or approved equal. Spray adhesives shall not be allowed. No self-adhered membranes shall be allowed that do not have a minimum of a 25mil factory applied taped seam and prior approval from the designer of record.
      - iii. Provide all membrane attachment enhancements, as required by the selected membrane manufacturer's published literature at all overhead door locations.
      - iv. Provide water block sealant behind all cameras and antennas mounted to the perimeter walls.
      - v. For the electrical boxes and ladders installed on the project, shall be removed, water block installed behind, and all sides shall be liquid flashed into the new membrane to prevent UV degradation.
      - vi. Field seams and flashings:
        - (i) All seams to be 6".
        - (ii) No seam shall be within 4'-0" of the roof drains. If there are seams in these locations, they will be a "balloon patch" installed and the perimeter of the patch stripped in with 6", self-adhering, cured EPDM cover strip flashing.

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- (iii) No Exposed or visible glue extending more than ¼” beyond seams will be acceptable. Areas will need to be cleaned prior to acceptance.
  - (iv) Any target patch installed at drains shall have all 4 sides stripped in.
  - (v) All seams “bucking” or in the opposite direction of water flow will be stripped in with 6” material regardless of manufacturer’s acceptance.
  - vii. Provide liquid flashings at all miscellaneous shaped steel supports going through the membrane. Kempersol BRM or approved equal.
  - viii. All roof drain seals shall receive no less than one full tube of water cut off mastic along the groove of the drain bowl.
  - ix. All 10’-0” lengths of termination bar will receive no less than 1/2 tube of water cut off mastic.
  - x. All existing flashings shall be removed in their entirety from the existing walls, curbs, units, and all other penetrations where they would be originally installed. The new flashings will be installed to new or existing, cleaned, and primed surfaces. In no case shall the new flashings be installed to the old flashing regardless of the manufacturer's acceptance.
  - xi. All membrane angle changes shall require termination and membrane securement. This is regardless of height and acceptance from the membrane manufacturer. This can be achieved through reinforced under membrane attachment strip (RMA, Russ strip or Fingers) or terminating the membrane with screws and 2” plates, then installing the upper membrane over the lower membrane and welding or gluing the seams.
  - xii. All fasteners for the membrane or accessories shall be sized to only penetrate the upper flute by 1”. The underside of the decking should be surveyed prior to any installation to ensure that no interior components are damaged. Coordinate this work with the facilities team on site everyday of roofing material installation.
- b. Insulation:
- i. Project specific insulation assembly make up as follows:
    - (i) New 1/2” High Density polyisocyanurate insulation board. All high density polyisocyanurate boards to be Type II Class 2 fire rated (coated glass facer) Grade 1. All HD boards shall be a minimum of 100 psi and 1/2” thick.
    - (ii) New single layer of 2.5” polyisocyanurate insulation board (20 PSI) Coated Glass Facer
    - (iii) New single layer of 2.5” polyisocyanurate insulation board (20 PSI) Coated Glass Facer
  - ii. All insulation to be secured with mechanical fasteners to the structural decking.
  - iii. For mechanically fastened insulation boards, all fasteners shall be sized to only penetrate the upper flute by 1”. The underside of the decking should be surveyed prior to any installation to ensure that no interior components are damaged. Coordinate this work with the facilities team on site everyday of roofing material installation.
  - iv. HD board shall be installed over all crickets, saddles, sumps, or any other insulation types as a cover board.
  - v. Provide new 1/2” tapered insulation boards between all drainage points as shown on the drawings.
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- vi. All pipes, angles and other supports shall be cleaned and scraped of all bituminous material prior to the new roof being installed.
  - vii. Stagger all joints a minimum of 6" in each direction.
  - viii. All new boards shall sit flush with the existing boards with a +1/16" deviation allowed.
  - ix. Provide new 1/2" per foot tapered insulation on the high side of all roof curbs that are 18" wide and greater.
  - x. Provide new 1/2" per foot tapered insulation between sleepers as required to promote proper drainage.
  - xi. In no case shall the base layer be 1" thick insulation directly over the steel decking as 1" thick polyisocyanurate insulation boards are not capable of spanning the flutes of the new decking without damage.
  - xii. Provide new 1/2" per foot tapered 8'-0" x 8'-0" drain sumps around all roof drains. See tapered profiles on the roof plan for additional information.
  - xiii. Utilize "great stuff" or other approved frothing foam adhesive to seal off all gaps in the new roof insulation at the edges, around penetrations or other items that are 1/4" wide and greater. All insulation boards are required to be installed properly. This is only to occur as an infill around items not a wholesale repair between insulation boards. After the installation of the foam, it will be smoothed out to be no higher than 1/16" above the roof deck. The quantity of 100 linear feet of coverage will be carried in the base bid amount. This will not be allowed on the top layer of the installation.
- c. Provide a 40-mil, self-adhering, rubberized asphalt factory laminated, composite, vapor barrier, suitable for metal decking, as specified on the structural decks and up the rising walls to create a 100% watertight vapor barrier. All penetrations, holes (including roof drains), or other openings shall be properly sealed per the manufacturer's recommendations prior to the installation of the insulation boards. Utilize manufacturer's primer to install this vapor barrier (basis of design Carlisle VapAIR Seal MD).
- d. New rough carpentry:
- i. Any damaged or deteriorated wood blocking shall be replaced "in kind". See section 06 10 00 for additional information.
  - ii. While attention has been paid to the blocking heights during the design and detailing of this project, there may be unforeseen field/site conditions where the blocking as detailed will not align with the newly installed insulation boards. It is the intent of these drawings and design package for the wood blocking to finish flush with the newly installed adjacent insulation to the greatest extent possible. Any deviation will allow water to flow to the drainage with no obstructions. All deviations will have new membrane terminations installed regardless of the membrane manufacturer's requirements for height differences and detail drawings in these construction documents.
  - iii. Provide new wood blocking or other shims, as shown in the detail drawings and as described in the Rough Carpentry (Section 06 10 00), of this specification.
  - iv. Provide shims, as shown, in the Detail drawings to prevent water build up at all roof edges.
  - v. Provide new 1/2" APA rated CDX plywood sheathing at all edge details as shown in the detail drawings. Blocking to finish flush with the new roof insulation package.
  - vi. Provide new plywood to cover all bituminous material, existing glues or other contamination at all curbs and rising walls.

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- vii. Provide new 2"x 6" sleepers and curbs under the existing units. The new sleepers and curbs shall provide a minimum of 10" above the up-slope side of the new membrane. This is to accommodate the new crickets behind most units. All of these shall be attached directly to the structural decking per the specification.
  - viii. Reset, align, or otherwise manipulate the perimeter sheathing to provide a straight edge at all elevations.
  - ix. Carry refastening 100% of the existing blocking to meet or exceed the FM Global Data Sheets 1-28, 1-29 and 1-49.
- e. Replace the existing roof drains with:
- i. New cast iron strainers.
  - ii. New hardware.
  - iii. New cast iron clamping ring.
  - iv. New cast iron bowl and pan
  - v. Provide new no hub connections as required per the Plumbing Code.
  - vi. Provide up to 5'-0" of interior plumbing and connection to the existing cast iron pipes.
  - vii. All plumbing work to be completed by a licensed plumber in the state where the project is located.
  - viii. Clear drains 100' prior to start of work to ensure they are functioning properly.
  - ix. Clear drains 100' after the entire roof is completed to ensure they are functioning properly and no debris entered the system during the roof installation process.
- f. New thru wall scuppers at existing locations shown on the plan:
- i. Provide new scuppers and downspout, as shown in the Detail drawings.
  - ii. New downspouts 3"x 5" made from .040 Kynar finish aluminum and are to be 4-sided with the slip joint side.
  - iii. Ensure that the downspouts do not block windows or spill onto walkways below.
  - iv. All seams to be coated with Kemper or similar, fabric reinforced, approved, material and be watertight.
  - v. Scuppers to be constructed from .040 Kynar finish aluminum.
  - vi. Provide scuppers and downspout brackets, as shown on the Detailed Drawings, on all required roof areas.
- g. Roof hatch and accessories:
- i. Rehabilitate the existing roof hatch with new hardware including pistons.
  - ii. The surface of the roof hatch shall be scraped clean of dirt, debris, and/or any contaminants. The areas shall be further prepared to receive the new coatings by either scraping and sanding the areas of rust to new clean metal or providing an initial coating of Corrozeal primer. The prepared area shall meet or exceed the requirements list above and the paint manufacturer's minimum requirements for preparation.
  - iii. Install new aluminum informational plate to the interior side of all roof access doors and hatches at eye level (Required information per Section 07 72 33).

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- iv. Provide new OSHA compliant “ladderport” (or approved equal) hatch guard with grab bars and self-closing gate across front opening. No plastic railing will be acceptable. Touch up paint as required.
  - h. Provide all 3” foam tubes, Roxul batt insulation and batt insulation supports as required for all expansion joint locations.
  - i. Provide all new OMG pipe guard adjustable strut model and/or EZ Series pipe supports (depending on pipe height off of the roof) at the existing conduit lines. The lines shall have no unsupported length greater than 8’-0”. Provide an EPDM strap through the supports to limit the possible movement of the units.
  - j. Provide new 12” wide aluminum cable trays (Eaton B-line or approved equal) for the existing fiberoptic lines. The lines shall have no unsupported length greater than 8’-0”. Install sleepers to secure tray to the decking at intervals of 16’-0” O.C.
  - k. Provide new extensions for the existing plumbing vents, as required, to keep them a minimum of 12” above the up-slope side of the finished roof height. All connections shall be to code and completed by a licensed plumber in the state where the project is located.
  - l. Paint all non-galvanized and non-structural exposed metal with brush grade paint (Plumbing vents, ladder, roof hatch, large gooseneck exhaust vents etc.) in accordance with section 09 91 13.
  - m. Coordinate moving the FAA and Emergency Management Antennas during the project with the City of Everett and applicable contractors.
  - n. Adjust the main electrical line to accommodate the new roof thickness.
  - o. Provide 48-hour notice to the building facilities team (Kris Gaff) prior to the removal of the cameras and antenna attached to the edge metal.
  - p. Access Ladders:
    - i. Install existing OSHA compliant roof access ladder currently stored on the low roof area per detail drawing.
    - ii. Install roof ladder and hardware in accordance with OSHA standards.
    - iii. The fasteners used for securing the ladder to the exterior block wall shall be 3/8” diameter epoxy anchors with lock washers and nuts. All hardware to be A307 or better. The fasteners shall be installed at each support to the exterior wall assembly. Install all components per the manufacturer’s recommendations.
    - iv. Ladder to be located on the roof as shown on the roof plan.
    - v. Ladders should be secured to both the decking and the wall as shown in the detail drawings.
    - vi. Provide fall protection safety rails with bases and new slip sheets at the top of the ladder as required by OSHA and shown on the roof plan.
  - q. Manufacturer’s 30”x 30” wide walkway pads in locations, as shown on the roof plan and around all four sides of serviceable equipment.
  - r. Concrete walkway pads:
    - i. In a pattern shown on the Roof plan.
    - ii. At the top and bottom of all ladders and roof access points as shown on the roof plan.
    - iii. All pavers to be installed on manufacturer’s walkway pad.

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- s. **Per the detail drawings provide new shop fabricated sheet metal accessories and metal edge assemblies in locations as shown in the contract documents. All materials shall be created by a Massachusetts Certified Sheet Metal Journeyman in a profile that has been certified ES-1 and tested per the NRCA (attached in Appendix A). Do not install these items until the mockup has been approved by the Owner or the Owner's Representative.**
  - t. **New sheet metal accessories and metal edge assembly as designated and detailed in the contract documents. All materials shall be certified ES-1 shop fabricated. (NRCA edge detail UL-31.)**
  - u. **At all RTU locations provide new 4-1/8" x 3-1/2" 90-degree corner brace, 16-gauge galvanized steel brackets with reinforcing ribs to attach the RTUs to their curbs per the International Mechanical Code. Provide 2 #12 self-tapping, hex head fasteners per side of the brace for attachment. Provide one clip for every 4 square feet of unit footprint.**
  - v. **At all Fan Unit curbs provide (2) new #12 grommets screws per side of unit. Fastening to meet wind uplift requirements.**
  - w. **New metal flashings in accordance with Specifications and Detail drawings.**
  - x. **Miscellaneous caulking and sealants.**
  - y. **There will be no termination bar exposed at the end of the project. All termination bars shall be covered by a counter flashing or blind receiver.**
  - z. **Fall Protection:**
    - i. **Non-penetrating Guardrail system including:**
      - (i) **Weighted base plates with membrane manufacturer's slips sheets under.**
      - (ii) **Tube steel railing sections meeting OSHA requirements.**
      - (iii) **Color to be customer choice of standard colors.**
      - (iv) **See layout as shown on the roof plan.**
    - ii. **Fall Restraint Cable System (for ladder):**
      - (i) **Provide Miller glideloc stainless steel or approved equal**
      - (ii) **Provide fall protection gate at the top of the ladder as required by OSHA.**
10. The project shall comply with roofing manufacturer's requirements for 30-year NDL full system warranty and 72 MPH wind warranty. **This warranty shall include any puncture add on that is available by the chosen manufacturer.**
11. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and specification Section 07 53 23:3.6, for more information).
12. All penetrations, curbs, and other roof mounted units may not be shown on the roof plans. While every effort has been made to coordinate this work, the roofing contractor is responsible for conducting as accurate inventory of the actual field conditions and carrying the costs associated with completing the work as outlined in the contract documents.
13. The contractor is responsible for meeting all of the requirements for the FM data sheet 1-49.
- C. Related Documents:
- 1. Cover Page (RP-001)
  - 2. Code Compliance Page (RP-002)
  - 3. Roof Plans (RP-101)

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4. Detail Drawings (RP-501 Through RP-503)

- D. The drawings indicate and show the limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other, and both shall be followed to complete the work.

## 1.2 QUALIFICATIONS OF SUPERINTENDENTS

- A. Contractor shall supply statement of qualifications outlining experience and technical expertise relative to the Project. The Owner shall have the right to review the qualifications of the proposed superintendent and foreman. The Owner can ask for a replacement of either if, in the Owner's opinion, the person proposed does not meet the qualifications that the project will demand.
- B. This foreman shall be on the job site at all times while work is in progress, including overtime operations by the Contractor's forces or by subcontractors.
- C. No changes in the foreman or superintendent position shall be made without the Owner's prior approval.
- D. The same foreman who was in charge during the general progress of the work shall oversee the completion of all punch list items.
- E. The foreman shall have a 30-hour OSHA certification.
- F. The successful company shall have a current Construction Supervisors License in the state where the project is located.

## 1.3 (Leave highlighted for now) USE OF SUBCONTRACTORS

- A. **Roofing subcontractors are allowed on the project provided the company and owner of said company are brought to the attention of the Owner and Owner' Representative prior to the start of work.**
- B. **If a subcontractor is utilized, during the submittal process, all membrane manufacturer's licenses, certifications, or training course information must be submitted for review. If no licenses, certifications or training information exists about the individuals (not the company installing) that will be performing the work, the "Prime Contractor" shall, at their sole expense, arrange for the membrane manufacturer to have a technical service representative (no sales people) on site the first 3 days of installation to provide training and oversight of all facets of the installation to provide a finished roof area (finish flashings, tie ins, etc.).**
- C. **Additionally, if a subcontractor is being utilized, the "Prime Contractor" must provide documentation that all employees working on the project have completed the "Prime Contractor's" safety trainings within the last 6-months. If no training documents can be provided, these contractors are not allowed to work on this project.**
- D. **The subcontractor must be able to clearly communicate to the Owner, Owner's Representative, and tenants at any given time without the use of phone or other electronics. The foreman must be able to accurately communicate with their subordinates also without the use of electronic devices.**
- E. **Full time oversight by a qualified individual from the "Prime Contractor" is highly recommended.**
- F. **The "Prime Contractor" must have a legal and enforceable contract with all subcontractors that will be submitted as part of the submittal process. The costs can and should be redacted. This contract shall provide the Owner and the Owner's Representative all rights, permissions and protections as the UCC (Uniform Commercial Code) as well as what is outlined in this entire specification and drawing package.**

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#### 1.4 QUALITY CONTROL

- A. All materials shall be new unless listed as to remain from the existing building. This includes items such as infill insulation in an existing system.
- B. Contractor shall:
  - 1. Be experienced in the specified roof system to the satisfaction of the Owner and Owner's Representative.
  - 2. Be approved by Owner.
  - 3. Be certified applicator of roof system manufacturer and can show three projects within a 50-mile radius completed in the past five years that have been completed by the contractor of similar design.
  - 4. Be licensed in the state and appropriate county to complete the work, as specified.
  - 5. Be approved to provide all low slope warranties, as specified.
- C. Jobsite Inspector:
  - 1. A Job Site Inspector may be present throughout critical phases of the work. Presence of the Jobsite Inspector in no way relieves or lessens the responsibility of the contractor to perform the work per specifications. The Jobsite Inspector is the Owner's Representative and has the authority to stop roofing operations if he/she feels that the work is not in accordance with the specification or good roofing practice. **If such a stoppage occurs the contractor shall make the roof watertight until any dispute is resolved.**
  - 2. The Contractor must notify the Owner's Representative as to the working schedule on a daily basis. Ample notification must be given to accommodate inspection personnel.
- D. Random sampling:
  - 1. Roofing material:
    - a. During the course of the work the Owner's Representative may require samples of materials being used at job site and submit them to an independent laboratory for comparison to specified material.
    - b. Should test results prove that a material is not functionally equal to specified material, or that coverage/application rates are not as specified:
      - i. Contractor shall pay for all testing.
      - ii. Roofing installed and found not to comply with the specifications shall be removed and replaced with no change in the contract price.
- E. Roofing Material Manufacturer site inspections:
  - 1. The roofing Contractor shall arrange for the roofing material manufacturer to provide Technical Field Representative to be on-site to observe the work, make corrective recommendations and provide written field reports to the Owner's Representative. The manufacturer's Technical Field Representative shall be on-site as indicated below:
    - a. At any time where the roofing Contractor, Owner or Owner's Representative feels that a technical, material or installation problem exists and that it could compromise the integrity of the roof assembly.
    - b. Final Inspection.
    - c. All field inspection and Final inspection reports generated by the roofing material manufacturer will immediately be distributed to the Owner's Representative.
- F. Pre-Award Meeting (if required by the owner):

1. After the bids are received, the Owner and Owner's Representative, at their discretion, may conduct a pre-award meeting with bidders selected by the Owner.
2. The purpose of the pre-award meeting is to establish:
  - a. The contractor's approach to this specific project.
  - b. The anticipated manpower being provided by the contractor for the project.
  - c. The anticipated production rate the contractor's crew is expected to make per day.
  - d. Crew size
  - e. Mobilization date
  - f. All other factors deemed by the Owner or the Owner's Representative as pertinent to this specific project.
3. If a pre-award meeting is not conducted, all of the above information shall be addressed during the pre-construction meeting.

## 1.5 GENERAL CONDITIONS

### A. Contractor's licensing law:

1. Only the Bids of Contractors licensed in accordance with all applicable laws and operating in accordance with 01 11 13:1.4: A will be considered. Contractor shall ensure that all Subcontractors are licensed in accordance with all laws before submitting his/her Bid. (No roofing sub-contractors.)
2. In a binder, kept on site, a copy of the appropriate license of all operators, from all contractors, utilizing hoisting or lifting equipment.
3. In a separate binder, to be kept on site, a copy of all Manufacturer's Safety Data Sheets shall be stored.

### B. Examination and bidder representation:

1. Each bidder, by submitting his Bid, represents that he has read and understands all Contract Documents and that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed. Contractors will not be given extra payments for conditions that can be determined by thoroughly examining the site and Contract Documents.

### C. Occupational Safety and Health Act:

1. The Contractor represents that he is conversant with the Occupational Safety and Health Act and regulations for construction promulgated there under and agrees to comply with all such regulations applicable to the performance of the Work. The Contractor accepts the affirmative duty of enforcing those investigations by Federal Safety and Inspectors at the Contractor's workplace at the job site and of the outcome of any such inspection. The Contractor assumes exclusive responsibility for, and agrees to indemnify the Owner, Owner's Agent, and the Owner's Representative against all consequences of any violations of those regulations by the Contractor, including the payment of any fines, penalty and interest assessed in connection therewith and any court costs and attorneys' fees incurred by the Owner, Owner's Agent, or Owner's Representative.

### D. Inspection of site and contract documents:

1. Contractor represents that it has carefully inspected the Contract Documents and examined the Drawings and Specifications and is familiar with and has satisfied itself as to the nature, location, and amount of the Work, the Contractor's access thereto and ability to perform the Work, the terms of this Contract and all incorporated documents as well as the quality, quantity, and availability of labor, materials, equipment, and facilities and other items required for the performance of the Work and the limiting physical and other conditions which may be encountered in the performance of the Work, and

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- assumes all risks there from. Additionally, it is expected that the Contractor has completed this type of Work in the past and has anticipated the cost of all related work necessary to complete the Work at the highest possible quality standards and included that cost in the bid.
2. Prior to submitting a bid, the Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner's Representative, any (1) error, inconsistency, or omission occurring therein or (2) any failure to comply with applicable laws, ordinances, rules, regulations, codes, or orders of any public authority that come to the attention of the Contractor or would have come to its attention with the exercise of due care. If the Contractor performs, or allows any subcontractor to perform, any of the Work knowing, or when with the exercise of due care it would have known, it to be subject to an error, inconsistency, or omission in the Drawings and Specifications, or contrary to applicable laws, ordinances, rules, regulations, codes, or others of any public attorney, and fails to give the Owner's Representative notice thereof prior to performance thereof, the Contractor shall bear all costs arising there from.
  3. Prior to submitting a Bid, Contractor shall conduct a comprehensive inspection of the building interior and exterior to accurately determine the conditions present, Contractor shall conduct extensive test cut sampling of the roof and related items to evaluate the conditions present including but not limited to:
    - a. Wood blocking existence, thickness and condition.
    - b. Existing flashing heights and how it relates to the new insulation thicknesses.
    - c. Condition, slope and profile of the roof deck.
    - d. Edges.
    - e. Flashing height at all curbs and walls.
    - f. Required fastener length as it relates to insulation thicknesses.
    - g. Deck repair requirements.
    - h. Existing insulation thickness at the field of the roof.
    - i. Heights of existing electrical conduits, mechanical units and duct work and the possibility of raising these items to accommodate the new insulation thickness.
    - j. Fall protection installation.
    - k. Ability to access the proposed laydown area with a crane of sufficient size to load the roof and remove debris with dumpster areas.
- E. Miscellaneous:
1. Contractor shall be responsible for all financial obligations to obtain all necessary permits and licenses and comply with all statutes, ordinances, rules, regulations, and orders of any governmental or quasi-government authority applicable to the performance of the Work and be responsible for and correct any violations thereof. The Contractor shall provide such evidence of compliance with the foregoing as the Owner or Owner's Representative may request.
  2. Contractor shall, at its sole cost and expense, remedy all damage to the Work or property of others caused by Contractor, including but not limited to property of the Owner's to the satisfaction of the Owner.
  3. The Contractor shall be as fully responsible to the Owner for the acts and omissions of its subcontractors, their agents and persons directly or indirectly employed by them, and other persons performing any of the work as it is for the acts and omissions of persons directly employed by Contractor.

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4. It is the Contractor's responsibility during the course of the Work to bring to the attention of the Owner's Representative any defective membrane, insulation or deck discovered where not previously identified.

F. Procedures:

1. The work shall be performed subject to, and in strict accordance with, the following requirements:
  - a. The Contractor shall submit work plans, shop drawings, samples and other submittals required under the Contract Documents within 2 weeks from notice of award from the building Owner or the Owner's Representative and in a manner that will not cause delay in the progress of the work of the Contractor. No extension of time shall, in any event, be granted for delay by the Contractor in preparing drawings or in securing approval of the Owner's Representative thereto where such drawings are not properly prepared or when the Contractor, by the exercise of reasonable diligence and judgment, could have anticipated the delay. No portion of the Work requiring shop drawings, samples or other submittals shall commence until the Contractor has submitted, and the Owner's Representative has approved such submittals.
2. The Contractor, in carrying out its Work, shall take all necessary precautions to properly protect the finished and unfinished work of other trades and adjacent property from damage caused by its operations and further agrees to pay the Owner for any damages or delay that may be caused to such work by the Contractor.
3. The Owner and Owner's Representative reserve the right to perform Work related to the project with its own forces and to award separate contracts in connection with other portions of the project. The Contractor shall cooperate with the Owner and the Owner's Representative and any such separate contractors in avoiding interference and shall participate in the preparation of coordinated drawings as required by the Owner or as otherwise appropriate, specifically noting and advising the Owner's Representative of any interference. The Contractor shall use labor force compatible with those of any separate contractors, so the Work may proceed without interference by labor disputes.
4. The Contractor, upon request by the Owner's Representative, shall furnish weekly, type written progress reports on the Work and such other periodic reports as the Owner's Representative may require, including information of the status of materials and equipment that may be in the course of preparation or manufacture.
5. The Contractor specifically agrees that it is responsible for the protection of its Work and the interior of the building until final completion and acceptance thereof by the Owner, and that it will make good or replace, at no expense to the Owner, any damage that occurs prior to said final acceptance.
6. The Contractor shall have the right to store tools, equipment, materials and supplies, only as, when and where directed by the Owner or Owner's Representative. The Contractor shall only use such access to and from the site as specifically designated by the Owner. The Contractor, its Subcontractors and their agents and employees shall park only in those areas designated by the Owner. The Contractor shall be liable for all damages resulting from the use of entry upon private property whether with or without the consent of the Owner or Owner's Representative; and the Contractor shall defend and hold harmless the Owner and Owner's Representative from any and all claims and liabilities with respect thereto.
7. The Contractor shall properly store and protect its equipment, tools and all materials delivered to the site but not incorporated into the Work; and any loss thereto shall be borne solely by the Contractor.
8. The Contractor shall furnish sheds, portable toilet facilities, scaffolding, ladders, hoists, temporary protection and similar general condition items required to perform the Work. All tools shall be neatly stored at the end of each day.
9. Contractor acknowledges that the Owner, its tenants, and their respective guests and invitees will continue to occupy the existing buildings of the property and the Contractor shall (1) not interrupt or interfere with access to the buildings compromising the property and the normal business of the

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- property, (2) limit construction operations to methods and procedures which will not adversely and unduly affect the normal business operations of the property and, (3) take all appropriate steps to minimize noise, drafts, odors, air pollution, ambient discomfort, poor lighting, hazards and other undesirable effects and conditions. None of the foregoing shall justify an extension of the Contract time or an increase in the Contract Sum.
10. If the Owner or Owner's Representative determines that the roofing contractor's superintendent, Foreman, crew or sub-contractor's actions are in any way detrimental to the project, quality/quantity of work or not acting in the best interest of the Owner they will have the right to have such individual(s) removed from the project and the property. Contractor shall replace at no cost to the Owner.
  11. The contractor is responsible to ensure the segregation of their employees and sub-contractors from the employees and visitors of the Owner. This may include but is not limited to, having their employees and contractors shuttled to and from the site from off-site parking lots. Providing an exterior means to allow for the employees and contractors to access the roof without entering the building is required.
- G. Work to be performed:
1. Except as otherwise provided herein, Contractor shall furnish all labor, materials, tools, equipment, supervision, and services necessary to execute and complete the work identified and described in these specifications. The work shall be performed by the Contractor in a good and workman-like manner strictly in accordance with the Contract Documents.
  2. Do not sub-contract roofing operations.
- H. Removal of debris:
1. Removal of rubbish and debris caused by the Contractor's Work shall be done by the Contractor whenever required by the Owner or Owner's Representative. If such removal is not done by the Contractor as directed, the Owner or Owner's Representative may do so at the Contractor's expense. The Project site shall be maintained in an orderly and clean condition and the Contractor shall leave the Project site, at the completion of the Contractor's work, free of all rubbish and debris caused by the Contractor, and in a condition satisfactory to the Owner. The Owner and Owner's Representative reserve the right to cause all unidentifiable debris to be removed from the Project site and allocate the cost thereof, by way of back charge or otherwise, among the responsible parties.
  2. The site shall be monitored periodically during the day and kept free of any debris.
- I. Regulatory and permit requirements:
1. 10th Edition of the Massachusetts Building Code
  2. (IEBC) 2021 International Existing Building Code.
  3. (ASCE) 7-16 American Society of Civil Engineers
  4. (IMC) 2021 International Mechanical Code.
  5. Contractor is responsible for acquiring all building permits to satisfy Federal, State and Local requirements.
  6. Contractor is responsible for acquiring the necessary approvals from the Fire Department, if applicable.
  7. OSHA – United States Department of Labor

## 1.6 SITE CONDITIONS

- A. Field measurements and material quantities:

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1. **Contractor shall have SOLE responsibility for accuracy of all measurements, estimates of material quantities and sizes, and site conditions that will affect work. This is including but not limited to the existing cross sections of the roof assembly.**
  2. **Dimensions provided on roof plans shall be verified. Contractor is responsible for all detailed measurements.**
  3. **Installation of material in a given area is considered the contractor's acceptance of the condition of the substrate.**
- B. Existing conditions:
1. Building space directly under roof area covered by this specification will be utilized by ongoing operations. Do not interrupt operations unless prior written approval is received from Owner/Owner's Representative.
- C. Interior protection:
1. At deck repair locations, drain locations, vent locations or any penetration where debris can enter the building, interior protection must be provided. Means and methods to be approved by Owner's Representative and Owner.
  2. Contractor shall coordinate with Owner to survey the underside of the deck on a daily basis to avoid contacting electrical conduit wires or other mechanical lines with membrane or insulation fasteners. Any damage to conduit or other materials affixed to the deck will be repaired at the Contractor's expense.
  3. **Utilize "great stuff" or other approved frothing foam adhesive to seal off all gaps in the new roof insulation at the edges, around penetrations or other items that are 1/4" wide and greater. All insulation boards are required to be installed properly. This is only to occur as an infill around items not a wholesale repair between insulation boards. After the installation of the foam it will be smoothed out to be no higher than 1/16" above the roof surface. The quantity of 500 linear feet of coverage will be carried in the base bid amount. This will not be allowed in the top layer of the assembly.**
- D. Safety requirements:
1. All application, material handling and associated equipment shall conform to and be operated in conformance with OSHA safety requirements.
  2. Comply with federal, state, local and Owner fire and safety requirements.
  3. Owner whenever work is expected to be hazardous to Owner, employees, and/or operators.
  4. Maintain fire extinguishers within easy access whenever power tools are being used.
  5. Utilize a safety line with flags at perimeter of work area at all times.
  6. Post and maintain MSDS sheets for all products being used on the project.
  7. Any access points used to access the roof shall be secured to prevent access to the roof by person's not involved with the work.
  8. Comply with current edition of Chapter 14 of the International Existing Building Code.
- E. Set up and access:
1. The set-up area for the Contractor will be designated at the Pre-Bid meeting. The Contractor will be responsible for replacing damaged landscaping concrete or asphalt and will be required to leave a clean, level, raked area, not contaminated by solvents, adhesives, cleaners, etc.
  2. Contractor must utilize chute or crane for disposal of demolition debris to dumpsters. Provide tarps along the wall to protect exterior surfaces and windows.

3. Contractor will be responsible for cleaning any and all dirt or contamination to the building walls that is determined to have come from the reroofing project at the end of the project.
4. Contractor shall provide a portable sanitary facility which must be secured against vandalism.
5. Any damage done to the premises shall be repaired or replaced to the Owner's satisfaction at the contractor's expense.
6. Any delivery trucks, cranes or contractor vehicles leaking fluids, oil or other contaminants will be cleaned and remediated in accordance with EPA standards at the Contractor's expense.
7. Contractor shall not stage or store materials or tools on low slope roof areas that have been finished while roof operations are ongoing. Any damaged insulation or membrane found to be a result of the contractor's failure to follow these guidelines will be replaced at the contractor's expense.
8. The roofing contractor is to access the roof via engineered stair tower. The roof shall be inaccessible to anyone outside of the project at the end of each workday.
- 9. Contractor will take all possible precautions to keep foot and equipment traffic off completed and adjacent roof sections not in the contract.**
10. Contractor to carry enough fencing to provide a perimeter around all materials and dumpsters in their staging area.
11. A locked fence shall be provided around the entire dumpster to prevent unlawful and foreign materials from being placed in the dumpsters.
12. The contractor shall be responsible and hold the building owner and owner's representative harmless for any chemicals or foreign material considered hazardous being placed in the dumpsters during the duration of the project.
13. The contractor shall provide tarps to prevent, to the greatest extent possible, rainwater from entering the dumpsters and flushing out debris and chemicals.
- 14. The entire grounds (including roof areas) of the building are considered a "no smoking zone." No smoking or vaping will be allowed during the roofing project, on the roof or off.**

## 1.7 SCHEDULE OF VALUES

- A. Contractor shall provide a schedule of values for the project prior to commencement of work.
  1. Schedule of values shall be indicated by the following categories:
  2. MOBILIZATION:
    - a. Staging and Pedestrian Protection
    - b. Other: Portable Sanitary Facility, Aerial lifts or Lulls, Craning etc.
    - c. Permits
  3. Roofing:
    - a. Demolition
    - b. Low Slope Roofing material
    - c. Labor to Install: Low Slope Roofing Material
    - d. Misc. Accessories: deck repair, fall protection, ladders etc.
    - e. Misc. Sheet Metal Fabrications: Edge metal, Counter-flashings, scuppers, etc.

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- f. Lumber: Plywood, Blocking, curbs, etc.
- 4. Miscellaneous Work:
  - a. Mechanical
  - b. Plumbing
  - c. Electrical
  - d. Landscaping/Site Work
  - e. Removals: ACM components.

**END OF SECTION 01 11 13**

**SECTION 01 22 00**

**UNIT PRICES**

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- SECTION 01 22 00 -

**UNIT PRICES**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

- A. The unit prices for items set forth in the Schedule of Unit Prices shall be used to determine adjustments to the Contract Sum when changes in the work involving said items are made in accordance with the General Conditions and other sections of the Contract Documents
- B. If multiple areas of the building are awarded the unit prices are to be considered a total and not portion specific. Units shall be able to be used on one area even if that roof areas quantities have been maximized until all of the unit prices have been exhausted.
- C. Definition: A unit price is the payment amount assigned to the Contractor in the Contract Document for a per unit measurement for materials or services added to or deducted from the Contract Sum by appropriate modification. If unit prices are specified. The Contract will be modified for quantities above or below the designated quantity in the Base Bid.

**1.2 PRE-DETERMINED UNIT PRICES**

- A. Unit prices listed under ADD have been computed to include net cost plus overhead, profit, and bond and all other charges required to complete the work item.
- B. Unit Prices listed under DEDUCT have been computed at the net cost alone.
- C. Unit Prices net cost include the cost of all labor, materials, equipment, disposal, and all other costs required to complete the work item. Note: All prices shall include all applicable taxes and fees.
- D. Unit Prices shall apply until the date of Contract Completion established at the time of the Notice to Proceed. If the date of Contract Completion has been modified by Change Order, Unit Prices may be adjusted at the discretion of the Owner.
- E. Unit Prices for excavation include the costs of sheeting and bracing, pumping and dewatering, and all other related costs. Excavation quantities shall be measured as compacted in place at maximum dry density.
- F. Materials, methods of installation, and definitions of terms set forth under the various Unit Price items in the Schedule of Unit Prices shall be as indicated in the Contract Documents.

**1.3 APPLICABILITY OF UNIT PRICES**

- A. The payment lines shall be as indicated in the Contract Documents.
- B. Prior to commencing removal or placement of materials set forth in the Schedule of Unit Prices, the Contractor shall notify the Owner and the Owner's Representative in sufficient time (not less than 24 hours in advance) to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Owner's Representative will be considered in the determination of adjustments to the Contract Sum.
  - 1. The Owner reserves the right to monitor the unit price work being performed. If the Owner elects to monitor the work, the Contractor shall not commence the unit price work until the designated monitor is present or previous arrangements have been agreed upon.
  - 2. In order to be considered for payment, the Contractor shall document in writing and provide photographs of all unit price work performed to include the trade, type, quantity and location. The unit price work performed shall be documented at the completion of each workday, verified and signed by the Contractor's superintendent.

3. At the Owner's expense and if quantities of unit price work are in dispute, the Owner may elect to retain an independent party to verify the Contractor's measurement of unit price work performed.
- C. Performance of work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not, such work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Owner's Representative.

#### 1.4 SCHEDULE OF UNIT PRICES

A. Base Bid the following unit prices are in effect:

1. Random removal and replacement of existing rusted or deteriorated steel decking including fastening. This quantity is for installation over and above the work associated with removal of obsolete equipment and related service connections. Quantities shall be determined by calculation of actual square footage installed with no allowance for waste. This includes all work for materials or items fastened to the underside of the decking to be removed and reinstalled.
  - a. QUANTITY: Remove and replace **500 SF** of steel decking.
    - i. Additional steel deck replacement will be undertaken at:  
**ADD \$ 12.00/SF**
    - ii. Should less than the above quantity be required a credit will be issued at:  
**DEDUCT \$ 10.00/SF**
2. Random installation of 18-gauge galvanized plate over openings less than 18", including fastening. This quantity is for installation over and above the work associated with removal of obsolete equipment and related service connections. Quantities shall be determined by calculation of actual square footage installed with no allowance for waste.
  - a. QUANTITY: Installation of **50 SF** plate over decking.
    - i. Additional steel deck replacement will be undertaken at:  
**ADD \$ 6.00/SF**
    - ii. Should less than the above quantities be required a credit will be issued at:  
**DEDUCT \$ 5.00/SF**
3. Random wire brushing and painting of existing, minor surface rusted, steel deck. Quantities shall be determined by calculation of the actual square footage painted.
  - a. QUANTITY: Wire brush and paint **150 SF** of steel decking.
    - i. Additional wire brush and paint will be undertaken at:  
**ADD \$ 3.00/SF**
    - ii. Should less than the above quantity be required a credit will be issued at:  
**DEDUCT \$ 2.00/SF**
4. Random removal of existing deteriorated, 2x6 blocking to structure. Quantities shall be determined by calculation of actual Ln/ft installed with no allowance for waste.
  - a. QUANTITY: Remove and replace **150 LF** of 2x6
    - i. Additional removal and replacement of blocking will be undertaken at:  
**ADD \$ 6.50/LF**

ii. Should less than the above quantities be required a credit will be issued at:

**DEDUCT \$ 6.00/LF**

5. Random removal of existing deteriorated, 2x8 blocking to structure. Quantities shall be determined by calculation of actual Ln/ft installed with no allowance for waste.

a. QUANTITY: Remove and replace **150 LF** of 2x8

i. Additional removal and replacement of blocking will be undertaken at:

**ADD \$ 7.00/LF**

ii. Should less than the above quantities be required a credit will be issued at:

**DEDUCT \$ 6.50/LF**

6. Material replacement:

- a. Should extensive and significant replacement of any of the above items be required the owner shall have the right to negotiate a new ADD price based on economies of scale.
- b. The contractor is responsible for keeping track of the locations and lengths of the replacement portions on a drawing that is to be provided to the Owner's Representative at the completion of the Project to better create as built drawings This includes "X" and "Y" locating dimensions from the edges of the building as well as length and width dimensions for sizes.
- c. The contractor is responsible to photograph the area where the repairs are being made. The photograph must be at a distance where the location on the roof is clearly represented. If photographs of the area are not provided to the Owner or Owner's Representative, the Contractor will not be compensated for those items.
- d. Prior to ordering or providing material on site, the contractor shall seek approval from the Owner or Owner's Representative to ensure no restocking fees are assessed if the work is not completed.

**END OF SECTION 01 22 00**

**SECTION 01 33 00**

**SUBMITTAL  
PROCEDURES**

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- SECTION 01 33 00 -

**SUBMITTAL PROCEDURES**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Submittal coordination.
- B. Schedule of Submissions.
- C. Submittal procedures and grading
- D. Proposed product list.
- E. Shop drawings and product data.
- F. Product Data.
- G. Manufacturer's instructions.
- H. Manufacturer's certificates.
- I. Emergency addresses.

**1.2 SUBMITTAL COORDINATION**

- A. Make submittals in a proper and timely fashion, allowing for administrative procedures, Owner's Representative's review, corrections to submissions and re-submittal, if necessary, and fabrication of products without delaying the Project. Minimum processing times required by the Owner's Representative are as follows:
  - 1. Review for Owner's Representative's office only: Allow a minimum of ten (10) working days for review and processing.
  - 2. Reprocessing of submittals: For submittals requiring re-submittal, reprocessing time required shall be the same as first submittal.
  - 3. No extension of Contract Time will be authorized due to failure to transmit submittals sufficiently in advance of scheduled performance of work.
- B. Make submittals of similar items, systems, or those specified in a single specification section together.
- C. Make submittals for products which other products are contingent upon, first.
- D. The Contractor is fully responsible for delay in delivery of materials or progress of work caused by late review of shop drawings due to failure of the Contractor to submit, revise, or re-submit shop drawings in adequate time to allow the Owner's Representative checking and processing of each submission or re-submission.

**1.3 PRE-CONSTRUCTION PREPAREDNESS**

- A. Prior to the pre-construction meeting the contractor shall go through all of the project details.
- B. The contractor will bring any questions that they may have about the required finished product to the meeting for discussion.
- C. ARM requires the project to be done to our details and specification which, in some cases, are above and beyond what the manufacturer would require for warranty.
- D. If a substitute is being requested by the contractor, the contractor shall supply the modified detail they are looking to substitute in writing for review.
- E. A copy of the final agreed upon drawing will be supplied by the contractor to be kept in the ARM job file.
- F. If there are no questions or changes discussed and agreed upon, the roof membrane, flashings and metal shall be installed per the details and specifications.
- G. If there are any details installed differently than shown in the details or outlined in the specification the materials will be removed and new materials installed per the details and specifications at no charge to the owner.

**1.4 SCHEDULE OF SUBMISSIONS**

- A. Schedule procedure: Immediately after being awarded the Contract, meet with the Owner's Representative to discuss the schedule of submissions and then prepare and submit, within seven (7) calendar days, for

approval of a schedule of submissions for the work. The schedule of submissions shall be related to the entire Project and shall contain shop drawing Schedule (for shop drawings to be provided by the Contractor).

- B. List all submissions required of each trade:
  - 1. Include the Specification Section number, name of subcontractor or vendor, submittal type, item, description, type, quantity, and size (where applicable) of each submission.
  - 2. For each submission, provide the following dates, as estimated:
    - a. Scheduled date of submission.
    - b. Required date of approval. (permit time for appropriate review and re-submissions as may be required).
    - c. Estimated date of beginning fabrication or manufacture of product (where applicable).
    - d. Required date for delivery of product to site.
    - e. Required date for beginning of installation of product.
    - f. Required date for completion of installation (and in-place testing).
- C. For each submittal, schedule to allow adequate time for review by the Owner's Representative. The Owner's Representative will not be responsible for work performed in shop or field prior to approval. Long-lead items requiring expedited action must be clearly indicated.
  - 1. The schedule shall be reviewed and re-submitted as necessary to conform to approved modifications to the construction Project Schedule and shall be updated as may be required by the Owner's Representative.
- D. Posting of submittal schedule: Print and distribute the submittal schedule to Owner's Representative, Owner, sub-contractors and other parties affected. Post copies in field.
- E. Update schedule throughout progress of the Project, coordinated with scheduling changes in the work, and re-distribute monthly in conjunction with submittal of Application for Payment.

### 1.5 SUBMITTAL PROCEDURES AND GRADING

- A. Prepare and submit to the Owner's Representative a Construction Schedule, a Schedule of Values, and a Schedule of shop drawings, product data, and samples.
- B. Provide space for Contractor, Owner's Representative, and engineering consultant review stamps, on the front page of each item's submittal copy. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work and coordination of information is in accordance with the requirements of the work and the Contract Documents. The Owner's Representative's stamp shall contain the following data:

\_\_\_\_\_ **REVIEWED**  
\_\_\_\_\_ **FURNISH AS CORRECTED**  
\_\_\_\_\_ **REVISE AND RE-SUBMIT**  
\_\_\_\_\_ **REJECTED**

- 1. The Owner's Representative will insert the date of action taken and an identification of the person taking the action.
- 2. Submittal Grading:
  - a. **REVIEWED** – No corrections, no marks.
  - b. **FURNISH AS CORRECTED** – Re-submission not required. Minor amounts of corrections; all items can be fabricated without further corrections to original submission; checking is complete, and all corrections are deemed obvious without ambiguity.
  - c. **REVISE AND RESUBMIT** – Re-submission required. Minor amounts of corrections; checking is not complete; details of items noted by checker are to be clarified further before full review can be given. Correct and re-submit, do not fabricate noted items requiring correction.
  - d. **REJECTED** – Submittal is rejected as not in accord with the Contract Documents, too many corrections, or other justifiable reasons. When returning submission, Owner's Representative will state reasons for rejection. Correct and re-submit, do not fabricate.

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3. Review/approval neither extends nor alters any contractual obligations of the Owner's Representative, Engineer, or Contractor.
  - C. Identify all variations from Contract Documents, and product or system limitations which may be detrimental to successful performance of the completed work.
  - D. Transmit submittals to Owner's Representative at the above address, with individual transmittal forms for each submission, using AIA Document G810.
    1. On transmittal form, identify Project, Contractor, subcontractor, installer or supplier, pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate. Transmittals received by the Owner's Representative from sources other than the Contractor will be returned without any action taken.
    2. Contractor shall number submittals sequentially by Specifications Section prior to submittal. Re-submitted items shall retain number and be noted as re-submitted.
  - E. Contractor's review: Review all shop drawings and product data. Include, without limitation, verification of the following:
    1. Proper title, original date, drawing number (which shall be changed if re-submitted), revision numbers and dates, designation of project contractor, subcontractor, and/or supplier.
    2. Identification of Shop Drawings or Product Data by Specification Section and subsection or paragraph where appropriate and identification of Contract Drawings by number and detail.
    3. On each submittal, as a minimum, Contractor shall identify the following:
      - a. Errors, inconsistencies, and omissions discovered in the contract documents and field conditions must be reported at once to the Owner's Representative.
      - b. Any variations from code requirements contained in the contract documents must be reported promptly in writing to both the Owner's Representative and the Owner.
      - c. Promptly report to the Owner's Representative information that any design, process, or product infringes on a patent.
      - d. Names of subcontractors and Suppliers must be given in writing to the Owner's Representative as soon as practicable after award of the Contract, preferably at the pre-construction meeting. (Note: If objection is made, a change order is possible) List shall include name(s) of contact person(s), address, telephone, and fax number(s).
  - F. Revise and re-submit submittals as required, identify all changes made since previous submittal. Distribute copies of reviewed submittals to concerned parties; instruct parties to promptly report any inability to comply with provisions.

#### **1.6 PROPOSED PRODUCTS LIST**

- A. Within seven (7) days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards.

#### **1.7 SHOP DRAWINGS**

- A. General: Provide accurately prepared, large scale and detailed shop drawings prepared specifically for this Project. Show adjacent conditions and related work. Show accurate field dimensions where appropriate. Identify materials and products shown. Note all conditions that require coordination with other trades and special installation procedures. Standard information prepared without specific reference to this Project is not considered shop drawings.
  1. Shop drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings
  2. Show every component of fabricated items, notes regarding manufacturing process coatings and finishes, dimensions, and appropriate trade names. Show anchorage and fastening details, including type, size, and spacing. Show material gauge and thickness. Indicate welding details and joint types.
  3. Review each submittal for conformity with the Contract requirements prior to submittal; certify such review on each shop drawing with Contractor's stamp, signature, and date. Reference on shop

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drawings to other sections, installers, suppliers, or trade(s) shall designate the appropriate specification sections, and the term “by others” shall not be used.

### **1.8 PRODUCT DATA**

- A. Submit Product data to Owner’s Representative in packets of (5) copies each for distribution and filing, as the Owner’s Representative may prescribe, accompanied by an appropriate transmittal form. Product data includes, but is not limited to:
  - 1. Catalog cuts
  - 2. Complete specifications
  - 3. Standard color charts
  - 4. Performance data
  - 5. Certified laboratory test report data
  - 6. Health and safety precautions
  - 7. Illustrated capacities, characteristics, wiring diagrams, controls, and other pertinent information for complete product and product use description.
- B. **If more than one size or type is shown on any printed sheet, indicate clearly intended item(s).**
- C. When accepted or disapproved, the Owner’s Representative will retain three (3) copies. Submit sufficient copies for all other parties. No copies stamped, REJECTED or RE-SUBMIT shall be sent to the job site.

### **1.9 MANUFACTURER’S INSTRUCTIONS**

- A. When specified in individual Specification Sections, submit manufacturer’s printed instructions for delivery, handling, storage, assembly, installation, start-up, adjusting, and finishing in quantities specified for project data.
- B. Identify conflicts between manufacturer’s instructions and Contract Documents.

### **1.10 MANUFACTURER’S CERTIFICATES**

- A. When specified in individual Specification Sections, submit manufacturer’s certificate to Owner’s Representative for review, in quantities specified under product data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates must be recent or the most current test results on material or product, but either must be approved by the Owner’s Representative.

### **1.11 EMERGENCY ADDRESSES**

- A. Within seven (7) days of Notice to Proceed, submit to both the Owner and the Owner’s Representative, in writing, the name, addresses, and telephone numbers of key members of their organization, including Contractor’s Superintendent and personnel at the site, to be contacted in the event of emergencies at the building site, which may occur during non-working hours.

**END OF SECTION 01 33 00**

**SECTION 01 77 00**

**CLOSE-OUT  
PROCEDURES**

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- SECTION 01 77 00 -  
**CLOSE-OUT PROCEDURES**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Close-out procedures.
- B. Conferences occurring after Substantial Completion.

**1.2 CLOSE-OUT PROCEDURES – SUBSTANTIAL COMPLETION**

- A. Prior to requesting inspection for certification of Substantial Completion, complete the following:
  - 1. On Application for Payment, show 100% completion for portions of work claimed as substantially complete. Submit list of incomplete items, value of incomplete work, and reasons work is not complete.
  - 2. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
  - 3. Certificate of Final Inspections.
  - 4. Certificate of Occupancy (if applicable).
  - 5. Submission of product and installation warranties, workmanship bonds, maintenance agreements, installer certifications and similar documents specified in individual sections.
  - 6. Remove temporary facilities and services that are no longer required.
  - 7. Complete Final Cleaning, including repair and restoration, or replacement of damaged work.
  - 8. Remove surplus materials, rubbish, and similar elements.
  - 9. Application for reduction of retainage.
  - 10. Consent of Surety.
  - 11. Notification of shifting insurance coverage.
- B. Within two (2) weeks after receipt of the notice of Substantial Completion from the Contractor, the Owner's Representative will inspect to determine status of completion.
  - 1. Should the Owner's Representative determine that the Work is not substantially complete:
    - a. The Owner's Representative will notify the Contractor in writing, stating the reasons therefore.
    - b. The Contractor shall remedy the deficiencies and send a second written notice of Substantial Completion to the Owner's Representative, requesting re-inspection.
- C. When the Owner's Representative concurs that the work is substantially complete:
  - 1. The Owner's Representative will prepare Contractor's list of items to be completed or corrected, as verified by the Owner's Representative.
  - 2. The Owner's Representative will submit the list to the Owner, and to the Contractor, for their written acceptance of the responsibilities assigned to them.

**1.3 CLOSE-OUT PROCEDURES – FINAL ACCEPTANCE**

- A. Prior to requesting inspection for certification of Final Acceptance and final payment, perform the following:

1. Completion of incomplete Work. Submit a copy of the final inspection list stating that each item has been completed or otherwise resolved for acceptance.
  2. Prove that all taxes, fees, and similar legal obligations have been paid.
  3. Submit final payment requests with release of all liens, and supporting documentation.
  4. Provide written assurances that all unsettled claims are in the process of and will be resolved.
  5. Submit updated final statement, including accounting for final additional changes to the Contract Sum. Show additional Contract Sum, additions and deductions, previous Change Orders, total adjusted Contract Sum, previous payments, and Contract Sum due.
  6. Submit consent of surety to Final Payment.
  7. Submit evidence of continuing insurance coverage complying with insurance requirements.
  8. Remove remaining temporary facilities and services.
  9. Deliver to Owner and obtain receipts for:
    - a. Operation and Maintenance Manuals for items so listed in individual Sections of the Specifications, and for other items when so directed by the Owner's Representative.
    - b. Warranties and bonds specified in individual Sections of the Specifications.
    - c. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times, including nights, weekends and holidays.
  10. Submit Certification stating work has been inspected for compliance with the Contract Documents.
  11. Submit Certification stating that work is 100% complete and ready for final inspection.
- B. Within seven (7) days after receipt of the request for Final Acceptance from the Contractor, the Owner's Representative will inspect to determine status of completion.
1. Should the Owner's Representative determine that the work is incomplete or defective:
    - a. The Owner's Representative will notify the Contractor in writing, stating the reasons listing the incomplete or defective work.
    - b. The Contractor shall take immediate steps to remedy the deficiencies and send a second written notice of request for Final Acceptance to the Owner's Representative.
    - c. Costs relative to the Owner's Representative's re-inspection due to failure of work to comply with claims made by the Contractor, will be compensated by the Owner, who will deduct the amount of such compensation from the Final Payment due to the Contractor.
- C. After the Owner's Representative finds the work acceptable, the Owner's Representative will review the Final Close-out Submittals.
- D. Application for Final Payment: Submit Application for Final Payment in accordance with procedures and requirements of the General Requirements and Supplementary Conditions.
1. The Owner's Representative will prepare a Final Change Order, reflecting approved adjustments to the Contract Sum not previously made by other Change Orders.

#### 1.4 CONFERENCES AFTER SUBSTANTIAL COMPLETION

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- A. The Owner reserves the right to call for conferences commencing with the date of Substantial Completion and continuing for two years thereafter, for purposes of inspecting the work and to plan correction of any deficiencies or failures discovered during this period.
  1. Attendance is required by Contractor's Project Manager, Owner's Representative, Owner's Representative's Job site Inspector and each applicator, installer, and supplier as the Owner may direct or the Contractor may wish to have present. All representatives attending such meetings shall be the same persons, or shall have the same powers and authority, as those attending progress meetings occurring prior to the Date of Substantial Completion.

**END OF SECTION 01 77 00**

**SECTION 01 78 00**

**CLOSE-OUT  
SUBMITTALS**

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- SECTION 01 78 00 -  
**CLOSE-OUT SUBMITTALS**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Preventative maintenance instructions.
- B. Product Warranties and Bonds.

**1.2 MAINTENANCE MANUAL**

- A. Prepare manufacturer's preventative maintenance instructions in the form of a bound manual.
- B. Furnish two (2) bound and properly identified Manuals prior to request for final Acceptance.
  - 1. Manuals should be 8½ by 11 inch pages bound in three "D ring" capacity binders with durable plastic covers. Internally subdivide the binder contents with permanent page dividers.
    - a. Arrange contents by section numbers and sequence as listed in the Table of Contents of this Project Manual.
  - 2. Each manual shall include the same following minimum information:
    - a. Table of Contents.
    - b. Directory of Contractors, subcontractors, and major equipment suppliers listing addresses, phone numbers, and appropriate emergency phone numbers.
      - i. Include local sources of supplies.
    - c. Maintenance and inspection instructions for finishes.
    - d. Product and manufacturer's Certificates.
    - e. Photocopies of all extended warranties and bonds.
  - 3. Submit one copy of completed volume in final form (21) days prior to Final Inspection. This copy will be returned after final inspection with Owner's Representative's comments; Revise and submit all volumes to Owner.
- C. Furnish electronic copy or two (2) CD's with all information that was submitted in paper form.

**1.3 PRODUCT WARRANTIES AND BONDS**

- A. The Contractor shall furnish a full two year warranty for all work, valid from the date of substantial completion.
- B. Provide duplicate notarized copies of extended warranties specified in individual Specification Sections. Submit extended warranties with Operating and Maintenance Manuals.

**1.4 "AS BUILT" DRAWINGS**

- A. Contractor shall prepare and provide a full set of "as built" drawings in AutoCAD and PDF.
- B. The "As built" drawings shall be modified, as required, to reflect change orders, field changes or conditions discovered during construction.
- C. If as built's are the responsibility of the Owner's Representative, the contractor shall be responsible for keeping track of the locations and lengths of the replacement portions on a drawing that is to be provided to the Owner's

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Representative at the completion of the Project to better create as built drawings This includes “X” and “Y” locating dimensions from the edges of the building as well as length and width dimensions for sizes for all add/deduct items.

**END OF SECTION 01 78 00**

**SECTION 02 26 23**

**ASBESTOS  
ABATEMENT**

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**- SECTION 02 26 23 -**  
**ASBESTOS ABATEMENT**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Related Documents:
  - 1. Drawings and general provisions apply to this Section.
  - 2. Review these documents for coordination with additional requirements and information that apply to work under this Section.
- B. Section Includes:
  - 1. Removal, repair, encapsulation, enclosure and other abatement of asbestos-containing materials as specified herein and shown on drawings.
  - 2. Compliance with all applicable Federal, State, and local regulations pertaining to work practices.
  - 3. Protection of workers, visitors to the site, and persons occupying areas adjacent to the site.
  - 4. Provide medical examinations and maintain medical records of personnel as required by the applicable Federal, State, and local regulations.
  - 5. The scope of this work does include the manifesting, transporting, or disposal of hazardous waste. This shall be completed by the roofing contractor or their sub-contractor.
  - 6. The State's review and approval of the asbestos abatement subcontractor's Asbestos Compliance Work Plan (Attachment A) describing the means and methods of asbestos related work prior to work commencing.

**1.2 DEFINITIONS**

- A. Asbestos-In-Construction Supervisor (Competent Person): One who is capable of identifying existing and predicting asbestos hazards in the surroundings or working conditions and who has the authorization to take prompt corrective measures to eliminate them.
- B. Asbestos 30-minute Excursion Limit (EL): 1.0 fiber per cubic centimeter of air (1.0 f/cc).
- C. Asbestos-in-air, 8-hour Time Weighted Average (TWA) Permissible Exposure Limit (PEL): 0.1 fiber per cubic centimeter of air (0.1 f/cc).

**1.3 SUBMITTALS**

- A. Submit under provisions of Division 01 Section "General Requirements" for review and approval by the Owner and the Owner's Representative.
- B. Product Data: Submit the following:
  - 1. Material Safety Data Sheets (MSDS) sheets for each product containing hazardous materials as defined by OSHA's Hazardous Communication Standard; 29 CFR 1910.1200.
- C. Quality Assurance/Control Submittals: Submit the following:
  - 1. Asbestos Compliance Work Plan: Detailed, job-specific plan of the procedures proposed for use in complying with the requirements of this Specification and 29 CFR 1926.1101.

- a. As a minimum, provide the information required in Attachment A, the Asbestos Compliance Work Plan Outline.
  - b. The plan shall be approved by the State prior to the mobilization of equipment, supplies, or workers to the site.
2. Worker Certification: Current asbestos worker certifications for personnel to be engaged in the work of this Section. Workers will not be permitted on the project site until the submittal is complete and has been accepted by the Project Manager. Provide the following information for each worker:
- a. Employee quantitative respirator fit-test records that identify the testing agency, the individual fit test exercise fit factor results, and the overall fit factor result;
  - b. Employee medical approval to wear respirator protection records;
  - c. Current AHERA-certified asbestos contractor supervisor certificate(s) and training for the designated contractor supervisor only;
  - d. Current AHERA-certified asbestos worker certificate(s) and training; and
  - e. Employee picture identification matching names on records. Picture IDs can be photo copies of training cards; however, pictures of employee faces must be viewable vs. dark images from poor quality photo copying.
3. Subcontractor License: Submit proof of license for asbestos-related contracting from the State License Board.
4. Respiratory Protection Program: Submit company's Respiratory Protection Program.
5. Written record from negative air machine and HEPA vacuum cleaner challenge aerosol testing on the day of the testing.
6. Per 29 CFR 1926.1101 (f)(5), the subcontractor shall notify their employees of exposure monitoring results. The Owner requires written documentation from the subcontractor that demonstrates the subcontractor's employees were notified of their results within 5 days of receiving the results including both excursion and calculated 8-hour TWA results for all results, not just those results above the PEL or excursion limit.
- D. Closeout / Ongoing Project Submittals
1. Personal air sampling results collected by the asbestos abatement subcontractor for airborne asbestos within 24 hours of sample collection. (If required for this project by the State or Owner)
  2. Pressure differential recorder readings shall be submitted in written form (i.e., circular chart or other form of print out).
- E. All submittals will be provided to the Owner three (3) working days prior to mobilization for each individual site job and must be approved prior to work commencing.
- F. Submit data as listed below under provisions of the Contract:
1. Demolition sequence schedule.
  2. Sample Manifest form including anticipated location of final disposal
  3. Copy of the 10-day notification will be submitted once it is received from the State of New Hampshire.
  4. Copy of the disposal company's licenses to transport ACM (one from each state they are to travel).
- G. Copies of all of the above forms and licenses will be kept in a binder on site at all times.

## 1.4 QUALITY ASSURANCE

- A. Qualifications:

- 
1. Qualifications of Subcontractor:
    - a. Work performed under this Section shall be by a single Subcontractor.
    - b. The Subcontractor shall have a minimum of five (5) years experience as an approved asbestos abatement subcontractor. If requested, the Subcontractor shall provide the names and locations of 5 projects of similar size and scope that he has completed within the previous five years.
    - c. The Subcontractor must hold a current and valid asbestos license issued by the State where the work is being performed.
    - d. The Subcontractor must hold a current and valid Certificate of Registration for Asbestos-Related Work and be Occupational Safety and Health (OSHA) certified for asbestos work.
    - e. The Subcontractor must hold all insurance and bonds as required by other sections of this specification and maintain as valid and current for the duration of the project.
  2. Qualifications of Asbestos Abatement Personnel:
    - a. All work shall be completed utilizing fully qualified persons who are trained, experienced, and knowledgeable in the proper techniques and procedures for asbestos abatement activities covered by this Section.
    - b. Asbestos Workers: All workers performing asbestos related work shall be currently certified as AHERA asbestos workers.
    - c. Asbestos in Construction Contractor Supervisor: Currently certified as an AHERA Asbestos Contractor Supervisor.
  3. Qualifications of Analytical Laboratory:
    - a. The subcontractor shall submit asbestos air samples to an analytical laboratory that is accredited by the American Industrial Hygiene Association's (AIHA) Industrial Hygiene Laboratory Accreditation Program (IHLAP). The subcontractor shall choose another AIHA accredited lab if their current AIHA accredited lab does not maintain accreditation throughout the duration of this project. (If the state or owner require sampling)
- B. Regulatory Requirements: All asbestos removal work shall be performed in accordance with requirements of Federal, state, and local regulations as follows:
1. Federal Regulations:
    - a. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA):
      - i. Asbestos Standard: Title 29, Part 1910, Section 1001
      - ii. Respiratory Protection: Title 29, Part 1910, Section 134
      - iii. Construction Industry: Title 29, Part 1926, Section 1101
      - iv. Hazard Communication: Title 29, Part 1910, Section 1200
    - b. U.S. Environmental Protection Agency (EPA):
      - i. Resource Conservation and Recovery Act (RCRA):
        - (i) Title 40, Part 260 to 265
        - (ii) U.S. Department of Energy 10 CFR 851 Worker Protection Rule
  2. U.S. Environmental Protection Agency (EPA):
    - a. Worker Protection Rule
      - i. FR Part 763, Subpart G

- ii. CPTS 62044, FLR 2843-9
- iii. Federal Register, Vol. 50, No. 134, 7/12/85
- iv. P28530-28540
- b. Regulation for General Industry:
  - i. Title 40, Part 61, Subpart A of the Code of Federal Regulations
- c. National Emissions Standard for Hazardous Air Pollutants (Asbestos):
  - i. Title 40, Part 61, Subpart M of the Code of Federal Regulations including Asbestos NESHAP Revision; Final Rule, Federal Register; Tuesday, November 20, 1990.
- d. Asbestos Hazard Emergency Response Act: Final Rule:
  - i. Title 40, Part 763, Subpart E of the Code of Federal Regulations.
- 3. State and Local Regulations: Abide by all State and local regulations which govern asbestos abatement work or storage of asbestos waste materials:
- C. Pre-Construction Meeting: At least one week before work commences, a pre-construction meeting shall be held at the project site. Attendees shall include the Owner's Project Manager, Owner's Representative, Roofing Superintendent, the Subcontractor's Project Superintendent and Abatement Superintendent; and others as necessary. The agenda shall include a review of project safety requirements, the Subcontractor's written asbestos compliance work plan, emergency contacts and notification plan, containment and work area design, facility requirements, submittals, and any other issues pertinent to the safe execution of the asbestos abatement work.
  - 1. Work shall not commence until all required submittals and plans have been approved by the Owner's Representative.

## 1.5 PROJECT CONDITIONS

- A. Existing Conditions:
  - 1. Building materials that contain asbestos are known to be present at the Project site. Building materials that have not been previously tested, that may be affected by the project scope, should be assumed to contain asbestos and handled according to this section.
    - a. If any other materials are found which are suspected of containing asbestos or other hazardous materials, immediately stop work in the affected area and notify the Owner and the Owner's Representative. Handle suspected asbestos containing material according to this section.
  - 2. The Owner will occupy adjacent areas during the course of the Work. Work under this Subcontract shall not affect the operation of adjacent areas.
  - 3. The abatement subcontractor is responsible for notifying other subcontractors in writing regarding asbestos work per OSHA requirements (29 CFR 1926.1101).

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Plastic Sheeting: Fire retardant polyethylene sheeting conforming to NFPA 701 and ASTM S502-74T for surface flammability and smoke density. A single polyethylene film in the largest sheet size possible to minimize seams, 6 mils thick, clear, frosted or black as indicated.

- B. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to polyethylene sheeting.
- C. Spray Adhesive: Shall not contain methylene chloride, as listed on the product's label and/or Material Safety Data Sheet (MSDS). Provide spray adhesive in aerosol cans that is specifically formulated to stick aggressively to polyethylene sheeting.
- D. Disposal Bags: 6-mil polyethylene.
- E. Asbestos-Containing Materials Disposal Containers: Leak-tight drums or approved dumpsters.
- F. Detergent: High-phosphate wash containing at least 5% trisodium phosphate (TSP).

## 2.2 EQUIPMENT

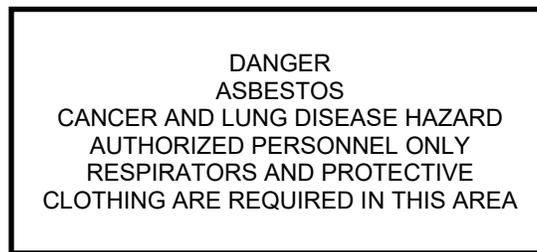
- A. Clothing: Furnish the following for each worker and others as specified.
  - 1. Coveralls:
    - a. Disposable full-body coveralls with attached head and foot covers conforming to requirements of OSHA Standards 29 CFR 1926.1101.
  - 2. Respirators:
    - a. Full facepiece negative pressure respirators with an assigned protection factor of 50X the PEL, or equivalent, for asbestos related work.
    - b. Respirators shall be equipped with HEPA (P-100) Filters.
    - c. Powered Air Purifying Respirators (PAPRs) with protection factors of 50X that have been quantitatively fit tested and equipped with HEPA (P-100) filters shall be acceptable substitutes for the respirator specified in 2.02(A)(2)(a) and must be worn for Class 1 work involving TSI or surfacing materials.
  - 3. Goggles, safety glasses, face shields: Provide eye and face protection as required by OSHA.
  - 4. Gloves:
    - a. Leather work gloves.
    - b. Compatible chemical resistant gloves for asbestos removal/solvent products.
  - 5. Boots: Steel toed foot protective work boots with non-skid soles and steel shanks.
  - 6. Hard Hats: Head protection (hard hats) approved by ANSI.
  - 7. Soap and Towels.
- B. Industrial Grade Vacuum and Negative Air Machines: High Efficiency Particulate Air (HEPA) filtered vacuum and negative air machines with appropriate HEPA filters and prefilters. Household type HEPA vacuum cleaners shall not be acceptable. Provide one spare negative air machine per work area at all times. Spare negative air machines shall be of the same size and capacity as the largest operating units onsite.
- C. Pressure differential recorders shall be in working condition, calibrated and operated continuously during the operation of the negative pressure enclosure and provide a pressure reading at least every 10 minutes, or more frequent, and provide a written documentation of the pressure readings that will be submitted to the Owner at the end of the project.
- D. Temporary Shower Facility: A pre-fabricated or site-built temporary shower facility, with hot and cold water to shower head that can be controlled from inside shower, shall be installed and used by all workers.

## PART 3 EXECUTION

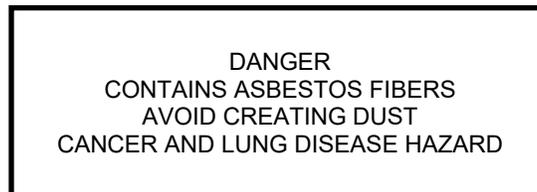
### 3.1 PROTECTION

#### A. General:

1. Take appropriate continuous measures as necessary to protect all building occupants from exposure to asbestos fibers. Such measures shall include the procedures and methods described herein and shall be in accordance with regulations and guidelines of applicable Federal, State, and local agencies.
2. Securing the Work Area: Secure the work area from access by the public, occupants, staff, or users of the building.
  - a. Demarcate the regulated work area, as required by OSHA regulation 29 CFR 1926.1101, by posting warning signs at the entrance to the change room leading to the regulated area as follows:



- b. Provide labels affixed to all asbestos waste containers, as required by OSHA regulation 29 CFR 1926.1101, as follows:



3. Do not block, or reduce width, of egress to exits.
      4. Conduct operations with minimum interference to exits, and public thoroughfares.
      5. Path of travel for debris removal shall be maintained dust free and clean at all times.
      6. Cover and protect windows, doors, and walls that are adjacent to asbestos work areas.
      7. Water used during this project shall be collected and prevented from entering storm water drains.
      8. Eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics is prohibited in the work area.

#### B. Personnel:

1. Asbestos Contractor Supervisor (Competent Person):
  - a. Provide an on-site, full-time Asbestos in Construction Supervisor (or Supervisors) to ensure that the worker protection program and engineering controls are effective. The Supervisor is also responsible for understanding all State and Federal waste management policies.

2. Asbestos Workers: The Subcontractor shall communicate information concerning asbestos hazards according to the requirements of the Hazard Communication Standard (29 CFR 1910.1200), including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training.
3. Respiratory Protection Program: Comply with ANSI Z88.2 - 1992 "Practices for Respiratory Protection" and OSHA 29 CFR 1926.62.
  - a. Require that respiratory protection be used at all times when there is any possibility of disturbance of asbestos containing material.
  - b. Down grading respiratory protection to a lower level protection factor is not allowed even with objective data to support the down grade.
4. Protective Clothing:
  - a. The following clothing shall be worn by all asbestos workers in the work area.
    - i. Disposable Coveralls with head and shoe covers (except for welders): Provide a sufficient number for all required changes for all workers in the work area. Dispose of coveralls as contaminated waste at the end of each day.
    - ii. Gloves: Chemical resistant gloves shall be used when using solvents to remove mastic material. Gloves shall be secured to coveralls using duct tape to protect arms and hands. Do not remove gloves from the work area.
    - iii. Goggles, safety glasses, or face shields: Shall be worn by all workers involved in scraping, spraying, stripping, or any other activity that may potentially cause eye or face injury.
5. Temporary Shower Facilities: Shall be used in accordance with subsection 2.02 (C) and subsection 3.08 (C) of this section.

### 3.2 GENERAL PROCEDURES

#### A. Containment Systems:

1. If at any time during the course of the work visual emissions are detected, the Subcontractor shall immediately stop work, correct the condition(s) causing the emission, and notify the Owner's Project Manager.
2. In case of inclement weather, such as high winds or rain, which may jeopardize the containment system, immediately secure the work area and stop work until weather conditions improve.

### 3.3 WORK AREA PROCEDURES

- A. No visitors shall be allowed in work area, except as authorized by the Owner's Project Manager.
- B. Provide workers with sufficient sets of disposable protective full-body clothing. Such clothing shall consist of full-body coveralls, footwear, and head gear as one-piece coveralls. Provide eye protection and hard hats as required by applicable safety regulations. Reusable type protective clothing and footwear intended for reuse shall be left in the Contaminated Equipment Room until the end of the asbestos abatement work at which time such items shall be disposed of as asbestos waste. Disposable clothing shall not be allowed to accumulate and shall be disposed of as contaminated waste.
- C. Do not enter occupied building areas while wearing either new or contaminated disposable coveralls or respirators. Provide a visual barrier between the asbestos related work area and occupied areas.

### 3.4 ASBESTOS REMOVAL PROCEDURES

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- A. Asbestos removal: Remove asbestos containing material as described in the contractor's asbestos compliance work plan prior to disturbing the substrate. Modifications to this plan shall be reviewed and approved by the Owner's Representative prior to work continuing.
1. Prohibited Asbestos Removal Methods:
    - a. Removing mastic material with methylene chloride-based products
    - b. Uncontained abrasive blasting
    - c. Uncontained power washing
    - d. Dry sanding or scraping
    - e. Power sanding without HEPA attachment
- B. Asbestos abatement operations shall include all tasks necessary for the proper and complete abatement of the materials in the scope of work. Tasks include, but are not limited to, the following:
1. Preparation of work areas, including pre-cleaning, isolation of HVAC equipment (in-take air), establishment of critical barriers and isolation barriers, establishment of negative pressure enclosures as needed, protection of building equipment, life safety systems, and electrical equipment and systems.
  2. Providing water and waste services to work areas, including hot and cold-water supply for abatement-related work, and proper filtering of wastewater for disposal.
  3. Maintaining adequate negative air pressure (minimum of  $-0.02''$  w.g) and at least four air changes per hour as needed.
  4. Protecting and maintaining active, as applicable, all life safety systems and building equipment operation.
  5. Removing asbestos-containing materials and decontamination of asbestos-contaminated surfaces, equipment, and areas.
  6. Encapsulating asbestos-containing materials and/or surfaces possibly contaminated with asbestos fibers, using penetrating and/or bridging encapsulants.
  7. Proper storage of asbestos-containing waste, including packaging and labeling. Once a full 55-gal drum of friable asbestos waste is generated, it must be moved into a 90-day Hazardous Waste Accumulation Area (WAA) within three days.
  8. Cleaning work areas and surfaces as necessary to achieve acceptance by final visual inspection and final clearance air monitoring.
  9. Coordinating work with other Subcontractors, staff, inspectors, and representatives.
  10. Upon completion of all work area preparation, and not less than four hours before abatement work is to begin, notify the Owner's Representative that the work area is ready for inspection.
- C. Waste Disposal: HEPA vacuum and/or wet wipe to remove all asbestos or contaminated debris generated during the work. Do not allow asbestos material to accumulate. Place all asbestos containing material and contaminated debris in properly labeled plastic disposal bags at the end of each shift. This waste must be labeled with hazardous waste labels. You can place this waste into a 55-gal drum or an approved friable asbestos dumpster.

### 3.5 FIELD QUALITY CONTROL

- A. Site Tests:
1. Respiratory protective equipment shall be quantitatively fit tested, including PAPR units. Qualitative fit test using irritant smoke tests or other qualitative test methods shall not be acceptable.

2. All HEPA vacuums and negative air machines (including spare negative air machines) shall be challenge tested, by emery oil aerosol or equivalent, and certified as in "passing" condition prior to work commencing. If any units fail, no work will be allowed with those units and the units shall be removed from the site. Maintenance or repair work on site shall not be allowed on vacuums or negative air machines that have failed the challenge aerosol testing. Negative air machines and HEPA vacuums shall be tested every three months, and immediately after changing HEPA filters, and remain onsite during the duration of the project. HEPA vacuums and negative air machines shall not be used after changing HEPA filters until they have been tested by a challenge aerosol.

B. Inspection (Asbestos Air Monitoring):

1. Personal Exposure Monitoring Results: Subcontractor shall provide personal air monitoring of its employees, in accordance with requirements of 29 CFR 1926.1101. Per 1.05 (A)(3)(a) of this section, the Subcontractor shall submit air samples to an analytical laboratory accredited by the American Industrial Hygiene Association (AIHA) for analysis by Phase Contrast Microscopy (PCM) per NIOSH method 7400.
  - a. The personal air monitoring data shall include the employee's name, date of monitoring, task(s) performed, employees represented by the monitoring, analytical result, and time-weighted average exposure.
  - b. The analytical lab results shall be submitted to the Owner's Project Manager within 24 hours of sample collection.
2. The Owner may subcontract their own, independent 3rd party, Hygienist which may conduct personal asbestos air monitoring on the subcontractor's employees at any time to verify Subcontractor's compliance with these Specifications and OSHA regulations.
3. Monitoring During Asbestos Removal and Decontamination: The Owner's Hygienist, may conduct quality control and area monitoring at any time during potential worker exposure to airborne asbestos. If monitoring outside the control area shows airborne concentrations exceed 0.01 fibers per cubic centimeter air (f/cc), the Subcontractor shall immediately stop all work, correct the condition(s) causing the increase and notify the Owner and the Owner's Representative.

### 3.6 CLEANING

- A. Daily Cleaning: Thoroughly clean the entire area under active asbestos disturbance at the end of each workday.
  1. At end of work shift remove any asbestos containing material or debris by using a HEPA vacuum or by spraying with wet wash solution, collect debris with wet paper towels or equivalent, place in disposal bag while still wet, and clean surface of plastic sheets with wet paper towels or equivalent.
  2. Exterior Cleanup:
    - a. Examine immediate area to ensure that no asbestos debris has escaped containment. Debris shall be placed in double plastic bags, sealed and stored with other contaminated debris.

### 3.7 PROJECT CLEARANCE

- A. Upon completion of asbestos removal, placement of removed asbestos material and debris in waste storage containers, and final HEPA vacuuming of surfaces, notify the Owner's Project Manager that the abatement area is ready for post abatement visual inspection. Provide additional removal or cleaning as directed by the Owner's Project Manager to provide acceptable surfaces for construction of new materials with no additional disturbance of ACM.
- B. The work area shall have passed post abatement visual inspection prior to post removal encapsulation. Negative air must continue to run, and workers must remain in specified respiratory protection.
- C. An approved encapsulant shall be applied, using airless spraying equipment, to all areas of the project where asbestos-containing materials have been removed. Encapsulants shall be colored for ready visibility.

- D. Upon completion of encapsulation of surfaces from which asbestos has been removed (allowing for at least two hours for encapsulant to dry), the Subcontractor shall inform the Owner's Project Manager that the area is ready for clearance monitoring.
- E. The sub-contractor will provide aggressive clearance air testing after the final cleanup and visual inspection, but before the removal of the enclosure of the asbestos control area. Samples shall be analyzed by Transmission Electron Microscopy (TEM) and submitted for a turn around time of 24 hours. All airborne TEM sample results shall be less than the AHERA clearance criteria of 70 structures per square millimeter air (70 st/mm<sup>2</sup>). Should any of the final samples indicate a higher value, the Subcontractor shall take appropriate actions to reclean the area and the monitoring shall be repeated.
- F. The sub-contractor will be responsible for all costs of the initial clearance testing and for additional testing costs if initial clearance testing does not pass.
- G. The Subcontractor shall not tear down / remove the negative pressure enclosure or negative air machines until verbal notice has been given to the Subcontractor by the Owner's Project Manager.

### 3.8 STORAGE OF WASTE MATERIALS

- A. Waste Evaluation: The materials collected from the cleaning operations must be evaluated to determine if the materials are hazardous and require special handling. The Subcontractor is responsible for segregating waste as it is generated and labeling all waste containers appropriately. Stored waste must be labeled with the accumulation date, type of waste, and area from which it was generated. The waste will be stored in designated areas selected by the Project Manager. Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:
  - 1. Two properly sealed 6-mil disposal bags labeled with a hazardous waste label in addition to the required OSHA specified asbestos warning label.
  - 2. Two properly sealed 6-mil disposal bags contained in a metal open head drum. Drum must be labeled with a hazardous waste label in addition to the required OSHA specified asbestos warning label.
  - 3. Wrapped in 6-mil polyethylene sheeting and sealed with duct tape. Wrapped waste must be properly labeled with a hazardous waste label in addition to the required OSHA specified asbestos warning label.
- B. If a dumpster is to be located on site for the duration of the project, arrange location of the dumpster with the Project Manager.
  - 1. All open dumpsters are prohibited for any construction debris. Take special care in transporting the waste materials from the location of generation to the storage facility. Waste shall be removed from work area at times selected to minimize contacts with tenants. The path from the work area to the storage locations shall be selected to be the shortest possible distance.
  - 2. All dumpsters and/or any other open containers that contain any ACM shall be completely covered with new tarps with no holes. The tarps shall be secured in a manner in which no water shall be allowed to run over or through the ACM which could run off thereby polluting the ground water and wells nearby.
- C. Treatment and Testing of Project Waste Water: The handling and treatment of project waste water must conform with all State and local regulations. Project waste water includes shower water and waste water from cleaning operations.
  - 1. The Subcontractor shall not discharge waste water containing asbestos into a community sanitary sewer. All waste water shall be discharged into a sanitary filter. Do not discharge any waste water on ground or soil. Filter water as necessary to meet local requirements.
  - 2. Waste water containing asbestos, including drainage from decontamination showers, shall be filtered in accordance with the following requirements prior to introduction into the sanitary sewer system.

- a. Filter water using four in-line filter cartridges with 2" inlets and outlets. The outlet of each filter cartridge shall be connected in series to the inlet of the next cartridge. The first cartridge shall contain 100  $\mu\text{m}$  pre-filters and the second and third cartridge shall contain 25  $\mu\text{m}$  filters and the final cartridge shall contain 5  $\mu\text{m}$  filters.
  - b. Spare filters of all three sizes shall be maintained at the site at all times to replace prefilters during cleaning.
  - c. When the prefilters become clogged, replace with spares, store accumulated debris as contaminated waste for disposal, and wash out the prefilters in the shower, allowing the drainage from the cleaning operation to go through the filtration system.
3. Provide a holding tank for contaminated wastewater as required to prevent backup of water into shower when the amount of water generated exceeds the flow rate of the filters.

**END OF SECTION 02 23 23**

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**ATTACHMENT "A"**

ASBESTOS COMPLIANCE WORK PLAN OUTLINE

The Subcontractor is required to prepare a written (typed or word-processed), site-specific Asbestos Work Plan, and submit to the Owner and Owner's Representative prior to start of work. This plan is required for the Subcontractor to meet OSHA requirements as well as the Project Specifications and shall describe work procedures and control methods that will protect the facilities and staff.

**The Subcontractor shall prepare the Asbestos Work Plan to include, at a minimum, the following information:**

I. Location of Work:

The work to be completed under this Asbestos Work Plan will be completed at:

Everett Police Department  
45 Elm Street  
Everett, MA 02149

Previous hazardous materials inspections or surveys have found that asbestos-containing materials are present at the following locations:

**Roof area #1: All Bituminous membrane at patch (+/- 50 SQFT), all flashings at perimeter edges, field penetrations and curbs.**

The presence of asbestos represents a hazard to workers who may disturb these materials during the course of this work.

II. Description of Work:

Describe the anticipated work scope, including:

- A. Removal (list materials and locations)
- B. Encapsulation (list materials and locations)
- C. Repair (list materials and locations)
- D. Decontamination (list materials and locations)
- E. Any other activities that will or may result in worker exposures to asbestos.

III. Schedule:

A. General

Start Date:

Completion Date:

The competent person [ ], will conduct worksite visual inspections on a daily basis, or more often as necessary.

B. Phase Dates

Phase/Task

Anticipated Date(s)

Mobilization

Setup of work area(s), containments, other

Removal/repair/other abatement

Final cleaning

Visual Inspection

Final clearance (visual and air sampling)

Teardown

Demobilization

IV. Equipment and Materials:

List all equipment and materials to be used, such as the following. List trade names or types where known.

HEPA vacuums

scrapers

power saws

hammers

screwdrivers

pry bars

cutting shears

other hand tools

negative air filtration units  
manometers  
shower facilities  
airless sprayers/compressors  
cleaning detergents  
solvents (must be approved by University)

paints/sealants/encapsulants (must be approved by University)  
rollers/brushes

butyl rubber gloves  
disposable coveralls  
respiratory protection

cotton work gloves  
leather work gloves

V. Crew:

List all workers and supervisors, with emergency contact names and pagers.

Clearly identify the supervisor and competent person who has authority for all safety and health.

VI. Control Measures and Work Procedures:

Describe, in a narrative format, specific work procedures, exposure/contamination controls, and engineering controls. This description should include, but not be limited to, the following types of information:

OSHA Class I, II, III, IV

Negative pressure enclosure

Wet methods

Glove bagging

Respiratory Protection

HEPA vacuums

Containment (polyethylene barriers) without negative pressure

Solvent removal of mastic

Other procedures (list)

VII. Respiratory Protection and Protective Clothing/Personal Protective Equipment:

List all respiratory protection, including types and manufacturers, which are anticipated for this project. Identify the phases of the project for which respirators will be required or likely to be required.

List all personal protective equipment anticipated to be used on the project.

VIII. Decontamination/Hygiene Facilities:

Identify the types and locations of decontamination or hygiene facilities to be used on this project. Specify use of disposable towels, soap, hot and cold water, and other supplies, all to be provided by the Subcontractor.

Specify the required use of the facilities, including use of the facilities prior to eating, drinking, and smoking, and before leaving the project site.

Describe handling or treatment of asbestos-contaminated solid waste and wastewater.

IX. Air Monitoring Data:

Identify general worker air monitoring protocol to be followed on this project, including worker category classifications, frequency of monitoring, anticipated laboratory to be used for sample analysis, and how pumps are calibrated and worn by employees. Identify competent person who will oversee Subcontractor's air monitoring.

X. Worker Training and Qualifications:

Provide the Subcontractor's worker documents as an attachment to the Asbestos Work Plan. Include each worker's current AHERA training records, respiratory protection training and fit-testing certification, and asbestos and respiratory protection medical clearances.

XI. Notification:

Describe all arrangements made on multi-employer work sites to inform affected employers about the asbestos project. Attach copies of any notifications.

XII. Containment Diagram:

Include a diagram (either neatly and legibly hand-drawn, or generated on a word processor or CAD program) of the containment showing the containment perimeter in relation to surrounding areas, locations of negative air machines, direction of air flow, decontamination chamber, bag out area, exhaust points to exterior of building, etc.

XIII. Waste:

Describe how all waste generated on this project will be packaged, labeled, and stored. LBNL EH&S Waste Management will arrange for off-site transport, manifest, and make disposal arrangements for all hazardous waste.

XIV. Preparation of Asbestos Work Plan:

Date Prepared:

Prepared By (signature, name, and title)

**ATTACHMENT "B"**

ASBESTOS BULK SAMPLING RESULTS



Crystal Analytical LLC  
55 Accord Park Drive, Suite 2D  
Rockland, MA 02370  
T: (781) 347-3936

**October 21, 2025**

Axiom Partners  
50 Salem St., Bldg B - Suite 103  
Lynnfield, MA

**Project Address: 45 Elm St., Everett, MA**  
**Project Name: Everett Police Department**  
**Laboratory ID: 2501001706**  
**Client Project #: 01137-368**

To Matthew Buccella

Enclosed are the results for your project at 45 Elm St., Everett, MA.

These samples were analyzed for asbestos via Calibrated Visual Estimation (CVE) following the U. S. Environmental Protection Agency (EPA) Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020) as found in 40 CFR, Part 763, Appendix E to Subpart E and supplemental methods such as U. S. EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116, July 1993) as necessary.

Sample analysis was completed on **October 21, 2025**

The detection limit for testing methods using Calibrated Visual Estimation(CVE) is <1% asbestos, which is determined via polarized light microscopy. Material containing 1% or more asbestos fibers by weight is considered to be asbestos-containing (ACM).

Thank you for your business and we look forward to working with you again.

Christine Cleveland

MA DLS - License # AA000259  
CT DPH - Registration # PH-0838  
RI DoH - Certification # PLM00163  
NVLAP - Lab Code 600387-0



**LABORATORY ID: 2501001706**

Project Address: 45 Elm St., Everett, MA  
 Project Name: Everett Police Department  
 Client Project #: 01137-368



Date(s) Sampled: 10/20/25  
 Date Accepted: 10/20/25  
 Date(s) Analyzed: 10/21/25  
 Date Reported: 10/21/25

Contact Name: Matthew Buccella  
 Client Name: Axiom Partners  
 Client Location: 50 Salem St., Bldg B - Suite 103, Lynnfield, MA

**Test Report for the Analysis of Asbestos in Bulk Materials - Calibrated Visual Estimation via Polarized Light Microscopy**

Client ID	Item ID	Description & Location	Physical Attributes	Non-Asbestos Fibrous Components	Asbestos %
102025-06-01A.1	0001	Edge, Tar Layer on End, Test Cut #1	Black Non-Fibrous Homogeneous		3% Chrysotile
102025-06-01A.2	0002	Edge, Insulation Layer, Test Cut #1	Yellow/Black Semi-Fibrous Heterogeneous	25% Fiberglass	None Detected
102025-06-01B.1	0003	Edge, Tar Layer, Test Cut #3	Black Non-Fibrous Homogeneous		None Detected
102025-06-01B.2	0004	Edge, Insulation Layer, Test Cut #3	Yellow/Black Semi-Fibrous Heterogeneous	25% Fiberglass	None Detected
102025-06-01B.3	0005	Edge, Center Section, Test Cut #3	Black/Yellow Semi-Fibrous Heterogeneous	5% Cellulose 10% Fiberglass	2% Chrysotile
102025-06-02A.1	0006	Main Field, Tar Layer, Test Cut #2	Black Non-Fibrous Homogeneous		None Detected
102025-06-02A.2	0007	Main Field, Center Section, Test Cut #2	Black/Yellow Semi-Fibrous Heterogeneous	10% Fiberglass	None Detected
102025-06-02B.1	0008	Main Field, Tar Layer on End, Test Cut #4	Black Non-Fibrous Homogeneous		2% Chrysotile
102025-06-02B.2	0009	Main Field, Tar Layer in Middle, Test Cut #4	Black Non-Fibrous Homogeneous		None Detected
102025-06-02B.3	0010	Main Field, Center Section, Test Cut #4	Black/Yellow Semi-Fibrous Heterogeneous	15% Fiberglass	None Detected

**LABORATORY ID: 2501001706**

Project Address: 45 Elm St., Everett, MA  
 Project Name: Everett Police Department  
 Client Project #: 01137-368



Date(s) Sampled: 10/20/25

Date Accepted: 10/20/25

Date(s) Analyzed: 10/21/25

Date Reported: 10/21/25

Contact Name: Matthew Buccella

Client Name: Axiom Partners

Client Location: 50 Salem St., Bldg B - Suite 103, Lynnfield, MA

**Test Report for the Analysis of Asbestos in Bulk Materials - Calibrated Visual Estimation via Polarized Light Microscopy**

Client ID	Item ID	Description & Location	Physical Attributes	Non-Asbestos Fibrous Components	Asbestos %
102025-06-03A.1	0011	Flashing Sealant, Tar Layer, Test Cut #5	Black Non-Fibrous Homogeneous		None Detected
102025-06-03A.2	0012	Flashing Sealant, Center Section, Test Cut #5	Black Semi-Fibrous Heterogeneous	10% Cellulose	3% Chrysotile
102025-06-03B.1	0013	Flashing Sealant, Tar Layer, Test Cut #6	Black Non-Fibrous Homogeneous		None Detected
102025-06-03B.2	0014	Flashing Sealant, Center Section, Test Cut #6	Black Semi-Fibrous Heterogeneous	10% Cellulose	3% Chrysotile
102025-06-04	0015	Pitch Pocket Sealant, Test Cut #7	Black/Gray Non-Fibrous Homogeneous		None Detected

*The above test results only relate to the samples submitted by the client to the laboratory, which were received in good condition unless otherwise noted in the sample comments section(s). Crystal Analytical, LLC. has no responsibility for any actions taken or interpretations made by the client or client's customer based upon the above test results. Liability regarding test result(s) is limited to the amount paid by the customer. Crystal Analytical, LLC. is not responsible for analytical uncertainty stemming from the limitations inherent in analytical methods or from sample collection activities. Client samples will be retained for a period of 90 days.*

**Analyst**

Will Cleveland

**Approved Signatory**

Christine Cleveland



AXIOM PARTNERS  
 50 SALEM STREET  
 SUITE 103B  
 LYNNFIELD, MA 01940  
 PHONE: 781.213.9198

LABORATORY ORDER #:

25010001706

Sample(s) received in good condition? [Y] [N]

Discernable field blank submitted? [Y] [N]

**Asbestos Analysis – Chain of Custody Form**

Sampled by:	Samples were collected by the client – ARM Roofing Consultants	Date Collected:	10/20/25
Project Name:	Everett Police Department		
Project Site:	45 Elm Street, Everett, Massachusetts		
Project ID/Number:	01137-368		
Special Lab Instructions:	NO POSITIVE STOP; email results to <a href="mailto:mbuccella@axiomenv.com">mbuccella@axiomenv.com</a> & <a href="mailto:axiomlab@axiomenv.com">axiomlab@axiomenv.com</a>		

TURNAROUND TIME – If turnaround time is not chosen standard turnaround time applies (6 + Days)

<input type="checkbox"/> Rush	<input type="checkbox"/> 6 Hours	<input type="checkbox"/> 12 Hours	<input checked="" type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 72 Hours	<input type="checkbox"/> 4 Days	<input type="checkbox"/> 5 Days	<input type="checkbox"/> 6-10 Days
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TYPE OF ASBESTOS ANALYSIS: EPA 600/R-93/116

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION
102025-06-01A	Test Cut #1	Edge
102025-06-01B	Test Cut #3	Edge
102025-06-02A	Test Cut #2	Main Field (Composite Sample)
102025-06-02B	Test Cut #4	Main Field (Composite Sample)
102025-06-03A	Test Cut #5	Flashing Sealant
102025-06-03B	Test Cut #6	Flashing Sealant
102025-06-04	Test Cut #7	Pitch Pocket Sealant

Relinquished:

[Signature]

Date:

10/20/25

Time:

Received:

[Signature]

Date:

10/20/25

Time:

4:00pm



Crystal Analytical LLC  
55 Accord Park Drive, Suite 2D  
Rockland, MA 02370  
T: (781) 347-3936

**October 21, 2025**

Axiom Partners  
50 Salem St., Bldg B - Suite 103  
Lynnfield, MA

**Project Address: 45 Elm St., Everett, MA**  
**Project Name: Everett Police Department**  
**Laboratory ID: 2501001706**  
**Client Project #: 01137-368**

To Matthew Buccella

Enclosed are the results for your project at 45 Elm St., Everett, MA.

These samples were analyzed for asbestos via Calibrated Visual Estimation (CVE) following the U. S. Environmental Protection Agency (EPA) Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020) as found in 40 CFR, Part 763, Appendix E to Subpart E and supplemental methods such as U. S. EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116, July 1993) as necessary.

Sample analysis was completed on **October 21, 2025**

The detection limit for testing methods using Calibrated Visual Estimation(CVE) is <1% asbestos, which is determined via polarized light microscopy. Material containing 1% or more asbestos fibers by weight is considered to be asbestos-containing (ACM).

Thank you for your business and we look forward to working with you again.

Christine Cleveland

MA DLS - License # AA000259  
CT DPH - Registration # PH-0838  
RI DoH - Certification # PLM00163  
NVLAP - Lab Code 600387-0



**LABORATORY ID: 2501001706**

Project Address: 45 Elm St., Everett, MA  
 Project Name: Everett Police Department  
 Client Project #: 01137-368



Date(s) Sampled: 10/20/25  
 Date Accepted: 10/20/25  
 Date(s) Analyzed: 10/21/25  
 Date Reported: 10/21/25

Contact Name: Matthew Buccella  
 Client Name: Axiom Partners  
 Client Location: 50 Salem St., Bldg B - Suite 103, Lynnfield, MA

**Test Report for the Analysis of Asbestos in Bulk Materials - Calibrated Visual Estimation via Polarized Light Microscopy**

Client ID	Item ID	Description & Location	Physical Attributes	Non-Asbestos Fibrous Components	Asbestos %
102025-06-01A.1	0001	Edge, Tar Layer on End, Test Cut #1	Black Non-Fibrous Homogeneous		3% Chrysotile
102025-06-01A.2	0002	Edge, Insulation Layer, Test Cut #1	Yellow/Black Semi-Fibrous Heterogeneous	25% Fiberglass	None Detected
102025-06-01B.1	0003	Edge, Tar Layer, Test Cut #3	Black Non-Fibrous Homogeneous		None Detected
102025-06-01B.2	0004	Edge, Insulation Layer, Test Cut #3	Yellow/Black Semi-Fibrous Heterogeneous	25% Fiberglass	None Detected
102025-06-01B.3	0005	Edge, Center Section, Test Cut #3	Black/Yellow Semi-Fibrous Heterogeneous	5% Cellulose 10% Fiberglass	2% Chrysotile
102025-06-02A.1	0006	Main Field, Tar Layer, Test Cut #2	Black Non-Fibrous Homogeneous		None Detected
102025-06-02A.2	0007	Main Field, Center Section, Test Cut #2	Black/Yellow Semi-Fibrous Heterogeneous	10% Fiberglass	None Detected
102025-06-02B.1	0008	Main Field, Tar Layer on End, Test Cut #4	Black Non-Fibrous Homogeneous		2% Chrysotile
102025-06-02B.2	0009	Main Field, Tar Layer in Middle, Test Cut #4	Black Non-Fibrous Homogeneous		None Detected
102025-06-02B.3	0010	Main Field, Center Section, Test Cut #4	Black/Yellow Semi-Fibrous Heterogeneous	15% Fiberglass	None Detected

**LABORATORY ID: 2501001706**

Project Address: 45 Elm St., Everett, MA  
 Project Name: Everett Police Department  
 Client Project #: 01137-368



Date(s) Sampled: 10/20/25

Date Accepted: 10/20/25

Date(s) Analyzed: 10/21/25

Date Reported: 10/21/25

Contact Name: Matthew Buccella

Client Name: Axiom Partners

Client Location: 50 Salem St., Bldg B - Suite 103, Lynnfield, MA

**Test Report for the Analysis of Asbestos in Bulk Materials - Calibrated Visual Estimation via Polarized Light Microscopy**

Client ID	Item ID	Description & Location	Physical Attributes	Non-Asbestos Fibrous Components	Asbestos %
102025-06-03A.1	0011	Flashing Sealant, Tar Layer, Test Cut #5	Black Non-Fibrous Homogeneous		None Detected
102025-06-03A.2	0012	Flashing Sealant, Center Section, Test Cut #5	Black Semi-Fibrous Heterogeneous	10% Cellulose	3% Chrysotile
102025-06-03B.1	0013	Flashing Sealant, Tar Layer, Test Cut #6	Black Non-Fibrous Homogeneous		None Detected
102025-06-03B.2	0014	Flashing Sealant, Center Section, Test Cut #6	Black Semi-Fibrous Heterogeneous	10% Cellulose	3% Chrysotile
102025-06-04	0015	Pitch Pocket Sealant, Test Cut #7	Black/Gray Non-Fibrous Homogeneous		None Detected

*The above test results only relate to the samples submitted by the client to the laboratory, which were received in good condition unless otherwise noted in the sample comments section(s). Crystal Analytical, LLC. has no responsibility for any actions taken or interpretations made by the client or client's customer based upon the above test results. Liability regarding test result(s) is limited to the amount paid by the customer. Crystal Analytical, LLC. is not responsible for analytical uncertainty stemming from the limitations inherent in analytical methods or from sample collection activities. Client samples will be retained for a period of 90 days.*

**Analyst**

Will Cleveland

**Approved Signatory**

Christine Cleveland



AXIOM PARTNERS  
 50 SALEM STREET  
 SUITE 103B  
 LYNNFIELD, MA 01940  
 PHONE: 781.213.9198

LABORATORY ORDER #:

25010001706

Sample(s) received in good condition? [Y] [N]

Discernable field blank submitted? [Y] [N]

**Asbestos Analysis – Chain of Custody Form**

Sampled by:	Samples were collected by the client – ARM Roofing Consultants	Date Collected:	10/20/25
Project Name:	Everett Police Department		
Project Site:	45 Elm Street, Everett, Massachusetts		
Project ID/Number:	01137-368		
Special Lab Instructions:	NO POSITIVE STOP; email results to <a href="mailto:mbuccella@axiomenv.com">mbuccella@axiomenv.com</a> & <a href="mailto:axiomlab@axiomenv.com">axiomlab@axiomenv.com</a>		

TURNAROUND TIME – If turnaround time is not chosen standard turnaround time applies (6 + Days)

<input type="checkbox"/> Rush	<input type="checkbox"/> 6 Hours	<input type="checkbox"/> 12 Hours	<input checked="" type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 72 Hours	<input type="checkbox"/> 4 Days	<input type="checkbox"/> 5 Days	<input type="checkbox"/> 6-10 Days
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TYPE OF ASBESTOS ANALYSIS: EPA 600/R-93/116

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION
102025-06-01A	Test Cut #1	Edge
102025-06-01B	Test Cut #3	Edge
102025-06-02A	Test Cut #2	Main Field (Composite Sample)
102025-06-02B	Test Cut #4	Main Field (Composite Sample)
102025-06-03A	Test Cut #5	Flashing Sealant
102025-06-03B	Test Cut #6	Flashing Sealant
102025-06-04	Test Cut #7	Pitch Pocket Sealant

Relinquished:

[Signature]

Date:

10/20/25

Time:

Received:

[Signature]

Date:

10/20/25

Time:

4:00pm



# Crystal Analytical

Crystal Analytical LLC  
55 Accord Park Drive, Suite 2D  
Rockland, MA 02370  
T: (781) 347-3936

ARM Consultants  
PO Box 4  
Chester, NH 03036

**Laboratory ID: 2501001824**  
**Project Address: 45 Elm Street, MA**

To Brian Toner

Enclosed are the results for your project at 45 Elm Street, MA.

These samples were analyzed for asbestos via Calibrated Visual Estimation (CVE) following the U. S. Environmental Protection Agency (EPA) Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020) as found in 40 CFR, Part 763, Appendix E to Subpart E and supplemental methods such as U. S. EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116, July 1993) as necessary.

Sample analysis was completed on **November 5, 2025**

The detection limit for testing methods using Calibrated Visual Estimation(CVE) is <1% asbestos, which is determined via polarized light microscopy. Material containing 1% or more asbestos fibers by weight is considered to be asbestos-containing (ACM).

Thank you for your business and we look forward to working with you again.

Christine Cleveland

MA DLS - License # AA000259  
CT DPH - Registration # PH-0838  
RI DoH - Certification # PLM00163  
NVLAP - Lab Code 600387-0



**LABORATORY ID: 2501001824**

Project Address: 45 Elm Street, MA

**Crystal Analytical**

Date(s) Sampled: 11/02/25

Date Accepted: 11/03/25

Date(s) Analyzed: 11/05/25

Date Reported: 11/06/25

Contact Name: Brian Toner

Client Name: ARM Consultants

Client Location: PO Box 4, Chester, NH 03036

**Test Report for the Analysis of Asbestos in Bulk Materials - Calibrated Visual Estimation via Polarized Light Microscopy**

Client ID	Item ID	Description & Location	Physical Attributes	Non-Asbestos Fibrous Components	Asbestos %
TC-4A	0001	Field,	Black/Yello Semi-Fibrous Heterogeneous	10% Fiberglass	None Detected
TC-4B	0002	Field,	Black/Yello Semi-Fibrous Heterogeneous	20% Fiberglass	None Detected
TC-4C	0003	Field,	Black/Yellow Semi-Fibrous Heterogeneous	25% Fiberglass	None Detected
TC-4D	0004	Field,	Black/Yellow Semi-Fibrous Heterogeneous	30% Fiberglass	None Detected
TC #11	0005	Rising Wall,	Black Non-Fibrous Homogeneous		None Detected
TC #12	0006	Edge,	Black Non-Fibrous Homogeneous		None Detected

*The above test results only relate to the samples submitted by the client to the laboratory, which were received in good condition unless otherwise noted in the sample comments section(s). Crystal Analytical, LLC. has no responsibility for any actions taken or interpretations made by the client or client's customer based upon the above test results. Liability regarding test result(s) is limited to the amount paid by the customer. Crystal Analytical, LLC. is not responsible for analytical uncertainty stemming from the limitations inherent in analytical methods or from sample collection activities. Client samples will be retained for a period of 90 days.*

**Analyst**

Sandhya Gunasekara

**Approved Signatory**

Christine Cleveland



Lab use only

Laboratory ID:	2501001824
Samples Acceptable:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Checked by:	WC

**CHAIN OF CUSTODY: BULK ASBESTOS**

Client Information		Turn Around Time	
Client Name: ARM CONSULTANTS		<input type="checkbox"/> Rush (<3hr)	3 Day TAT will be assigned if TAT is not specified. <u>TAT Begins when project is received by lab personnel during normal business hours.</u>
Contact Person: BRIAN TONER		<input type="checkbox"/> Same Day	
Address: PO BOX 4 CHESTER, NH 03036		<input type="checkbox"/> Next Day	
Address (cont):		<input type="checkbox"/> 2 Day	
Email: BRIAN@ARMROOFS.COM		<input checked="" type="checkbox"/> 3 Day	
Phone: 978.518.1968	Fax:	<input type="checkbox"/> 1 Week	<input type="checkbox"/> After Hours
Project Information		Asbestos Analysis	
Project Name: EVERETT POLICE DEPARTMENT		<input checked="" type="checkbox"/> Bulk PLM - Calibrated Visual Estimation (CVE)	
Project ID#:		<input type="checkbox"/> Bulk PLM - Point Count: <input type="checkbox"/> 400 <input type="checkbox"/> 1000	
Project Location: 45 ELM STREET		<input type="checkbox"/> Bulk PLM - Qualitative Analysis	
Project State: MASSACHUSETTS		<input type="checkbox"/> Vermiculite PLM - Qualitative Analysis	
PO #:		<input type="checkbox"/> Soil PLM - Qualitative Analysis	
Report To: BRIAN TONER		<input type="checkbox"/> Positive Stop	

Sample Information			
Sample Number	HA	Material Description	Material Location
TC-4A			FIELD
TC-4B			FIELD
TC-4C			FIELD
TC-4D			FIELD
TC #11			RISING WALL
TC #12			EDGE

Relinquished By	Date/Time	Received by:	Date/Time
			11/3/25 12PM

**MAIN ROOF EDGE TEST CUTS**

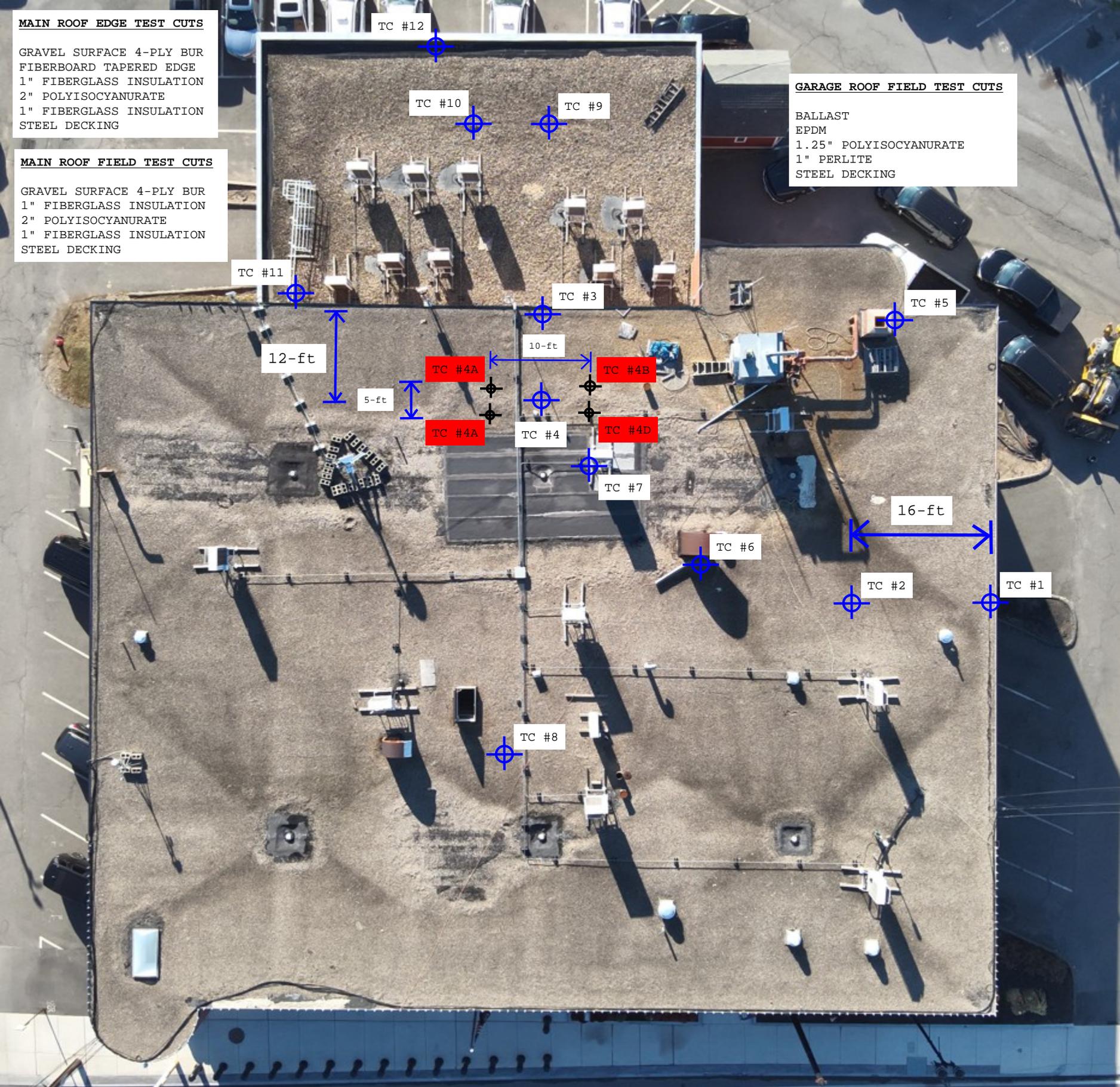
GRAVEL SURFACE 4-PLY BUR  
FIBERBOARD TAPERED EDGE  
1" FIBERGLASS INSULATION  
2" POLYISOCYANURATE  
1" FIBERGLASS INSULATION  
STEEL DECKING

**MAIN ROOF FIELD TEST CUTS**

GRAVEL SURFACE 4-PLY BUR  
1" FIBERGLASS INSULATION  
2" POLYISOCYANURATE  
1" FIBERGLASS INSULATION  
STEEL DECKING

**GARAGE ROOF FIELD TEST CUTS**

BALLAST  
EPDM  
1.25" POLYISOCYANURATE  
1" PERLITE  
STEEL DECKING



TC #12

TC #10

TC #9

TC #11

TC #3

TC #5

12-ft

10-ft

5-ft

TC #4A

TC #4B

TC #4A

TC #4

TC #4D

TC #7

16-ft

TC #6

TC #2

TC #1

TC #8

**SECTION 02 40 00**

**DEMOLITION**

---

- SECTION 02 40 00 -

DEMOLITION

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. The work of this section consists of the demolition and legal disposal of roofing materials and related components to be removed.
- B. Roofing Contractor demolition work shall include but is not limited to the legal removal and disposal of the following:
  - 1. The work involves removing all gravel and pea stone surface, designated roofing materials, flashings, insulation, deteriorated wood blocking, obsolete units and other related items.
  - 2. The existing structural steel roof deck will be inspected and repaired, on a unit price basis (Base bid quantity with additional ADD/DEDUCT pricing).
  - 3. The existing wood blocking will be inspected and, if necessary, replaced on a Unit Price basis (Base Bid quantity with additional ADD/DEDUCT pricing).
  - 4. **Preparation involves removal and legal disposal of:**
    - a. **All gravel and pea stone surface shall be removed via vacuum. Verify work hours prior to providing a price.**
    - b. **All built up roof membrane, roof flashings and accessories.**
    - c. **All wood and wood fiber cants in place under the existing roof insulation or around the perimeter blocking.**
    - d. **All existing fiberglass and polyisocyanurate insulation.**
    - e. **All blocking and curbs for the existing units if they are not high enough for the new insulation heights.**
    - f. **All existing flashings are to be removed in their entirety unless otherwise shown in the detail drawings. Installing new membrane adhered to existing flashings is not permitted.**
    - g. **All sheet metal edge.**
    - h. **All counter flashings and metal aprons designated for removal.**
    - i. **All designated obsolete equipment.**
    - j. **All other obsolete equipment as shown on the roof plans RP-101.**
    - k. **All pitch pockets shall be removed completely.**
    - l. **All temporary mechanical disconnects, and reconnections as required to install proper flashings at each unit. This includes but is not limited to adjusting duct work to units, adding height to curbs etc.**
    - m. **All temporary electrical disconnects and reconnections as required to install proper flashings at each unit.**
    - n. **All existing rusted, damaged or deteriorated structural steel roof deck.**
    - o. **All existing damaged or deteriorated wood blocking.**
    - p. **All roof drains and accessories in their entirety. This includes up to 5'-0" of interior piping.**
    - q. **All existing skylights and associated curbs designated for removal and disposal.**
    - r. **All pipe frame railing and ladders shall be removed, stored, painted and reinstalled in the same locations. Carry this cost and the cost to replace all connection pins and/or screws in the base bid.**

---

s. **Remove all existing string lights around roof perimeter and store in an location designated by the Everett Police Department.**

- C. Contractor shall take precautions to ensure that dirt and debris does not fall into roof drains. The Contractor is responsible for preventing any dust, debris, asphalt, etc. from entering the facility during the roof replacement project.
- D. During the process of removing existing base flashings at certain units, the underlying insulation may become damaged, or crushed. The contractor shall replace any insulation damaged as a result of flashing removal.
- E. The Contractor is responsible for maintaining the roof in a watertight condition during the roof removal process.
- F. Contractor shall have sole responsibility for accuracy of all measurements, estimates of material quantities and sizes, and site conditions that will affect work. Contractor shall verify all dimensions and quantities shown on the roof plan and/or otherwise incorporated into the work.
- G. As part of the preparation, walk the entire site and take pictures of all unsatisfactory conditions which include but are not limited to all items to be reused, or site conditions near areas where the work will be conducted. The process shall also be utilized for the onsite foreman to bring forth conditions they feel are not as designed or not capable of being completed. These pictures, with descriptions shall be provided to the Owner and Owner's Representative a minimum of 48 hours prior to the start of work. All items not shown will be considered the contractor's responsibility for damage. The work and materials needed to repair the items shall be completed, to the Owner's satisfaction, at no additional cost to the Owner or Owner's Representative.
- H. Any unit, regardless of size, that is required to be moved for installation of new roofing are to be included in the base bid. This includes evacuations and disconnects of all electrical, plumbing, duct work or other items, as required, to remove the equipment. The work also includes all reconnections of the aforementioned items as well as all testing as required by the manufacturer for the unit and/or the building facilities team to complete this work.
- I. Include all costs of crane lifts, labor and police details required to load, unload, and remove trash as required.
- J. The drawings indicate limits of construction for this project. The specifications specify materials and work requirements for this project. Both are mutually complimentary and shall be followed to complete the work.

## 1.2 COORDINATION

- A. It is the responsibility of the Roofing Contractor to coordinate the work of this Section with all other work required.

## 1.3 JOB CONDITIONS

- A. The Contractor shall inspect the premises prior to the submittal of his proposal for conditions which may affect his work.
- B. Demolition, storage of materials, removal of debris and construction operations shall not interfere with Owner's operations.
- C. Contractor shall supply generators for electrical power.
- D. All hoisting, demolition and hauling equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in safe condition by the Contractor for the use of all Subcontractors. All equipment shall comply with OSHA standards.
- E. The Contractor shall remove all debris from the project site and shall legally dispose of all debris generated by the project. Prior to demolition, Contractor shall furnish documentation of the disposal method used, satisfactory to the Owner, Owner's Representative and legal authorities.
- F. All debris which is removed from the site shall be properly secured and totally covered before it is transported.
- G. No heavy mobile equipment shall be permitted on the roof deck structure. All equipment shall be approved by the Owner or Owner's Representative prior to the start of construction.

- 
- H. The Owner and ARM assume no responsibility for the actual condition of the structure.
  - I. Do not drop roll goods or any other equipment on to the roof. Carefully lower onto the surface so as to minimize interior noise.
  - J. Do not store demolition debris on finished or adjacent roof areas.
  - K. Do not stockpile demolition materials in areas where they could overload the structure.

#### **1.4 PERMITS**

- A. The Contractor, at his sole cost, shall obtain all necessary authorizations, including permits, licenses, and easements, for permanent structures and changes, give all necessary notices, pay all legal fees, and comply with all regulations of all authorities having jurisdiction, including State, County, and City Building and Sanitary Laws, Rules, Ordinances, or Regulations, relating to the building or preservation of public health. The Contractor shall pay all inspection fees and costs imposed by the above. The Contractor shall check with the local Fire Department regarding required fire details which may be mandated and carry the cost of those details in the Base Bid.
- B. The Contractor shall provide the Owner with evidence of the payment of any and all applicable taxes; such evidence shall be submitted with each Application for Payment.

#### **1.5 SUBMITTALS**

- A. Submit data as listed below under provisions of the Contract:
  - 1. Demolition sequence schedule.
  - 2. Provide an area schematic plan showing the building with the anticipated dumpster locations, roof access and lay down area required for the project for approval by the Owner.
  - 3. Proposed crane locations for loading and debris removal.

#### **1.6 SEQUENCE OF OPERATIONS**

- A. The Contractor shall submit for approval the complete sequence of operations for demolition and show how it is coordinated with all other aspects of the job. Work shall not begin until such a schedule has been approved by the Owner's Representative and the Owner.
- B. The Contractor shall include with his sequence schedule a description of all procedures and equipment to be utilized to perform the demolition work.

### **PART 2 PRODUCTS**

#### **2.1 MATERIALS**

- A. Provide adequate number and size of dumpsters; refuse containers, trucks, chutes etc. for proper execution of demolition work. All demolition removal containers shall be properly protected and maintained on a daily basis.

### **PART 3 - EXECUTION**

#### **3.1 PROTECTION**

- 
- A. Before starting demolition, the Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance or interruption of any public and private utilities or services or any component of said utilities or services under the jurisdiction of the Owner, utility companies or corporations, Police Department, Fire Department and Public Works Department including gas, electricity, steam, refrigeration, telephone, telegraph, police signal, fire alarm, water, sanitary sewer, storm drainage and other systems which will be affected by the work to be performed under this Contract.
  - B. Adequate protection of persons and property shall be provided at all times. The work shall be executed in a manner to avoid interference with the use of adjacent buildings, areas or properties, and to avoid interruption of free passage to or from such buildings, areas or properties.
  - C. Furnish signs, lights, barricades and other equipment as may be necessary for the safe execution of the work.
  - D. Provide personnel to direct passersby away from areas presenting a particular hazard.
  - E. Contractor is to have on site all equipment and materials needed to protect the interior from the elements.
  - F. Do not store demolished materials on adjacent roof areas or finished roof areas.
  - G. Contractor to carry enough fencing to provide a perimeter around all materials and dumpsters in their staging area.

### 3.2 POLLUTION CONTROL

- A. All rubble, including the stone ballast, shall be considered the property of the Contractor and shall be removed from the site in its entirety. The Contractor shall be aware that the facility must remain in operation throughout the course of construction and that any disruption or inconvenience sustained by the Owner or nearby residents must be kept to an absolute minimum. To this end, the Contractor shall provide, if necessary, a water spray and an impermeable barrier and any other equipment or procedures necessary to minimize dust and debris infiltration. Also, the Contractor shall select equipment and procedures to minimize noise discomfort.
- B. All rubble shall be considered the property of the Contractor and shall be removed from the site in its entirety on a daily basis and be legally disposed. On site storage of discarded material will not be permitted.
- C. The Contractor shall supply a chute for removal of debris from the roof. This is necessary to control/limit the spreading of dust or debris. The chute must also be maintained throughout the duration of the project to ensure that all of the debris stays confined to the chute and or dumpster at all times.
- D. Contractor shall keep area free of trash and debris. Failure to do so will result in the contractor being back-charged for clean up operations.
- E. The contractor shall be responsible and hold the building owner and owner's representative harmless for any chemicals or foreign material considered hazardous being placed in the dumpsters during the duration of the project.
- F. The contractor shall provide fire retardant tarps to prevent, to the greatest extent possible, rainwater from entering the dumpsters and flushing out debris and chemicals.
- G. A locked fence shall be provided around the entire dumpster to prevent unlawful and foreign materials from being placed in the dumpsters.

### 3.3 ON-SITE STORAGE

- A. Ground level storage areas will be provided adjacent to the facility for equipment and new materials. Size and location of area shall be coordinated with the Owner.
- B. All tools shall be neatly stored at the end of each workday. This applies to ground and rooftop equipment.
- C. Do not store demolished materials on finished roof areas.
- D. Do not stockpile demolition materials in areas where they could overload the structure.
- E. Contractor to carry enough fencing to provide a perimeter around all materials and dumpsters in their staging area.

### **3.4 REPAIR OF DAMAGES**

- A. The Contractor shall provide a list of damaged or deteriorated elements of the building and adjacent areas to the Owner prior to demolition and shall be responsible for repair or replacement of damaged or deteriorated items not on that list when the operations of the Contractor are substantially complete.
- B. Damage to any portion of the building which results in disruption of or inconvenience to the Owner or his employees shall be immediately repaired or replaced by the Contractor. If such restitution is not promptly made, the Owner shall have the necessary work performed by an outside agency at the Contractor's expense.

### **3.5 CLEAN-UP**

- A. The building and adjacent areas shall be left in a broom-clean condition at the end of each day.
- B. On completion of the work of this section and after removal of all debris, the site shall be left in a clean condition satisfactory of the Owner and to the Owner's Representative.
- C. Restore all landscaping, concrete, asphalt, fencing, shrubs or other landscaping to its original condition.
- D. Insulation boards shall be cleaned, blown and free of all debris prior to the new membrane being installed. Any debris found under the membrane shall be removed, set into the insulation boards or otherwise repaired per the owner's representatives or material manufacturer's technical inspector's direction.

**END OF SECTION 02 40 00**

**SECTION 05 31 23**

**STEEL DECK  
REPAIR**

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- SECTION 05 31 23 -

**STEEL DECK REPAIR**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. If, during the construction, it is determined that deteriorated steel decking exists, the Contractor shall notify the Owner's Representative, inspect, replace, or plate over steel deck that is rusted or deteriorated, as directed by the Owner's Representative, see Unit Prices below Section 05 31 23:1.3: A. All areas found to be deteriorated or showing signs of excessive deflection must be photographed prior to the repair.
- B. Make steel deck repairs or replacement on a Unit Price basis (except at units designated for removal).
- C. The Contractor is to exercise extreme caution when removing existing roofing systems to ensure the integrity of the existing roof deck. Any additional roof deck damage as a result of the roof removal process shall be properly repaired by the Contractor, as specified herein, at no additional cost to the Owner.
- D. At locations where obsolete units are removed, 18-gauge galvanized plate can be used for openings up to 18". Larger openings shall be repaired using new steel deck spanning at least two supports. Match existing deck in profile and gauge.
- E. Maintain steel deck and steel plate on the jobsite. Do not start work without replacement deck and plate on-site. No extension of schedule will be given for deck lead times.
- F. All deck replacement includes removal and re-installation of any systems attached to the underside of the deck including but not limited to electrical wires, conduit, HVAC lines, hangars or other items.
- G. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and Specification Section 07 53 23:3.5, for more information).
- H. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

**1.2 SUBMITTALS**

- A. Submit copies of product data and specified number of and samples as listed below.
  - 1. Samples of each type of fasteners used for steel deck repair identified with brand type, size, finish, and other descriptive information.
  - 2. One piece of steel deck proposed for use in repair of existing steel deck if requested by the Owner's Representative.
  - 3. Manufacturer's literature and data sheets on steel deck if requested.
  - 4. Manufacturer's literature and data sheets on primer for galvanized steel.

**1.3 UNIT PRICES**

- A. The Contractor shall carry the assigned quantities of replacement or repair (listed in the Unit Price Section 01 22 00) in the Base Bid. ADD/DEDUCT unit pricing has been assigned for the work.
- B. The Contractor shall notify the Owner's Representative immediately upon uncovering existing structural steel deck showing signs of deterioration or excessive deflection.
- C. The Contractor shall perform unit price work only when approved by the Owner's Representative. The Owner's Representative and Contractors will verify quantities at each weekly meeting.
- D. Material replacement:

- E. Should extensive and significant replacement of any of the above items be required the owner shall have the right to negotiate a new ADD price based on economies of scale.
- F. The contractor is responsible for keeping track of the locations and lengths of the replacement portions on a drawing that is to be provided to the Owner's Representative at the completion of the Project to better create as built drawings This includes "X" and "Y" locating dimensions from the edges of the building as well as length and width dimensions for sizes.
- G. The contractor is responsible to photograph the area where the repairs are being made. The photograph must be at a distance where the location on the roof is clearly represented. If photographs of the area are not provided to the Owner or Owner's Representative, the Contractor will not be compensated for those items.
- H. Prior to ordering or providing material on site, the contractor shall seek approval from the Owner or Owner's Representative to ensure no restoking fees are assessed if the work is not completed.

## PART 2 – PRODUCTS

### 2.1 STEEL MATERIALS

- A. Steel deck shall match the existing deck as to gauge and profile, except gauge of replacement material may be greater (thicker) than existing. If profile cannot be matched, utilize Type "B" deck with the same height profile as existing.
- B. Painted steel deck shall be 20-gauge minimum.
- C. Galvanized steel sheet for removal of obsolete equipment openings shall be 18-gauge.

### 2.2 FASTENERS

- A. Sidelap or Steel Sheet Fasteners: For new or existing steel deck shall be #10 x 3/4" zinc-plated hex-washer head self-drilling sheet metal screw with the following minimum properties:

Min. Tensile Strength (installed in 1/8" steel)	1,575 pounds failure
Min. Torsion Strength	80-inch pounds
Min. Shear Strength (20-gauge)	1,200 pounds
Acceptable for Average Pullout Strength	450 pounds

Approvals: Factory Mutual  
Steel Deck Institute
- B. Endlap Fasteners: For new or existing steel deck shall be #12 x 1-1/4" zinc-plated hex-washer head self-drilling sheet metal screw designed for fastening to structural steel with the following minimum physical properties:

Min. Tensile Strength (installed in 1/8" steel)	1,575 pounds failure
Min. Torsion Strength	80-inch pounds
Min. Shear Strength (20-gauge)	900 pounds
Min. Pullover Strength (20-gauge)	1,200 pounds
Average Pullout Strength	1,000-2,000 pounds (min.)

Approval: Factory Mutual  
Steel Deck Institute

## PART 3 EXECUTION

### **3.1 STEEL DECK REPLACEMENT**

- A. Sections of existing steel deck to be replaced shall be cut out square and neat. Cut ends of deck at bearing supports. Contractor shall note the location of all conduit, light supports, etc., prior to removal of existing deteriorated steel deck.
- B. New sections of steel deck shall span at least two (2) supports.
- C. Fasten deck, as specified.
- D. Where deck replacement is required at a roof drain, coordinate with roof drainage requirements, as specified.
  - 1. After decking is secured, cut to receive the drain sump pan being careful not to oversize the cut. Cutting shall be done with a portable, hand-held, reciprocating jig saw provided with a sharp blade. No burning will be permitted.
  - 2. Install the sump pan using no less than 12 fasteners located 3 to each side.

### **3.2 FASTENING OF NEW OR EXISTING STEEL DECK**

- A. Verify all recommendations with the Structural Engineer of Record and obtain written approval prior to the start of work.
- B. Sidelaps and endlaps of existing steel shall be fastened when existing welds or other fastenings are broken or insufficient according to the decision of the Owner's Representative.
- C. Endlap fasteners shall be installed at 6" o.c. (on center) on all bearing points. The deck shall be pulled down snugly onto the bearing joist or beam.
- D. Sidelap fasteners shall be installed at the mid-points of all spans exceeding 3' and at the third points of all spans exceeding 6'. Sidelap fastener spacing shall not exceed 3'-0" o.c. Mating surfaces shall be pulled snug.
- E. See Section 3.4 nesting of steel deck connections for requirements of dissimilar deck profiles.

### **3.3 INSTALLATION OF STEEL PLATE**

- A. Verify all recommendations with the Structural Engineer of Record and obtain written approval prior to the start of work.
- B. Sheet steel shall lap the area requiring reinforcement by a minimum of 12" in all directions.
- C. Fasten steel sheet at 6" o.c. at the perimeter and 12" o.c. in the field of the sheet.

### **3.4 NESTING OF STEEL DECK CONNECTIONS**

- A. When steel deck sections are replaced the new steel deck shall nest into the adjacent existing decking at the end and side laps, as required by the SDI.
- B. The Contractor shall make every effort to obtain new structural steel decking that matches the existing structural steel decking in profile and gauge. If the gauge cannot be matched, then decking with thicker gauge will be acceptable. If new structural steel decking of the same profile as the existing structural cannot be obtained, then the Contractor shall fabricate and install splice plates. The splice plates and fasteners must be approved, in writing, by the Owner's representative and be per the detail drawings. This work is not anticipated.

**END OF SECTION 05 31 23**

**SECTION 05 51 33**

**METAL  
LADDERS**

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**- SECTION 05 51 33 -**  
**METAL LADDERS**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. The work involves installing the existing OSHA conforming, galvanized steel, roof access ladder as designated on the roof plan. New ladders shall be a wall mount. Verify height on site.
- B. Install roof access ladder and hardware in accordance with fastener manufacturer's instructions.
- C. The fasteners used for securing the ladder to the exterior wall shall be 3/8" diameter through bolts with lock washers and nuts. All hardware to be A307 or better. The fasteners shall be installed at each purlin in the exterior wall assembly. Install all components per the manufacturer's recommendations.
- D. Provide Shop galvanizing on the ladder prior to installation. All vent holes shall be plug welded and touched up with zinc rich paint.
- E. Provide lockable gate on the ladder. This gate shall have a smooth exterior surface and cover 10'-0" of the ladder rungs to prevent access from unauthorized individuals.
- F. Provide fall protection per OSHA requirements (Miller glideloc stainless steel or approved equal).

Provide fall protection gate at the top of the ladder as required by OSHA.

- G. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

**1.2 SUBMITTALS**

- A. Submit the following under provisions of Section 01 33 00:
  - 1. Submit shop drawing of new ladder and mounting hardware.
  - 2. OSHA Compliant gate.
  - 3. OSHA Compliant fall protection.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 1. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

**1.3 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Coordinate work of this Section with adjoining work for proper sequencing of each installation to ensure that the new unit is not damaged by construction work.

**PART 2 – PRODUCTS**

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## 2.1 FIXED LADDERS

### A. Comply with OSHA 3124 relative to Fixed Ladders:

1. A fixed ladder must be able to support at least two loads of 250 pounds each, concentrated between any two consecutive attachments. Fixed ladders also must support added anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from using ladder safety devices.
2. Individual rung/step ladders must extend at least 24 inches above an access level or landing platform either by the continuation of the rung spacings as horizontal grab bars or by providing vertical grab bars that must have the same lateral spacing as the vertical legs of the ladder rails.
3. Each step or rung of a fixed ladder must be able to support a load of at least 250 pounds applied in the middle of the step or rung.
4. The minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be 16 inches.
5. The rungs of individual rung/step ladders must be shaped to prevent slipping off the end of the rungs.
6. The rungs and steps of fixed metal ladders manufactured after March 15, 1991, must be corrugated, knurled, dimpled, coated with skid resistant material, or treated to minimize slipping.
7. The minimum perpendicular clearance between fixed ladder rungs, cleats, and steps and any obstruction behind the ladder must be 7 inches, except that the clearance for an elevator pit ladder must be 4.5 inches.
8. The minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats, and steps and any obstruction on the climbing side of the ladder must be 30 inches. If obstructions are unavoidable, clearance may be reduced to 24 inches provided a deflection device is installed to guide workers around the obstruction.
9. The step-across distance between the center of the steps or rungs of fixed ladders and the nearest edge of a landing area must be no less than 7 inches and no more than 12 inches. A landing platform must be provided if the step-across distance exceeds 12 inches.
10. Fixed ladders without cages or wells must have at least a 15-inch clear width to the nearest permanent object on each side of the centerline of the ladder.
11. Fixed ladders must be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet, but the top of the ladder is at a distance greater than 24 feet above lower levels.
12. If the total length of the climb on a fixed ladder equals or exceeds 24 feet the following requirements must be met: fixed ladders must be equipped with either (a) ladder safety devices; (b) self retracting lifelines and rest platforms at intervals not to exceed 150 feet; or (c) a cage or well, and multiple ladder sections, each ladder section not to exceed 50 feet in length. These ladder sections must be offset from adjacent sections, and landing platforms must be provided at maximum intervals of 50 feet.
13. The side rails of through or side-stepped fixed ladders must extend 42 inches above the top level or landing platform served by the ladder. Parapet ladders must have an access level at the roof if the parapet is cut to permit passage through it; if the parapet is continuous, the access level is the top of the parapet.
14. Steps or rungs for through-fixed ladder extensions must be omitted from the extension; and the extension of side rails must be flared to provide between 24 inches and 30 inches clearance between side rails.
15. When safety devices are provided, the maximum clearance distance between side rail extensions must not exceed 36 inches.

## 2.2 MATERIALS - STEEL

- A. Steel Sections: ASTM A36.
- B. Bolts, Nuts, and Washers: ASTM A325.
- C. Welding Materials: AWS D1.1; type required for materials being welded.
- D. Ladder: ANSI A14.3.
- E. Shop and Touch-up Primer: SSPC 15, Type 1, zinc oxide.
- F. Miller glideloc fall protection device. Stainless steel finish.

### **2.3 FABRICATION**

- A. Fit and shop assembly items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

### **2.4 FABRICATION TOLERANCES**

- A. Squareness: 1/8" maximum difference in diagonal measurements.
- B. Plumb: Maximum deviation from plumb over entire height: 1/4".

### **2.5 PAINTING/FINISH**

- A. Provide Shop galvanizing, G60 or better on the ladder prior to installation.
- B. Prep all surfaces per paint manufacturer's requirements before applying each coat of paint for all touch ups needed after the installation process. Sanding between coats is required.
- C. Take care not to undertake work on or near the ladder assembly while the touch up paint is drying to help prevent debris from becoming lodged in the paint.
- D. After installation the ladder assembly must be thoroughly examined to ensure no paint has been scraped, chipped or otherwise damaged. If damage has occurred it will be considered as if the area had not been painted and items A, B and C from this section will apply.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION – ROOF LADDER**

- A. Install roof ladder and hardware in accordance with fastener manufacturer's instructions.
- B. Install 24"x 24" concrete pavers at each ladder. Pavers to be located at the base and the top of each ladder. See the roof plan for these locations.

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45 Elm Street  
Everett, MA 02149  
c/o STV/DPM



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- C. The fasteners used for securing the ladder to the interior wall and roof deck shall be 3/8" HIT-I insert anchors with Hilti HIT-S22 screen tube set in HY-20 epoxy adhesive. The minimum embedment for the fasteners is 3 3/8". Install all components per the manufacturer's recommendations. All fasteners and materials are allowed substitutions if equal.
- D. Provide lockable gate on the ladder. This gate shall have a smooth exterior surface and cover 10'-0" of the ladder rungs to prevent access from unauthorized individuals.
- E. Provide fall protection per OSHA requirements (Miller glideloc stainless steel or approved equal).
- F. Provide fall protection gate at the top of the ladder as required by OSHA.

**END OF SECTION 05 51 33**

**SECTION 06 10 00**

**ROUGH  
CARPENTRY**

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**- SECTION 06 10 00 -**  
**ROUGH CARPENTRY**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. The work of this Section consists of furnishing and installing all rough carpentry and related items as indicated on the drawing and/or specified herein, required to complete the work.
- B. The existing wood blocking will be inspected and, if necessary, replaced with in kind materials on a Unit Price basis (Base Bid quantity with additional ADD/DEDUCT pricing).
- C. Provide new wood blocking and/or other shims, as shown in the detail drawings and as described in this section of this specification to prevent water build up at all roof edges.
- D. Provide new 1/2" APA rated CDX plywood sheathing at all edge details as shown in the detail drawings. Blocking to finish flush with the new roof insulation package.
- E. Provide new plywood to cover all bituminous material, existing glues or other contamination at all curbs and rising walls.
- F. Provide new 2"x 6" sleepers and curbs under the existing units. The new sleepers and curbs shall provide a minimum of 10" above the up-slope side of the new membrane. This is to accommodate the new crickets behind most units. All of these shall be attached directly to the structural decking per the specification.
- G. Reset, align, or otherwise manipulate the perimeter sheathing to provide a straight edge at all elevations.
- H. Carry refastening 100% of the existing blocking to meet or exceed the FM Global Data Sheets 1-28, 1-29 and 1-49.
- I. All materials shall be verified by Contractor to be proper for each intended use, and the entire work of this section shall be done in such a manner that each installation will perform its intended purpose, as applicable, in the finished work.
- J. Where referred to, standard specifications of technical societies, manufacturer's associations, and federal agencies shall include all amendments current as of the date of issue of these specifications.
- K. Provide all blocking and plywood as specified herein and indicated on drawings needed for installation of roof membrane and flashings. New plywood and blocking shall be installed where shown on the detail drawings or indicated on the roof plan notes.
- L. Provide isolation between all kiln dried wood blocking and any concrete or other masonry. Alternatively, provide isolation between all pressure treated wood blocking and steel products.
- M. All existing edge blocking conditions are to be reused to the greatest extent possible. Carry the cost of re-securing 100% of all the perimeter blocking (concrete and steel decking) in the base bid to meet or exceed the FM Global data sheet 1-49.
- N. All new wood blocking shall be installed as designated and detailed in the contract documents.
- O. Chamfer all top layer blocking edges that will be under just membrane a minimum of 1/2" to ensure no hard edges.
- P. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and Specification Section 07 53 23:3.5 for more information).
- Q. While attention has been paid to the blocking heights during the design and detailing of this project, there may be unforeseen field/site conditions where the blocking as detailed will not align with the newly installed insulation boards. It is the intent of these drawings and design package for the wood blocking to finish flush with the newly installed adjacent insulation to the greatest extent possible. Any deviation will allow water to flow to the drainage with

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no obstructions. All deviations will have new membrane terminations installed regardless of the membrane manufacturer's requirements for height differences and detail drawings in these construction documents.

- R. The drawings indicate and show the limits of construction for this project. The specifications specify materials and work requirements for this project. Both are mutually complimentary to each other, and both shall be followed to complete the work.

## 1.2 DELIVERY AND STORAGE

- A. All materials when delivered to site shall be stacked and stored above the ground under protective coverings or indoors in such a manner as to insure proper drainage, ventilation, and protection from the weather.

## 1.3 SUBMITTALS

- A. Submit the following under the conditions of the Contract.
1. Manufacturer's or applicator's specification for wood preservative treatment and treatment procedure to be sure that a satisfactory treatment will be obtained.
  2. Manufacturer's specification data sheets for all fasteners to be used, clearly identifying their intended use.
  3. Manufacturer's pull-out test results for each type of fastener to be used for concrete, steel, and tongue and groove roof decks.

## 1.4 UNIT PRICES

- A. The unit prices in effect are listed in the Unit Price section 01 22 00 and are to be carried in the base bid:
- B. The quantity and ADD/DEDUCT pricing relate to deteriorated wood blocking and improper/inadequate securement or not in compliance with detail drawings.
- C. The Contractor shall notify the Owner's Representative immediately upon uncovering existing wood blocking showing signs of deterioration or excessive degradation.
- D. The Contractor shall perform unit price work only when approved by the Owner's Representative. The Owner's Representative and Contractors will verify quantities at each weekly meeting.
- E. Material replacement:
- F. Should extensive and significant replacement of any of the above items be required the owner shall have the right to negotiate a new ADD price based on economies of scale.
- G. The contractor is responsible for keeping track of the locations and lengths of the replacement portions on a drawing that is to be provided to the Owner's Representative at the completion of the Project to better create as built drawings. This includes "X" and "Y" locating dimensions from the edges of the building as well as length and width dimensions for sizes.
- H. The contractor is responsible to photograph the area where the repairs are being made. The photograph must be at a distance where the location on the roof is clearly represented. If photographs of the area are not provided to the Owner or Owner's Representative, the Contractor will not be compensated for those items.
- I. Prior to ordering or providing material on site, the contractor shall seek approval from the Owner or Owner's Representative to ensure no restocking fees are assessed if the work is not completed.

## PART 2 - PRODUCTS

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## 2.1 DIMENSIONAL LUMBER

- A. Blocking and framing materials shall be of sound stock, new, straight, of consistent size, free of stains and mildew. Where exposed or semi-exposed, wood members shall be selected for the best possible appearance from the grade of stock specified.
- B. Blocking and framing materials shall be kiln dried to a moisture content of no more than 19%. Pressure treated lumber shall be kiln dried a second time after treatment.
- C. Blocking and framing materials shall be surfaced four sides and shall bear the grade and trademark of the association under whose rules it is produced, and a mark of mill identification. Materials shall be construction grade Douglas Fir, Southern Yellow Pine or wood having similar decay resistant properties.
- D. Blocking shall be furnished in the longest practical lengths with respect to each intended use -- at least twelve feet unless shorter lengths are required. Single length pieces shall be used whenever possible.
- E. Blocking shall be long enough to allow minimum of (4) four fasteners per specified spacing requirements.

## 2.2 PLYWOOD

- A. Plywood shall be ½" thick minimum for use at parapet walls, an exterior grade of Group 1 or 2 species, Type CDX or better shall be used. All plywood shall be APA stamped and shall meet the requirements or Product Standard PS 1-83 for Construction and Industrial Plywood.
- B. Plywood shall be ½" thick minimum for use at the penthouse walls an exterior grade of Group 1 or 2 species, Type CDX or better shall be used. All plywood shall be APA stamped and shall meet the requirements or Product Standard PS 1-83 for Construction and Industrial Plywood.
- C. Nailers 10" wide and narrower that are indicated as plywood may be a single piece of dimensional lumber as specified in Paragraph 2.1 of this section.
- D. All plywood must be attached to all structural steel studs with specified screws. See Section 06 11 00:2.3: F for additional information. Nails will not be acceptable into steel studs under any circumstances.
- E. Plywood perimeter blocking shall be installed with the specified screws spaced at 6" on center (o.c.) in a staggered pattern.
- F. Plywood for wall sheathing shall be installed with the specified screws spaced at 8" o.c. on the two vertical edges and 1'-4" or 2'-0" o.c. for the intermediate attachment locations (each stud).

## 2.3 FASTENERS

- A. Screws for attaching wood blocking or plywood to wood shall be #10 flat head hot-dip galvanized wood screws spaced at 12" on center and of sufficient length to penetrate the substrate at least 1-1/2". (Pull out value of 163# x load duration factor of 0.9 = 147# > 100# to meet FM 1-49.)
- B. Nails for attaching wood and plywood blocking to substrate:
  - 1. Shall have a minimum deformed shank diameter of 0.128" (10d).
  - 2. Be spaced at 6" o.c. (on center) staggered and of sufficient length to penetrate the substrate at least 1½".
    - a. The substrate thickness will be required to be more than the penetrated value to ensure the nails do not puncture the opposite side.
  - 3. The nails shall not be over driven. Any nail found to be over driven will require another nail be installed within 1/2" from the center line of the over driven nail.
  - 4. Nail heads are to sit flush with the top of the lumber it is installed into.
  - 5. Construction adhesive shall be applied between all surfaces to be nailed prior to nailing.

6. Construction adhesive to be Loctite PL Premium polyurethane or approved equal.
- C. Fasteners for attaching wood blocking to solid concrete or grout filled concrete masonry units shall be zinc-plated and shall have a three-legged sleeve and tapered expander. The anchors shall be 3/8" in diameter and of sufficient length to penetrate the substrate a minimum of 1-5/8". Galvanized washers shall be under bolt heads to prevent excessive compression of wood. (Hilti brand kwik bolt 3 which is 3/8" dia. 257# tensile strength > 100# to meet FM 1-49.)
  - D. Fasteners for attaching wood blocking or plywood to masonry walls or brick shall be concrete masonry tapping screws (Phillips head flat) and of sufficient length to penetrate the substrate a minimum of 1". (Hilti brand 3/16" Kwik con II with a tensile strength of 119# > 100# required by FM 1-49.)
  - E. Fasteners for attaching wood blocking to hollow concrete masonry units or hollow brick shall be 3/8" HAS threaded rod with Hilti hit-s screen tube in HY-20 epoxy adhesive. Minimum embedment or 2" into substrate is required.
  - F. Fasteners for attaching wood blocking to hollow concrete shall be 3/8" HAS threaded rod with Hilti hit-s screen tube in HY-20 epoxy adhesive. Minimum embedment of 2" into substrate is required. Minimum spacing 16" O.C. with a minimum of 2 per board.
  - G. Any fastener into or through pressure treated wood products shall be stainless steel or other approved material for use in ALQ lumber. All fasteners will meet or exceed the above listed values.
  - H. Powder-actuated type fasteners may not be used to fasten wood blocking or flashing.
  - I. Penetrating type fasteners driven into masonry by impact are not considered reliable - Do not use.
  - J. All fasteners shall be FM Global approved and have the stamp of approval on the fastener itself or on the box the fasteners are supplied in from the manufacturer.
  - K. Nails are not considered an acceptable means of attachment to any form of steel, whether structural or otherwise, under any circumstances.

## 2.4 TRIM BOARDS

- A. Shall be 1 x lumber, plywood is not acceptable. (Unless otherwise noted on the Plans or Detail drawings).
- B. The trim boards shall be grade D-select or better, S4S (surfaced on 4 sides).
- C. All trim boards shall be primed on all (6) six sides prior to installation but after being cut to size. Any board that is re-cut after priming must be re-primed on any exposed wood surface. The exposed surfaces include any areas that may have been scratched, peeled or otherwise damaged during the handling and trimming processes.
- D. Paint all new trim boards to match the existing trim boards.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Construct all rough carpentry work called for on the drawings plumb, level, and true with tight, close fitting joints. Carpentry shall be securely attached and braced to surrounding construction and executed in a first-class workmanship manner.
- B. Shim, trim, back-cut or otherwise modify, as necessary, all perimeter blocking so that it fits flush, level and plumb. Create straight lines for perimeter metal without waving along building elevation.
- C. Blocking shall be built to the same thickness as the insulation to the maximum extent possible, within 1/16" plus or minus. Blocking shall extend at least 2" beyond edge of metal flashing.
- D. Plywood shall be securely fastened at the top, middle and bottom with the approved fastener at 6" o.c. When used in layers, each layer of plywood shall be secured equal, with fastener spacing as specified herein.

- E. All exposed lumber shall be pressure treated lumber.
- F. Ensure that all blocking is properly attached to the structure before adding additional courses.
- G. Pressure treated wood is required at any locations where contact between wood and concrete or other masonry product is anticipated.

### 3.2 FASTENING

- A. Fasteners for wood blocking (wood to wood) shall be staggered and spaced 12" o.c. when secured to wood blocking, steel, tongue and groove wood decking, concrete or masonry. The staggered fastening pattern shall be increased within 8' from outside corners to 6" o.c. Smaller pieces of blocking, such as at penetrations, shall have a minimum of four fasteners per piece. A fastener shall be located no more than 4" from the end of each piece of blocking. Fasteners to penetrate the substrate a minimum of 1¼" attaching to wood blocking, and 1-5/8" or 2" (See Section 06 10 00:2.3 for fastener information) when attaching to concrete substrates, masonry walls, concrete, steel and tongue and groove wood deck. Withdrawal resistance should be 100 lb per fastener minimum. Nails are not acceptable due to the fact that they cannot attain the required pullout values.
- B. Counter-bore at all bolt heads, nuts, and washers as may be required to provide a flush surface for installation of roofing membrane materials.
- C. For fasteners that are at the parapet wall (wood to concrete), stagger fasteners if installed into a 1½" x 5½" board or larger. Spacing of fasteners shall be 2'-0" o.c. outside of the corners. Within 8'-0" from the corners the fastening should be increased to 1'-4" o.c. Follow manufacturer's recommendations for edge and end of masonry installation and spacing.
- D. Refasten all existing wood blocking that is to remain in accordance with the above reference fastening rate (reference paragraph 3.2. A, B & C).
- E. Comply with FM 1-49 for attachment of wood blocking to perimeter edges and walls.

**END OF SECTION 06 10 00**

**SECTION 07 21 13**

**INSULATION**

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- SECTION 07 21 13 -

INSULATION

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. The work under this Section consists of furnishing and installing all roof insulation and related items, as indicated on the drawings and specified herein.
- B. Project specific insulation assembly make up as follows:
  - 1. New 1/2" High Density polyisocyanurate insulation board. All high density polyisocyanurate boards to be Type II Class 2 fire rated (coated glass facer) Grade 1. All HD boards shall be a minimum of 100 psi and 1/2" thick.
  - 2. New single layer of 2.5" polyisocyanurate insulation board (20 PSI) Coated Glass Facer
  - 3. New single layer of 2.5" polyisocyanurate insulation board (20 PSI) Coated Glass Facer
- C. All insulation to be secured with mechanical fasteners to the structural decking.
- D. For mechanically fastened insulation boards, all fasteners shall be sized to only penetrate the upper flute by 1". The underside of the decking should be surveyed prior to any installation to ensure that no interior components are damaged. Coordinate this work with the facilities team on site everyday of roofing material installation.
- E. HD board shall be installed over all crickets, saddles, sumps, or any other insulation types as a cover board.
- F. Provide new 1/2" tapered insulation boards between all drainage points as shown on the drawings.
- G. All pipes, angles and other supports shall be cleaned and scraped of all bituminous material prior to the new roof being installed.
- H. Stagger all joints a minimum of 6" in each direction.
- I. All new boards shall sit flush with the existing boards with a +1/16" deviation allowed.
- J. Provide new 1/2" per foot tapered insulation on the high side of all roof curbs that are 18" wide and greater.
- K. Provide new 1/2" per foot tapered insulation between sleepers as required to promote proper drainage.
- L. In no case shall the base layer be 1" thick insulation directly over the steel decking as 1" thick polyisocyanurate insulation boards are not capable of spanning the flutes of the new decking without damage.
- M. Provide new 1/2" per foot tapered 8'-0" x 8'-0" drain sumps around all roof drains. See tapered profiles on the roof plan for additional information.
- N. Utilize "great stuff" or other approved frothing foam adhesive to seal off all gaps in the new roof insulation at the edges, around penetrations or other items that are 1/4" wide and greater. All insulation boards are required to be installed properly. This is only to occur as an infill around items not a wholesale repair between insulation boards. After the installation of the foam, it will be smoothed out to be no higher than 1/16" above the roof deck. The quantity of 100 linear feet of coverage will be carried in the base bid amount. This will not be allowed on the top layer of the installation.
- O. In no condition on the project will the new vapor barrier be in contact with the new roof membrane. Provide 1/2" high density polyisocyanurate insulation board or other approved material as a separation between these materials to comply with the roofing material manufacturer's requirements for warranty.

- P. In all cases where a tapered filler board is to be utilize for ease of installation (taper the perimeter to avoid installation of a reinforced membrane attachment strip) or as a shim to provide proper slope to drain, these panels will NOT be wood fiberboard. Gemini or other tapered polyisocyanurate board will be used. These shims will be installed UNDER the cover board in all instances.
- Q. All pipes, angles and other supports shall be cleaned and scraped of all bituminous material prior to the new roof being installed.
- R. The existing duct wrap shall be removed 1'-0" above the finished roof height to allow for proper flashing. The duct wrap shall be replaced with new materials matching the existing as shown in the detail drawings.
- S. In all cases where a cover board is not installed, the top layer should be greater than 2" thick to capitalize on the reduced fastening rates. If the top layer is less than the 2", the roofing contractor and material manufacturer will need to provide new fastening rates and information based on the FM Global Roof nav numbers.
- T. See Insulation Schedule 1.2, below, for specific information. See Roof Plan for conceptual tapered insulation plans.
- U. Supplement the proposed insulation assembly with shims, crickets and tapered panels fabricated from Polyisocyanurate insulation to provide positive slope- to- drain and eliminate all ponding water on the final assembly.
- V. The project shall comply with roofing manufacturer's requirements for 30-year, 72 MPH warranty.
- W. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and Specification Section 07 53 23:3.5, for more information).
- X. The drawings indicate and show the limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

## 1.2 INSULATION SCHEDULE

Roof Area	Cover Board	Taper	Base Layer	Attachment Type
Steel Deck	½" HD Polyiso.	None	Two layers 2.5" Flat Stock	Mech. Fastened
Drain Sump (S)	½" HD Polyiso.	Q Panel	None	Mech. Fastened
Crickets (S)	½" HD Polyiso.	1/2"/ft. taper 1/2" min	2" Polyiso Filler Insulation	Mech. Fastened

Notes:

- A. All insulation to be purchased through the membrane manufacturer.
- B. All vertical joints shall be staggered a minimum of 6" from the base layer to prevent thermal bridging.
- C. Thermal insulation 3" and thicker at its thickest point, shall be installed in multi-layer configuration with **staggered vertical joints**.
- D. In certain locations, the use of tapered polyisocyanurate insulation may be specified or shown on Detail Drawings. For use at perimeter or other details. Comply with slopes or configurations shown.

## 1.3 SUBMITTALS

- A. Submit the following. Contractor is responsible for conducting all pullout tests.

1. A letter from the roof membrane manufacturer and insulation manufacturer stating that the insulation to be used on the project is acceptable for use with the system to be used on all deck types.
2. Manufacturer's Material Safety Data Sheets (MSDS) for all products specified in this Section.
3. Insulation fastener and low-rise foam-adhesive pull test results as conducted by an independent third party (not the roofing contractor). Testing shall be sufficient to satisfy ANSI/SPRI FX-1 2016, and roofing material manufacturer's requirements.
4. Tapered insulation plan.
5. Vapor barrier information and MSDS.

#### **1.4 CODES**

- A. Except as modified by the requirements of other governing codes and by this specification, insulation and its installation shall conform to the provisions and recommendations of the following codes and standards:
  1. Insulation shall have Factory Mutual Class I approval (FM 4470 Approval Standard).
  2. Mechanical attachment of insulation shall be as listed in Section 3.04.
  3. Insulation fasteners and plates shall have Factory Mutual approval for the system specified.
  4. Insulation shall carry Underwriters Laboratory (Class A) approval for fire resistance.
  5. ASTM C 1289 – Standard specification for faced rigid cellular polyisocyanurate insulation board.
  6. LTTR – Long Term Thermal Resistance, using techniques from CAN/ULC S770 based on ASTM C1303.

#### **1.5 TRANSPORTATION AND HANDLING**

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

#### **1.6 STORAGE AND PROTECTION**

- A. The Contractor shall follow the recommended storage procedures of the manufacturer of the materials being used. No storage on or within the building will be allowed without written permission of the Owner. Any material brought to the roof for daily operations or storage shall be evenly distributed on the roof to prevent concentrated loads and shall not overload the structure.
- B. All moisture sensitive materials shall be stored in weatherproof trailers or temporary protective shelters and shall be stored at least 4 inches above the surface area on stable pallets or skids and shall at all times be completely covered and secured. Tarpaulins or similar "breathable" materials shall be used to cover materials. Rubber or plastic materials shall not be accepted. Factory applied "shrink packs" or plastic wrappings shall not be accepted.
- C. All materials are to be stored at the recommended temperature range as specified by the manufacturer. The Contractor shall provide manufacturer's information to the Owner's Representative concerning storage and handling of flammable or volatile materials. The "shelf life" of materials shall be provided with the date of

manufacture. Materials that become congealed, thick, non-uniform or otherwise unsuitable for proper application shall be removed from the site and replaced with new properly stored and tested materials.

- D. Provisions for placement of the Contractor’s equipment must be planned by the Contractor and submitted to the Owner and Owner’s Representative for approval.
- E. Provide off-site storage and protection when the site does not permit on-site storage and protection.
- F. Do not store any material on adjacent of finished roof areas.

**1.7 PROJECT CONDITIONS**

- A. Roof removal and roofing system installation shall not take place during inclement weather or when the air temperature or wind chill temperature is below 40°F.
- B. Material safety data sheets of all specified products of this section shall be kept on site daily for project duration.
- C. Prior to the commencement of the new roof work once the existing structural roof deck is exposed the roof area will be carefully inspected and checked for all conditions affecting roofing application and performance. Any and all defects shall be reported in writing to the Owner’s Representative and roofing work shall not proceed until the defects have been corrected. Commencement of work shall constitute acceptance of the conditions to which insulation and roofing work are to be applied, and all defects in work resulting from such accepted surfaces shall be corrected without additional expense to the Owner.

**1.8 ENVIRONMENTAL REQUIREMENTS**

- A. Roof removal and roofing system installation shall not take place during inclement weather or when the air temperature or wind chill temperature is below 40°F.
- B. Material safety data sheets of all specified products of this section shall be kept on site daily for project duration.

**PART 2 - PRODUCTS**

**2.1 INSULATION**

- A. Polyisocyanurate insulation shall be rigid closed-cell polyisocyanurate core integrally bonded to non-asphaltic fiberglass facing in the foaming process. Board size shall be 4’ x 8’ in size. Insulation shall be for use in adhered roofing assemblies and shall adhere to the following listed properties:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>VALUE</u>
*Thermal Performance	ASTM C-518	As required
Water Absorption % Volume	ASTM C-209	<1% volume
Dimensional Stability	ASTM D-2126	2.0% max. 7 days
Compressive Strength	ASTM D-1621	20 psi nominal
Foam Core Density	ASTM D-1622	2.0 lb./cu.ft. nominal
Moisture Vapor Transmission	ASTM E 96	<1.0 perm
Service Temperature	-----	-100°F to +250°F
Flame Spread	ASTM E-84	25 max.

- B. High Density (HD) Polyisocyanurate Cover Board:

1. 4'x 8' rigid roof insulation composed of a high density closed cell polyisocyanurate foam core laminated to a premium performance coated glass fiber-mat facer.
  - a. ½" SecurShield HD™ by Carlisle Syntech.
  - b. ½" Protector HD™ by Johns Manville Building Products
  - c. ½" Isogard HD™ by Elevate Building Products
  - d. ½" H-Shield HD™ by Hunter Panel.
- C. All HD boards are to be 100 PSI minimum. (ASTM C1289, Type ii, Class 4, Grade 1.)
- D. All insulation shall be provided by the selected manufacturer. If the manufacturer does not offer this type of insulation hunter panel shall be used and included in the manufacturer's full system NDL warranty. However, do not mix different brands of insulation boards in the same system, i.e. Hunter panels and Securshield.
- E. Insulation adhesive will be approved by the roof membrane manufacturer,
- F. Transition by roofer at cricket low point as required establishing a smooth transition shall be 9" wide clap board and shall be accepted by roof membrane manufacturer.
- G. All tapered and other flat stock polyisocyanurate insulation panels shall have facing materials identical to the flat stock panels and be manufactured by the same insulation manufacturer.
- H. Provide all 3" foam tubes, Roxul batt insulation and batt insulation supports as required for all expansion joint locations.

**2.2 FASTENER AND INSULATION ADHESIVE PULL TESTING**

- A. Insulation fastener and low-rise foam-adhesive pull test results as conducted by an independent third party (not the roofing contractor). Testing shall be sufficient to satisfy ANSI/SPRI FX-1 2016, and roofing material manufacturer's requirements. The results shall be provided to the Owner's Representative via electronic correspondence within 72 hours of the testing.

**2.3 MECHANICAL ATTACHMENT OF INSULATION**

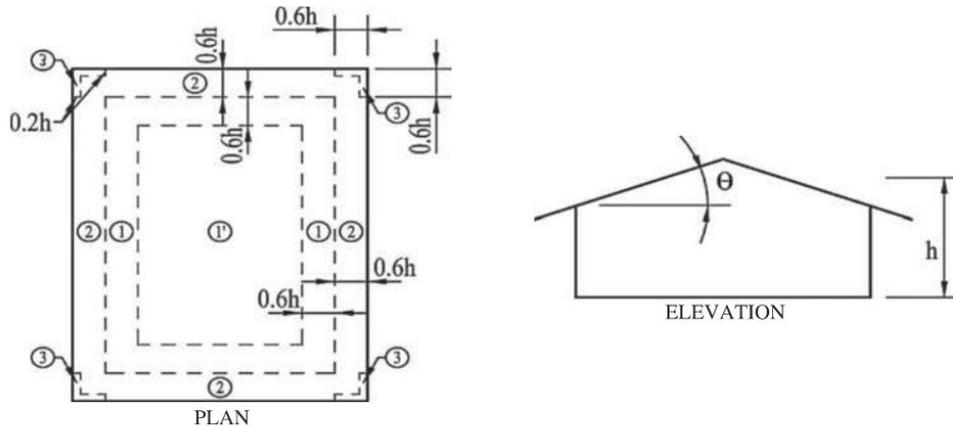
- A. When fastening insulation to the steel roof decks ensure that proper fastener length is maintained at all locations including locations where insulation thickness varies. Take care to prevent any damages underside conduits in the deck flutes.
- B. The following chart shows the anticipated Insulation fastener layout. The fastening reflects using with 4'x 8' Polyisocyanurate insulation panels. System shall meet or exceed the minimum wind uplift values on sheet RP-101. (Regardless of the manufacturer's minimum requirement, ARM requires a minimum of 8 fasteners per 4'x8' sheet)

Roof Area	Field'	Field	Perimeter *	Corner **	Fastener Type
All Steel Deck	12	12	12	12	HP14-10

\*\* **L-Shaped Corners** are by the ASCE 7-16 as 0.6 x building height (length) and .2 x building height (wide). The membrane manufacturer shall be consulted prior to the submittal of the bid to ensure that the design of the membrane will meet or exceed all requirements for the specified warranty period.

\* **Perimeters** are defined by the ASCE 7-16 as  $0.6 \times$  building height. The membrane manufacturer shall be consulted prior to the submittal of the bid to ensure that the design of the membrane will meet or exceed all requirements for the specified warranty period.

### Diagrams



### Notation

$B$  = Horizontal dimension of building measured normal to wind direction, in ft (m).

$h$  = Eave height shall be used for  $\theta = 10^\circ$ .

$\theta$  = Angle of plane of roof from horizontal, in degrees.

- C. The above fastening is the required minimum based on our calculations. However, final approval by the membrane manufacturer is required to ensure the system meets or exceeds the uplift pressures as shown on code compliance drawing. If the manufacturer is requiring fewer fasteners, this shall be brought to the attention of the Owner's Representative for approval, in writing, prior to the submittal of the contractors bid.
- D. Contractor shall add additional insulation fasteners (beyond the specified amount), where and as required, to ensure that all insulation panels finish flush with top surface of adjacent panels within  $1/16'' \pm$ .
- E. See code compliance drawing for additional information and the calculated perimeter and corners for this project. If the manufacturer's warranty requirements are more stringent, they will be used in lieu of the Building Code.
- F. If enhanced fastening is required by the materials manufacturer when installing the  $1/2''$  high density (HD) polyisocyanurate insulation boards, these shall be carried by the roofing contractor with no additional costs to the building Owner.

## 2.4 INSULATION FASTENERS AND PLATES

- A. Insulation fasteners and plates shall meet or exceed the performance or characteristics, as listed below.
- B. All fasteners for insulation shall meet all published requirements of corrosion resistance by roofing materials manufacturers as well as Factory Mutual Research "Approval Standard #4470" effective December 1988.
- C. Insulation fasteners for use over steel deck, concrete, and tongue and groove wood deck (thermal barrier) shall be heavy duty screws with a minimum diameter thread of  $1/4''$  and of sufficient length to penetrate the top flute of the steel deck by  $1''$ , concrete deck by  $1\frac{1}{4}''$  and into the tongue and groove wood deck by  $1''$ . The fastener shall be a heavy duty roofing fastener adhering to the following minimum physical properties:

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Thread diameter .245", shank diameter .190", head style #3 Phillips truss head, coating CR-10. (Structural concrete decks must be pre-drilled to a depth ½" deeper than the fastener engagement. Contractor shall vary the length of his insulation fasteners at sumps, crickets or locations where insulation is tapered.

- D. Fasteners shall include a corrosion resistant Factory Mutual approved pressure plate, hot-dipped galvanized steel plate (3" diameter).
- E. Contractor shall arrange for pullout tests to be completed at the site for each deck area.
- F. The contractor should be aware that conduit, data and other equipment lines have been run tight to the roof deck. The contractor is responsible for any and all damage done to the aforementioned materials due to screws or other items damaging the material themselves or the conduits they are run in. Any damage shall be remedied, to the Owner's expectation, at the Contractors sole expense.

### **PART 3 – EXECUTION**

#### **3.1 EXAMINATION**

- A. Insulation shall be installed over a clean, dry and properly prepared roof surface acceptable to the membrane manufacturer, Roofing Contractor and the Owner's representative. The Contractor shall inspect the surface to determine that it is smooth and uniform to receive the new insulation. Prior to starting the work, the Contractor shall notify the Owner's representative that the deck is ready for new work to begin.
- B. No more insulation shall be installed than can be completely covered with the finished roofing system on the same working day.
- C. Contractor shall take extensive precautions to ensure that substrate is dry prior to application of new assembly.

#### **3.2 PREPARATION AND PROTECTION**

- A. All installed insulation must be fully protected from precipitation and condensation damage at all times. Any wet insulation shall be marked, removed from the site and replaced prior to installation of new membrane.
- B. Contractor shall stockpile insulation board so as not to overload the structure.
- C. Contractor should note that polyisocyanurate insulation is flammable when exposed to direct flame.
- D. Contractor shall ensure that the structural deck is dry, and free of frost or other debris, prior to installing new insulation or adhesive.
- E. Do not store any material on adjacent areas that are not in contract or finished roof areas.

#### **3.3 INSTALLATION - GENERAL**

- A. The installation shall be neatly cut to fit around roof penetrations and projections. Insulation for all roofs is to be laid in parallel courses with transverse joints staggered with joints in adjoining courses. Wherever possible, the stagger shall be half the panel dimension, but not less than a foot in any case. All joints shall be tight.
- B. Insulation shall be installed without gaps or voids and with smooth transitions and tightly fitting joints. Contractor is responsible for setting all insulation to fit tight and flush.

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- C. No piece shall be cut to fit less than two square feet, unless size of opening dictates.
  - D. The top surface of the insulation shall be flush with the top surface of the wood blocking or adjacent insulation within a tolerance of + 0” and - 1/16” with respect to the blocking.
  - E. Where more than one layer of insulation is installed, stagger joints of succeeding layers from first layer, a minimum of 12” in each direction.
  - F. Tapered insulation shall be installed according to the manufacturer’s approved tapered insulation plan.
  - G. Fasteners are to be installed in accordance with the fastener manufacturer’s recommendations.
  - H. The thicker of the two insulation layers shall be installed over the thinner layer of insulation boards.
  - I. **When ½” high density (HD) insulation (100 PSI minimum) is installed, it shall be installed over all new saddles and crickets.**

### 3.4 INSTALLATION – MECHANICALLY FASTENED

- A. Insulation shall be mechanically attached to the structural steel deck using accepted fasteners and insulation plates for the given roof system. Fastening shall meet or exceed the following wind classification based on pull test information:
- B. L-Shaped Corners are by the ASCE 7-16 as 0.6 x building height (length) and .2 x building height (wide). The membrane manufacturer shall be consulted prior to the submittal of the bid to ensure that the design of the membrane will meet or exceed all requirements for the specified warranty period.
- C. Perimeters are defined by the ASCE 7-16 as 0.6 x building height. The membrane manufacturer shall be consulted prior to the submittal of the bid to ensure that the design of the membrane will meet or exceed all requirements for the specified warranty period.
- D. Fasteners are to be installed in accordance with the fastener manufacturer’s recommendations. Verify spacing with the information provided above.
- E. Use fastener tools with a depth locator as recommended or supplied by the fastener manufacturer to ensure proper penetration into the structural deck.
- F. When fastening insulation to the steel roof decks ensure that proper fastener length is maintained at all locations including locations where insulation thickness varies. Take care to prevent any damages underside conduits in the deck flutes.

### 3.5 POSITIVE DRAINAGE

- A. Contractor shall evaluate the slope-to-drain of the roof deck prior to installing the insulation assembly. Contractor shall verify that all areas of the roof deck are sufficiently and continuously sloped towards the drains or scuppers.
- B. Contractor shall supplement and modify the insulation assembly, as required, to ensure that all areas of the roof are free from ponding water at completion of work. This includes but is not limited to:
  - 1. Shimming or adding insulation panels to low spots.
  - 2. Adding sections of tapered Polyisocyanurate enhanced slope.
  - 3. Enlarging or enhancing slope of crickets and saddles.
  - 4. Adding perimeter blocking to accommodate tapered insulation or cricket.

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**3.6 ADDITIONAL INSULATION FASTENERS**

- 3.7 Carry the material and insulation cost of up to 100 extra insulation board fasteners and plates, to be installed, as required, and/or as requested by the owner or the Owner's Representative.
- 3.8 The additional fasteners are to provide additional securement at areas where the insulation panels do not sit flush with adjacent components.

END OF SECTION 07 21 13

**SECTION 07 53 23**

**ETHYLENE-PROPYLENE-DIENE-  
MONOMER ROOFING (EPDM)**

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- SECTION 07 53 23 -

**ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING (EPDM)**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. The work in this section involves installing fully adhered (**utilize “roll on” bonding adhesive only**; Cav-grip, All Season Adhesive Spray, Jetbond, etc. **will not** be acceptable), non-reinforced, black, .090, EPDM single ply, membrane roofing to all roof areas, as shown on the roof plan.
- B. Utilize “roll on” bonding adhesive or approved equal. Spray adhesives shall not be allowed. No self-adhered membranes shall be allowed that do not have a minimum of a 25mil factory applied taped seam and prior approval from the designer of record.
- C. For the electrical boxes and ladders installed on the project, shall be removed, water block installed behind, and all sides shall be liquid flashed into the new membrane to prevent UV degradation.
- D. Field seams and flashings:
  - 1. All seams to be 6”.
  - 2. No seam shall be within 4’-0” of the roof drains. If there are seams in these locations, they will be a “balloon patch” installed and the perimeter of the patch stripped in with 6”, self-adhering, cured EPDM cover strip flashing.
  - 3. No Exposed or visible glue extending more than ¼” beyond seams will be acceptable. Areas will need to be cleaned prior to acceptance.
  - 4. Any target patch installed at drains shall have all 4 sides stripped in.
  - 5. All seams “bucking” or in the opposite direction of water flow will be stripped in with 6” material regardless of manufacturer’s acceptance.
- E. Provide liquid flashings at all miscellaneous shaped steel supports going through the membrane. Kempersol BRM or approved equal.
- F. All roof drain seals shall receive no less than one full tube of water cut off mastic along the groove of the drain bowl.
- G. All 10’-0” lengths of termination bar will receive no less than 1/2 tube of water cut off mastic.
- H. Contractor to provide all equipment, filters or other means to prevent odors and/or debris from entering the fresh air intakes that are to remain fully operational throughout the project.
- I. Provide liquid flashing in lieu of pitch pockets around irregular shaped penetrations and other supports for the access stairs, pipes, ducts, and ladders.
- J. If pitch pockets are utilized in any location provide liquid flashings to keep the UV off of the pitch pocket filler. Kempersol BRM or approved equal. All liquid flashing will be black.
- K. Manufacturer’s 30”x30” walkway pads connecting all roof access points and around all 4 sides of all serviceable equipment as shown on the roof plan. These are not shown on the roof plan for clarity. Carry the cost of 5 additional walkway pads to be allocated for use around new equipment or as designated by owner.
- L. Provide new 24”x2”x24” concrete pavers at all access points including at the tops and bottoms of ladder, outside access doors/hatches and as shown on the roof plan. Carry the cost of 2 additional concrete pavers to be allocated for use around new equipment or as designated by owner.

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- M. Provide all membrane attachment enhancements, as required by the selected membrane manufacturer's published literature at all overhead door and overhang locations.
  - N. Provide water block sealant behind all electrical boxes, cameras, antennas, attachment points of conduits, ladders and other items attached through the membrane to structural elements. These shall then be covered and flashed into the new membrane with the same liquid flashing as mentioned above to prevent UV degradation of the water block mastics.
  - O. Remove only as much roof membrane and flashing as can be 100% replaced on that work day. Complete flashing daily.
  - P. The Contractor is responsible for complying with all manufacturers' procedures for installation, as well as, all requirements, specified herein. If there is a conflict in these requirements, the more stringent will be utilized and installed. If deviation from these procedures is desired by the installing contractor, they must request this and come to a compromise with the Owner's Representative prior to the installation of the materials. In the case where the request has not been made and agreed upon by the Owner's Representative, the material will be removed at no cost to the Building Owner, Owner's Representative or the Project and the original design installed.
  - Q. The installation of all related flashing work to accommodate the new membrane. All flashings shall be installed permanently and concurrently with the roof membrane in order to maintain a water-tight condition as the work progresses. Temporary flashings are not allowed.
  - R. Provide a 40-mil, self-adhering, rubberized asphalt factory laminated, composite, vapor barrier, suitable for metal decking, as specified on the structural decks and up the rising walls to create a 100% watertight vapor barrier. All penetrations, holes (including roof drains), or other openings shall be properly sealed per the manufacturer's recommendations prior to the installation of the insulation boards. Utilize manufacturer's primer to install this vapor barrier (basis of design Carlisle VapAIR Seal MD, JM SA or Holcim/Elevate V-force).
  - S. All existing flashings shall be removed in their entirety from the existing walls, curbs, units, and all other penetrations where they would be originally installed. The new flashings will be installed to new or existing, cleaned, and primed surfaces. In no case shall the new flashings be installed to the old flashing regardless of the manufacturer's acceptance.
  - T. All membrane angle changes shall require termination and membrane securement. This is regardless of height and acceptance from the membrane manufacturer. This can be achieved through reinforced under membrane attachment strip (RMA, Russ strip or Fingers) or terminating the membrane with screws and 2" plates at 6" on center spacing, then installing the upper membrane over the lower membrane and gluing the seams.
  - U. All membrane installed on rising walls shall require termination and membrane securement at no more than 30" on center measured vertically. This is regardless of height and acceptance from the membrane manufacturer. This can be achieved through reinforced under membrane attachment strip (RMA, Russ strip or Fingers) or terminating the membrane with screws and 2" plates at 6" on center spacing, then installing the upper membrane over the lower membrane and gluing the seams.
  - V. All fasteners for the membrane or accessories shall be sized to only penetrate the upper flute by 1". The underside of the decking should be surveyed prior to any installation to ensure that no interior components are damaged. Coordinate this work with the facilities team on site everyday of roofing material installation.
  - W. Contractor is to install all roofing work necessary to accommodate all structural, mechanical, plumbing, and electrical penetrations.
  - X. The project shall comply with roofing manufacturer's requirements for 30-year, 72-MPH wind, system warranty. This warranty shall include any puncture add on that is available by the chosen manufacturer.
  - Y. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and Specification Section 07 53 23:3.5, for more information).
  - Z. The project shall comply with FM Global data sheets 1-28, 1-29, and 1-49 (see code compliance page RP-1 and Specification Section 07 50 00 for more information).

- AA. All penetrations, curbs, and other roof mounted units may not be shown on the roof plans. While every effort has been made to coordinate this work, the roofing contractor is responsible for conducting as accurate inventory of the actual field conditions and carrying the costs associated with completing the work as outlined in the contract documents.
- BB. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are mutually complimentary to each other and shall be followed to complete the work.

## 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Fully adhered sheet roofing.

## 1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 for definition of terms related to roofing work not otherwise defined in this section.

## 1.4 PERFORMANCE REQUIREMENTS

- A. General: Install sheet membrane roofing and base flashing that are watertight; will not permit the passage of liquid water; and will withstand wind loads, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.
- C. ASCE 7: Provide sheet membrane, base flashings, and component materials that meet requirements of ASCE 7 as part of a roofing system and that are listed as Class 1 or noncombustible construction, as applicable.
  - 1. Roofing system shall comply with the wind uplift loading as shown on RP-002.
- D. FM Listing: Provide sheet membrane, base flashings, and component materials that meet requirements of FM 4450 and FM 4470 as part of a roofing system and that are listed in FM's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global data sheets.

## 1.5 SUBMITTALS

- A. Product Data: For each type of roofing product specified. Include data substantiating that materials comply with requirements.
- B. Shop Drawings:
  - 1. Edge shop drawing of bends and lengths
  - 2. Counterflashing shop drawing of bends and lengths
  - 3. Reglet shop drawing of bends and lengths
- C. Installer Certificates: Signed by roofing system manufacturer certifying that the Installer is approved, authorized, or licensed by manufacturer to install specified roofing system.
- D. Manufacturer Certificates: Signed by roofing manufacturer certifying that the roofing system complies with requirements specified. Upon request, submit evidence of meeting requirements.

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- E. Product Test Reports: Based on evaluation of tests performed by manufacturer and witnessed by a qualified independent testing agency, indicate compliance of components of roofing system with requirements based on comprehensive testing of current product compositions.
  - F. Research/Evaluation Reports: Evidence of roofing system's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
  - G. Maintenance Data: For roofing system to include in the maintenance manuals.
  - H. Warranty: Sample copy of the full system roofing manufacturer's warranty stating obligations, remedies, limitations, and exclusions of warranty.
  - I. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.
  - J. Punchlist Inspection Report: Provide a copy of most recent punchlist inspection report of a completed installation the roofing contractor finished with their selected manufacturer with the same membrane specified roofing system. Do not submit a final inspection report stating that there are no remaining items and the warranty will be issued. This is to be the punchlist inspection prior to the final inspection.
  - K. Provide at least (3) three references of fully adhered systems completed within 50 miles of this project. These projects will have been of similar size and complexity.
  - L. Insulation fastener and low-rise foam-adhesive pull test results as conducted by an independent third party (not the roofing contractor). Testing shall be sufficient to satisfying ANSI/SPRI FX-1 2016, and roofing material manufacturer's requirements.
  - M. Statement of nightly tie in procedures. Outline exactly how the new roof will be tied into the old roof each day.
  - N. Sheet layout plan indicating the direction of the existing structural roof decking.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing roofing similar to that required for this Project and who is approved, authorized, or licensed by the roofing system manufacturer to install manufacturer's product.
- B. Pre-installation Conference: Before installing roofing system, conduct conference at Project site to comply with requirements of Section 01 11 13-1.4-F "Project Meetings".
  - 1. Notify participants at least five (5) working days before conference. No work shall commence without this conference and the submittal process being complete.
  - 2. Meet with Owner; Owner's Representative; Owner's insurer, if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  - 3. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 5. Review loading limitations of deck during and after roofing.
  - 6. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
  - 7. Review governing regulations and requirements for insurance, certificates, and inspection and testing, if applicable.
  - 8. Review temporary protection requirements for roofing system during and after installation.

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9. Review roof observation and repair procedures after roofing installation.
  10. Document proceedings, including corrective measures or actions required, and furnish copy of record to each participant.
  11. Statement of nightly sealed tie in procedures. Indicate exactly how tie-ins will be undertaken.
- C. Roofing Material Manufacturer site inspections:
1. The roofing Contractor shall arrange for the roofing material manufacturer to provide Technical Field Representative to be on-site to observe the work, make corrective recommendations and provide written field reports to the Owner's Representative. The manufacturer's Technical Field Representative shall be on-site as indicated below:
    - a. **At the start of the project or the pre-construction meeting if requested by the Owner's Representative.**
    - b. **At any time where the Roofing Contractor, Owner or Owner's Representative feels that a technical, material or installation problem exists and that it could compromise the integrity of the roof assembly.**
    - c. **Final Inspection.**

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
  2. Provide heated storage areas when the temperatures are anticipated to be within 5 degrees above the manufacturer's minimum temperature required. This will be done at no additional cost to the Project, Owner or Owner's representative.
- C. Protect roof materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

#### 1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit roofing to be installed according to manufacturers' written instructions and warranty requirements.
- B. The project is anticipated to be completed over secure sensitive areas. The contractor shall provide a schedule of anticipated roofing installation areas to coordinate with the facility in order to accommodate the interior access in case of adverse conditions or drain replacements.

#### 1.9 WARRANTY

- A. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

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- B. System Roofing Manufacturer's Warranty: Submit a written warranty, without monetary limitation, signed by roofing system manufacturer agreeing to promptly repair leaks resulting from defects in materials or workmanship for the following warranty period
1. Warranty Period: 30-year Gold Seal System from Carlisle.
  2. Warranty Period: 30-year Peak Advantage System Warranty from Johns Manville.
  3. Warranty Period: 30-year Red Shield System from Holcim/Elevate.
- C. Special Project Warranty: Submit roofing Installer's warranty signed by Installer, covering work of all Sections, including membrane roofing, sheet flashing, roof insulation, fasteners, and vapor retarders, if any, for the following warranty period:
1. Warranty Period: 2 years from date of Substantial Completion.
- D. **No early bird warranties will be accepted.**

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: All roofing materials shall be Carlisle, Elevate or Johns Manville (No substitutes).
1. EPDM Sheet:
    - a. Carlisle Syntec Systems; Carlisle Corp.; Sure-Seal FAT (Black) EPDM .090
    - b. Johns Manville Building Products; NR FIT (Black) EPDM .090
    - c. Holcim/Elevate Products; Rubbergard (Black) EPDM .090

### 2.2 EPDM SHEET

- A. EPDM Sheet: Uniform, flexible sheet formed from a terpolymer of ethylene-propylene-diene, complying with ASTM D 4637, Type 1, of the following grade, class, thickness, backing, and exposed face color:
1. Grade and Class: Grade 1 and Class U (R-reinforced, U-Unreinforced)
  2. Type: non-reinforced
  3. Thickness: 90 mils, nominal.
  4. Backing: Un-backed
  5. Exposed Face Color: Black.
  6. Sheet width: 10'-0" minimum
  7. Inseam fastening: None
  8. Seam width: 6" (Factory applied tape)

### 2.3 VAPOR BARRIER

- A. Carlisle VapAIR Seal MD or JM SA or Holcim/Elevate V-Force is the basis of design of this application.
1. Thickness (ASTM D1970): 40 Mils
  2. Tensile Strength (ASTM D412): 250 psi

3. Elongation (ASTM D412): 250%
  4. Peel Adhesion (ASTM D903): 5 lbs/in
  5. Puncture Resistance (ASTM E154): 60 lbs.
  6. Permeability (ASTM D1970): 0.015 perms
  7. Air Permeance (ASTM E2178): 0.000 L\*m<sup>2</sup> @ 75 pa
  8. Shelf life: 1 year
- B. Air Barrier seams to have 3” long bead of lap sealant along any T-joints or step offs.
- C. Air Barrier Primer (if required): Cav-grip III, Jetbond or All-season solvent based, high tack primer or approved equal.
- D. Air Barrier Seams and penetrations: overlap a minimum of 4”. Roll the vapor barrier immediately after the installation with a 150# roller wrapped in resilient (sacrificial) material that will not mark or tear the vapor barrier material.
- E. Primer: CCW 702 solvent based, high tack primer or approved equal.
- F. Utilize Cav-grip, All-season, or Jet Bond over all asphalt that does not come up when the original membrane is ripped. Carry 20% of the roof area in the base bid.
- G. All seams, penetrations, holes (including roof drains), or other openings shall be properly sealed per the manufacturer’s recommendations prior to the installation of the insulation boards.

## 2.4 AUXILIARY MATERIALS

- A. General: Furnish auxiliary materials recommended by roofing system manufacturer for intended use and compatible with EPDM membrane roofing.
1. Furnish liquid-type auxiliary materials that meet low VOC limits of authorities having jurisdiction.
  2. Comply with latest VOC requirements adopted by the State where the project is located.
- B. Sheet Flashing: 60-mil thick EPDM, uncured or cured, according to application.
- C. Bonding Adhesive: Manufacturer's standard bonding adhesive.
- D. Splice Adhesive and Cleaner: Single-component butyl splicing adhesive and solvent-based splice cleaner.
- E. Splice Primer and Tape: Manufacturer's standard synthetic rubber polymer primer and 6-inch wide minimum, butyl splice tape with release film.
- F. Lap Sealant: Manufacturer's standard single-component sealant.
- G. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- H. Metal Termination Bars: Manufacturer's standard aluminum bars, approximately 1 inch wide, roll formed and pre-punched at 3” o.c.
- I. Metal Battens: Are not permitted under any membrane.
- J. Reinforcing under membrane (AKA: RMA, Russ, Fingers) strips shall be utilized to limit the number of penetrations through the membrane. These strips shall be fastened at 6” on center for all perimeter reinforcing. Verify edge distance with the membrane manufacturer’s minimum requirements for warranty.
- K. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions of FM 4470, designed for fastening sheet to substrate, and acceptable to roofing system manufacturer.
- L. Manufacturer’s 30”x30” walkway pads connecting all roof access points and around all 4 sides of all serviceable equipment as shown on the roof plan. These are not shown on the roof plan for clarity.

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- M. Concrete Pavers: Install where shown, on the roof plan.
  - N. Pedestal Paver Supports:
    - 1. Pedestal supports shall be High-Tab pedestals by Hanover Architectural Products.
    - 2. Provide flexible Leveling Shims as part of the Hanover paving system.
  - O. EZ Series pipe support by Caddy® or approved equivalent. Provide a strip of EPDM material 1” wide adhered to the membrane to hold the supports in place.
  - P. Miscellaneous Accessories: Provide liquid flashings, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, and other accessories recommended by roofing system manufacturer for intended use. Pitch pockets will not be accepted unless prior written approval is given by the owner’s representative.

## 2.5 FASTENERS AND PLATES

- A. Fasteners and plates shall meet or exceed the performance or characteristics listed below:
- B. All fasteners for insulation shall meet all published requirements of corrosion resistance by roofing materials manufacturers as well as Factory Mutual Research “Approval Standard #4470” effective December 1988.
- C. Fasteners for use over steel deck, concrete, and tongue and groove wood deck (thermal barrier) shall be heavy duty screws with a minimum diameter thread of ¼” and of sufficient length to penetrate the top flute of the steel deck by 1”, concrete deck by 1-1/2” and into the tongue and groove wood deck by 1”. The fastener shall be a heavy duty roofing fastener adhering to the following minimum physical properties: Thread diameter .245”, shank diameter .190”, head style #3 Phillips truss head, coating CR-10.
- D. Fasteners shall include a corrosion resistant Factory Mutual approved pressure plate, hot-dipped galvanized steel plate (2” diameter).
- E. Contractor shall arrange for pullout tests to be completed at the site for each deck area. Pullout tests shall become part of the submittals for this section.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions under which roofing will be applied, with installer present, for compliance with requirements.
- B. Verify that roof openings and penetrations are in place and set and braced.
- C. Verify that wood nailers are in place and secured and match thicknesses of insulation required.
- D. Do not proceed with installation until unsatisfactory conditions have been corrected. If installation is conducted this will constitute acceptance of the conditions by the installing contractor. If there are any conditions that are found to be unacceptable and preventing proper installation in a good workmanship like manner, the contractor shall remedy these conditions, to the Owner’s satisfaction with no added expense to the Owner, Owner’s Representative or Project.
- E. Contractor shall arrange for independent, third-party pullout tests to be completed at the site for each deck area. Pullout tests shall become part of the submittals for this section.

### 3.2 PREPARATION

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- A. Clean substrate of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
  - B. Remove all roofing and vapor barriers completely to expose clean roof deck. Sweep/clean out steel deck flutes completely.
  - C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
  - D. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of the roofing system at the end of the workday. Remove and discard temporary seals before beginning work on adjoining roofing.
  - E. Verify that all accumulations of gravel surfacing, asphalt accumulations, insulation, dust, or other projections are removed from the deck. Roof deck should be "vacuum or broom cleaned" prior to installation of new roofing.
  - F. **Remove only as much roofing that can be completely replaced on the same day.**
  - G. Phased construction not allowed. Complete flashings 100% daily.
  - H. Sealed nightly tie-ins everyday regardless of the forecast weather conditions.
  - I. **The roofing contractor is to provide 100% protection of the roof membrane during the work of other (non-roofing) trades on the roof area directly adjacent to the non-roofing work. This includes but is not limited to: plywood working and walking surfaces, sacrificial membranes, welding blankets etc. Any damage done to the new roof area will be the responsibility of the roofing contractor overseeing the project.**
  - J. The roofing contractor is to keep equipment and foot traffic off of the completed roof membrane areas.

### 3.3 VAPOR BARRIER PRIMER APPLICATION

- A. Install the substrate primer at a rate recommended by the product manufacturer.
- B. Apply primer when the air temperature is above the manufacturer's required minimum temperature. Once primer is applied allow to fully "set up" per the manufacturer's recommendations before installing the vapor barrier. Prime only areas to have vapor barrier installed on the same day.
- C. Ensure the substrate is free of all dust and/or debris as well as dry. Do not install primer over coal tar or polysulfides. If either of these materials are present the surface must be properly cleaned before installation.

### 3.4 VAPOR BARRIER INSTALLATION

- A. Install vapor barrier over properly prepared substrate using manufacturer's primers.
- B. Seal vapor barrier 100% at all penetrations and edges
- C. Apply vapor barrier when air temperature is over the manufacturer's required minimum.
- D. Ensure the primed substrate is free of all dust and/or debris as well as dry. Do not install primer directly over coal tar or polysulfides. If either of these materials are present the surface must be properly cleaned before installation.
- E. Install the vapor barrier from the low point of the roof to the high point in a shingle fashion. Overlaps and end laps shall be staggered and per the manufacturer's recommendations.
- F. No wrinkles or fish mouths will be acceptable. Roll the barrier into the primer with a 100-150# roller immediately after it is laid. At all areas needing repair or replacement follow the manufacturer's recommendations for spot or field repairs.
- G. Utilize Cav-grip or Jet Bond over all asphalt or coal tar pitch that does not come up when the original membrane is ripped. Carry 100% of the roof area in the base bid.

### 3.5 ADHERED SHEET INSTALLATION

- A. Adhered attachment of roof membrane shall be in accordance with ASCE-7 and all FM Global requirements. The following uplift pressures are the minimum that must be achieved:
  - 1. Field : -16.92 psf
  - 2. Field prime: -27.61 psf
  - 3. Perimeter : -34.74 psf
  - 4. Corners: -34.74 psf
- B. Install EPDM sheet over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax for a minimum of 30 minutes prior to installation.
- C. Start installation of sheet in presence of roofing system manufacturer's technical personnel.
- D. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Apply Cav-grip III bonding adhesive to substrate and underside of sheet at rate required by manufacturer and allow to partially dry. Do not apply bonding adhesive to splice area of sheet.
- F. Install EPDM membrane in a layout that minimizes field seams. The intent of the project is to install a new fully adhered roof membrane with minimum of field seams and patches. While manufacturers allow extensive field patches it is the Owner's policy to minimize un-necessary field seams. Roofing deemed to have an unacceptable level of patches or seams will not be accepted.
- G. Field sheet and flashing membrane shall be wrinkle free. Field sheet and base flashings shall be fully adhered without wrinkles. Field sheet or flashings deemed by the Owner or its Owner's Representative to be excessive will not be accepted.
- H. Remove only as much roofing that can be completely replaced on the same day.
- I. Phased construction not allowed. Complete flashings 100% daily

### 3.6 SEAM INSTALLATION

- A. Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet terminations.
- B. Repair tears, voids, and lapped seams in roofing that does not meet requirements.
- C. Utilize 6" seam tape.

### 3.7 FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions. All flashing shall be fully adhered. Loose or un-adhered flashing will not be acceptable.
- B. Apply bonding adhesive to substrate and underside of flashing sheet at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing as recommended by manufacturer.

- D. Clean splice areas, apply specified primers or cements, and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars or other specified means of termination.
- F. All base flashings are to be fully adhered to underlying substrates with no loose or wrinkled sections. This requirement extends beyond the manufacturers' level of acceptance.
- G. All flashings shall be completed daily.
- H. No exposed termination bar, in the final product, shall be acceptable.

### **3.8 NIGHTLY TIE IN**

- A. Contractor shall provide a sealed nightly tie-in with EPDM products every night regardless of weather forecast.
- B. All flashing shall be completed on a daily basis. Temporary flashing not allowed.
- C. Prior to starting work, contractor, as a part of the submittal process, shall submit in writing the exact procedures for nightly tie in stating the materials, adhesives and techniques.
- D. The tie ins shall be welded for PVC, glued for EPDM and a compression connection for any Built-up roofing.
- E. These shall be installed by the foreman at the end of the workday, and they shall be responsible for any discrepancies in the workmanship of these connections.
- F. Weight and "down hill/slope" flaps of the membrane will not be acceptable at any time.

### **3.9 CONCRETE PAVER INSTALLATION**

- A. Install concrete pavers where indicated on the roof plan.
- B. Install with a minimum of 1½" gap and a maximum of 2" gap.
- C. Install manufacturer's protection mats under all pavers.
- D. Do not overload the structure by stacking pavers on the roof. Immediately disperse pavers about the roof area.

### **3.10 WALKWAY PAD INSTALLATION**

- A. Manufacturer's 30"x30" walkway pads connecting all roof access points and around all 4 sides of all serviceable equipment. These are not shown on the roof plan for clarity.
- B. Install walking pads in pattern as shown on the roof plan (RP-2).
- C. Install with a minimum of 1½" gap and a maximum of 2" gap.

### **3.11 CONDUIT SUPPORT**

- A. Provide new rooftop pipe support for all conduits and pipe lines (See Detail Drawing).
- B. Match pattern of existing wood blocking.
- C. The maximum unsupported length of the existing gas pipe is 8'-0". Provide new supports to accommodate this requirement.
- D. Provide EPDM straps through the supports glued to the membrane to limit the movement of the supports.

### **3.12 FIELD QUALITY CONTROL**

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Owner's representative.
  - 1. Notify Owner's representative or Owner 48 hours in advance of the date and time of inspection.
  - 2. Provide support for Infra-red, nuclear or Tramex testing after the roof is completed to ensure no wet insulation is installed. This may include test cuts, access or other support that is project specific.

### **3.13 PROTECTING AND CLEANING**

- A. Protect sheet membrane roofing from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Owner's representative and Owner.
- B. Correct deficiencies in or remove roofing that does not comply with requirements, repair substrates, reinstall roofing, and repair sheet flashings to a condition free of damage and deterioration at the time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.
- D. Remove any membrane contaminated by glue spills or other contamination.

**END OF SECTION 07 53 23**

**SECTION 07 62 00**

**SHEET METAL FLASHING  
AND TRIM**

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- SECTION 07 62 00 -

**SHEET METAL FLASHING AND TRIM**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. Drawings and general provisions of the Contract, including Technical Requirements.
- B. Furnish and install metal flashing required to complete the roofing application according to details and specified herein. This includes but is not limited to the following:
  - 1. Sheet metal flashing at perimeters, metal aprons, counter-flashings, metal drip edges, scuppers, gutters and downspouts on specified roof areas for a complete and thorough job.
- C. This Section includes sheet metal flashing and trim in the following categories:
  - 1. Exposed trim, edge metal, and fascia.
  - 2. Counter-flashing.
  - 3. Metal flashing.
  - 4. Reglets.
  - 5. Scuppers.
  - 6. Downspouts.
- D. At all RTU locations provide new 4-1/8" x 3-1/2" 90-degree corner brace, 16-gauge galvanized steel brackets with reinforcing ribs to attach the RTUs to their curbs per the International Mechanical Code. Provide 2 #12 self-tapping, hex head fasteners per side of the brace for attachment.
- E. New sheet metal accessories and metal edge assembly as designated and detailed in the contract documents.
- F. New metal scuppers:
  - 1. Provide new scupper and downspouts, as shown in the Detail drawings.
  - 2. Color to be chosen by client from standard colors.
  - 3. New downspouts 3"x 5" made from .040 Kynar finish aluminum and are to be 4-sided with the slip joint side facing opposite of the building wall.
  - 4. Locations to be as shown on the roof plan.
  - 5. Scupper to match existing 8"x 12" and constructed from .040 Kynar finish aluminum. The profile and is to be per the supplied Detail Drawings.
  - 6. Provide liquid flashing (Kemperol BRM or approved equal) at all scupper joints. Kemper to be full height and width of joints.
  - 7. Scupper and downspout brackets, as shown on the Detailed Drawings, on all required roof areas.
- G. To the greatest extent possible, the shop fabricated edge metal shall be purchased from the membrane manufacturer and included in the roof warranty.
- H. All new formed metal shall have a minimum of a 3/4" hem on all exposed edges.
- I. New sheet metal accessories and metal edge assembly as designated and detailed in the contract documents.

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- J. There will be no termination bar exposed at the end of the project. All termination bars shall be covered by a counter flashing or blind receiver.
  - K. New 18-gauge plate installed over the areas where through deck penetrations occurred and are smaller than 8" in any direction. Provide hit pins in all corners and at 12" on center spacing if required. If a concrete plank is being plated over, the steel plate can only be pinned in the areas of the rebar.
  - L. The project shall comply with FM Global data sheets 1-28, 1-29, and 1-49.
  - M. All materials shall be created using the certified ES-1 metal fabrications verified by the NRCA. (NRCA edge details UL-31).
  - N. The project shall comply with ASCE 7-16 Wind Uplift criteria (see code compliance page RP-002 and Specification Section 07 53 24:3.5, for more information).
  - O. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

## 1.2 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement and exposure to weather without failing.
- B. Non-FM Global insured edge metal thickness requirements are as follows:
  - 1. Face height up to 8" = 0.040 Aluminum
  - 2. Face height up to 10" = 0.050 Aluminum
  - 3. Face height up to 12" = 0.064 Aluminum
- C. All edge metal is required to finish at or below the existing edge metal height to ensure the line of color variation due to exposed brick, metal, paint or other finish is completely covered in the final product.
- D. All heights to be verified in the field based on the conditions produced after the installation of the roofing materials and perimeter blocking. The heights shown on the drawings and in the details are the estimated heights based on the information available at the time of drawing. Installer to verify in final assembly.

## 1.3 SUBMITTALS

- A. General: Submit each item in this Article.
- B. Product Data including manufacturer's material and finish data, installation instructions and general recommendations for each specified flashing material and fabricated product.
- C. Shop Drawings of each item specified showing layout, profiles, and methods of joining and anchorage details.
- D. Qualification data for firms and persons to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of owner's representatives and owners and other information specified.
- E. Provide a copy of the ES-1 certification for the shop responsible for bending the materials.
- F. Provide a copy of all qualified sheet metal journeymen and apprentice licenses.
- G. Warranty Documentation: Submit manufacturer's standard warranty for all shop fabricated assemblies.

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#### 1.4 QUALITY ASSURANCE

- A. All personnel concerned with the shop fabrication and field installation of sheet metal work must be qualified sheet metal journeymen who may be assisted by sheet metal apprentices qualifying for their journeyman status. The foreman of the crew must have a least five years experience in roofing sheet metal work.
- B. All materials shall be created using the certified ES-1 metal fabrications verified by the NRCA.
- C. Mockups: Prior to installing sheet metal flashing and trim, construct in-place mockups indicated to verify selections made under Sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of work.
  - 1. Locate mockups on-site in the location and of the size indicated or, if not indicated, as directed by Owner's Representative.
    - a. Edge Metal: Provide at least one corner joint.
    - b. Edge Metal: Provide at least 2 sections with joint cover plate or under plate.
    - c. All other sheet metal fabrications
  - 2. Notify Owner's Representative one week in advance of the dates and times when mockups will be constructed.
    - a. Demonstrate the proposed range of aesthetic effects and workmanship.
    - b. Construct mockups for the following type of sheet metal flashing and trim:
  - 3. Exposed trim, gravel stops and fasciae.
  - 4. All metal flashing devices.
  - 5. Obtain approval of mockups before start of final unit of work.
  - 6. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed work.
    - a. When directed, demolish and remove mockups from Project site.
    - b. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed work.

#### 1.5 PROJECT CONDITIONS

- A. Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

#### 1.6 CODES AND STANDARDS

- A. Except as modified by the requirements of other governing codes and by this specification, conform to the provisions and recommendations of the following codes and standards:
  - 1. Metal installation shall be in accordance with the Architectural Sheet Metal Manual published by the Sheet Metal and Air Conditioning Contractor National Association, Inc. (SMACNA).
  - 2. Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

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## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Store materials in clean, dry area indoors.
  - 4. Do not store materials directly on floor or ground.
  - 5. Protect materials and finish during storage, handling, and installation to prevent damage.

## 1.8 WARRANTY

- A. Warranty Period, Product:
  - 1. Wind, 120 mph: 20 years.
  - 2. Five-year workmanship warranty covering replacement or repair of products that are defective in material or workmanship.
- B. Warranty Period, Finish: Limited 30-year warranty for prefinished coil-coated steel and aluminum coated with Kynar 500 standard colors covering fade, chalk, and film integrity.

## PART 2 PRODUCTS

### 2.1 METALS

- A. Kynar finished aluminum
  - 1. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detailed drawings, unless otherwise indicated.
  - 2. Hook strips and cleats fabricated with Aluminum of the thickness as shown on the detailed drawings.
- B. Red & Freedom Gray Coated Copper
  - 1. ASTM B 370; temper H00, cold rolled except where temper .060 is required for forming; not less than 16 oz./sq. ft., unless otherwise indicated.
  - 2. Hook strips and cleats fabricated with Aluminum of the thickness as shown on the detailed drawings.
- C. Pre-patina Copper: ASTM B 370; temper H00, cold rolled except where temper .060 is required for forming; not less than 16 oz./sq. ft., unless otherwise indicated.
- D. PVC clad aluminum
  - 1. Factory-Clad Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detailed drawings, unless otherwise indicated.
  - 2. Hook strips and cleats fabricated with Aluminum of the thickness as shown on the detailed drawings.

### 2.2 REGLETS

- 
- A. General: Units of type, material, and profile indicated, formed as shown on detail drawings.
  - B. Counter-flashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of the counterflashing lower edge. (See details for locations of each type of metal).
    - 1. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness of 0.040 inch, unless otherwise indicated.

### **2.3 MISCELLANEOUS MATERIALS AND ACCESSORIES**

- A. Solder: For use with steel or copper, provide 50 - 50 tin/lead solder (ASTM B 32), with rosin flux.
- B. Solder: For use with zinc, ASTM C32, 60 percent lead and 40 percent tin with low antimony, as recommended by manufacturer
- C. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened. Refer to Detail drawing.
- D. Adhesives: Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.
- E. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

### **2.4 FABRICATION, GENERAL**

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with EPDM. Rivet joints for additional strength.
- E. Expansion Provisions: Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- F. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- G. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal.
- I. All sheet metal fabrications shall have a formed hem, no sharps edges.
- J. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.

1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured. All cleats are to be one gauge heavier than the cover metal unless otherwise noted on the details.

## 2.5 SHEET METAL FABRICATIONS

- A. General: Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.
- B. Blind Receiver: Fabricate from the following material:
  1. Kynar aluminum sheet, color: Owner's choice. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detail Drawings. unless otherwise indicated \*.
- C. Exposed Trim: Fabricate from the following material and as shown on detail drawings:
  1. Kynar aluminum sheet, color: Owner's choice. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detail drawings, unless otherwise indicated \*.
- D. Counter-flashing: Fabricate from the following material as shown on the detail drawings:
  1. Kynar aluminum sheet, color: Owner's choice. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness of 0.040 inch min., unless otherwise indicated \*.
- E. Drip Edge: Fabricate from the following material as shown on the detail drawings:
  1. Kynar aluminum sheet, color: Owner's choice. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detail drawings, unless otherwise indicated.
- F. Downspout: Fabricate from the following material as shown on the detail drawings:
  1. Kynar aluminum sheet, color: Owner's choice. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness as shown on the detail drawings, unless otherwise indicated.

## 2.6 FASTENERS

- A. For attaching sheet metal to masonry, use self tapping concrete screws or expansion type anchors. These fasteners are to be spaced at 6" on center for the edge metal and 8" on center (o.c.) for all hook strips.
- B. For attaching sheet metal to wood, use 3/8" diameter head, 12-gauge annular ring of sufficient length to provide 1 1/4" embedment into the substrate of the membrane manufacturer's approved fastener. Fasteners shall be spaced at 3" on center for all edge metal and spaced at 4" on center for all hook strips.
- C. For attaching termination bar to masonry, use self tapping concrete screws or expansion type anchors. Every other available fastening location shall be utilized to provide proper fastener spacing (approximately 16" o.c.). A fastener is required at each end in the outer most location of the termination bar.
- D. For attaching counter flashings with cut in reglets the lead wedges shall be spaced not more than 16" o.c.
- E. Top prevent corrosion, the indicated fastener materials shall be used with the following sheet metals:

<u>Sheet Metal</u>	<u>Nails</u>	<u>Screws</u>	<u>Rivets</u>
Aluminum	Aluminum or Zinc	Aluminum or Zinc	Aluminum or Zinc
Copper	Copper	Bronze	Bronze
Lead Coated Copper	Copper	Bronze	Bronze
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

## 2.7 ACCESSORIES

- A. Termination bar shall be 1/8" thick, 1" wide aluminum bar in minimum 8'-0" lengths with factory drilled countersunk holes at 6" o.c.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weatherproof. Workmanship for sheet metal shall be as follows:
  - 1. Surfaces to cover with sheet metal shall be free from defects of every description and clean of dirt and other foreign matter before sheet metal Work is started.
  - 2. Lines, arises and angles shall be sharp and true. Plane surfaces shall be free from waves and buckles. Joints and seams in plain surfaces shall be avoided as far as possible.
  - 3. Sheet metal work exposed to the weather shall be permanently watertight and weathertight, with suitable provisions made for free expansion and contraction without causing leaks.
  - 4. Exposed edges shall be doubled back 1/2" in such a manner as to conceal them and provide stiffness.
  - 5. No nails shall be exposed on the face of the finished work except as approved or except as directed herein.
- B. Install exposed sheet metal work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Roof-Edge Flashings: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for appropriate, wind zone.
  - 1. Hook strips should be continuous, and at least one gauge heavier than the fascia metal. They should be secured with annular threaded nails long enough to penetrate the wood 1 1/4" (in.). The nail head should be 3/16 in. minimum. When screws are used, they should be No. 8 minimum and long enough to penetrate wood 3/4 in. or metal 3/8 in. Fasteners should be either corrosion-resistant steel or treated to resist corrosion.
  - 2. Metal fascia and cant flashing should be secured to wood nailers at the bottom edge with a continuous hook strip. Metal sections should be secured at each end under the joint cover in the outside face with two large nails through slotted holes to permit expansion and contraction. Nail heads should be somewhat larger than the slotted holes. 4 in. wide joint covers should be hooked over the metal at the

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- upper and lower ends. A bead of caulking should be applied under the joint cover approximately 1 in. from the end of each metal fascia section.
3. Metal coping and counter-flashing should be secured by a hook strip attached to the wall exterior. It should be secured on the inside with No. 10 stainless steel screw fasteners through neoprene washers at 20 in. spacing, long enough to penetrate the wood 1-inch holes should be oversized to permit movement when heavy gauge metal or aluminum is used.
- D. Expansion Provisions: Provide for thermal expansion of exposed sheet metal work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- E. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
1. Use joint adhesive for nonmoving joints specified not to be soldered.
- F. Separations: Separate metal from non-compatible metal or corrosive substrates, including ACQ treated lumber, by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.
1. Underlayment: Where installing stainless steel or aluminum directly on cementitious or wood substrates, install a slip sheet of red-rosin paper and a course of polyethylene underlayment.
- G. Counter-flashings: Coordinate installation of counter-flashings with installation of assemblies to be protected by counter-flashing. Install counter-flashings in reglet joints. Secure in a waterproof manner by means of lead wedges and sealant with interlocking folded seam. Lap counter-flashing joints a minimum of 2 inches and bed with sealant.
- H. Install metal flashing in accordance with manufacturer's recommendations.
- I. Finish work to be free from water leakage under all weather conditions.
- J. Install electrolytic isolation materials between dissimilar metals. Avoid to the greatest extent practical, using dissimilar metals in contact with each other. This includes direct contact with pressure treated or ACA Lumber.
- K. All exposed new sheet metal work shall be cleaned at completion of installation. Grease and oil films, asphalt, handling marks, contamination from steel wool, fitting and drilling debris shall be removed and the work scrubbed clean. All new exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks. Daily cleanup and removal from site of all shavings, clippings, shearings, rivets, fasteners, and whatever other debris resulting from these operations are required.
- L. Proceed with flashing work concurrently to membrane installation to prevent water intrusion into the roof assembly.
- M. Sheet metal panel lines, brakes and angles are to be sharp and true, and surfaces free from objectionable wave, warp, or buckle. Fold exposed edges of sheet metal back ½" to form an inside hem.
- N. Fasteners exposed to weather shall utilize neoprene washers between the fastener head and the metal flashing.
- O. Reglet and blind receiver terminations:
1. At the following locations, saw cut new vertical and/or horizontal reglets to provide new counter-flashing or metal blind receiver.
    - a. Where coping caps or wall panels intersect with perpendicular walls.
    - b. Where base flashings intersect with perpendicular wall.

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- c. Where metal edge intersects with perpendicular wall.
  - d. At other vertical or horizontal intersections to provide metal cover over flashing or metal termination.
- P. All sheet metal fabrications shall be hemmed at exposed edges.
- Q. All sheet metal fabrications shall be level or plumb.

### 3.3 ADJUSTING

- A. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by the Owner's Representative.
- B. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by the Owner's Representative.

### 3.4 EDGE METAL

- A. Install continuous cleat fastened 6" o.c., as required by the NRCA detail.
- B. Fasten horizontal flange at 3" o.c. staggered 1/2"
- C. Maximum length of gravel stop either side of corners shall be five feet. Outside corners shall be formed from a single length of metal with mitered flange.
- D. Install per Detail Drawing(s).
- E. Metal sections should be secured at each end under the joint cover in the outside face with two large nails through slotted holes to permit expansion and contraction. Nail heads should be somewhat larger than the slotted holes. 4 in. wide joint covers should be hooked over the metal at the upper and lower ends. A bead of caulking should be applied under the joint cover approximately 1 in. from the end of each metal fascia section.

### 3.5 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

**END OF SECTION 07 62 00**

**SECTION 07 72 33**

**ROOF HATCH AND  
ACCESSORIES**

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- SECTION 07 72 33 -

**ROOF HATCH AND ACCESSORIES**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. The work under this Section consists of furnishing and installing new accessories for the existing roof hatch to remain in place. Existing roof hatch size: Approximately 42"x 32", verify size in field.
- B. Roof hatch accessories to be installed are the caged roof hatch safety grab bars from "LadderPort" with self-closing gate at the opening, complete hinge assembly, EPDM gaskets, complete lock assembly, hold open arm, compression spring operators, and the aluminum roof description plate.
- C. Provide information plate as described in this section of the specification.
- D. The drawings indicate and show limits of construction for this project. The specifications specify material and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

**1.2 SUBMITTALS**

- A. Submit the following:
  - 1. Submit product data sheets for specified roof hatch and accessories.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 1. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

**1.3 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

**PART 2 - PRODUCTS**

**2.1 ROOF HATCH**

- A. Verify Manufacturer in Field
- B. Unit: Single leaf type.
- C. Integral Curb: 1" rigid foam insulation; integral cap flashing to receive roof flashings; extended flange for mounting.
- D. Hardware:
  - 1. Compression spring operator and shock absorbers;
  - 2. Steel manual pull handle for interior operation;
  - 3. Steel hold open arm with vinyl covered grip handle for easy release;
  - 4. Components cadmium plated finish;
  - 5. Padlock hasp.

- E. Hinges: Heavy duty pintle type.
- F. Components to be fabricated free of visual distortion or defects. Weld corners and joints.
- G. Provide for removal of condensation occurring within components or assembly.
- H. Fit components for weathertight assembly.

## 2.2 FABRICATION TOLERANCES

- A. Squareness: 1/8" maximum difference in diagonal measurements.
- B. Plumb: Maximum deviation from plumb over entire height: 1/4".

## 2.3 ROOF HATCH ACCESSORIES

- A. LadderPort Company– Caged Hatch Railing system with gate closure per OSHA requirements to fit the new roof hatch.
- B. Ladderport Company – Grab bars to be installed per the manufacturer's requirements on the new roof hatch.
- C. Provide a 6" wide x 4" tall, aluminum plaque mounted to the underside of the roof hatch stating:

**Year installed: 2026**

**Roof membrane: .090 EPDM**

**Membrane Manufacturer: (As selected by the contractor)**

**Warranty: 30 year Warranty # \_\_\_\_\_**

**Insulation: 1/2" HD Board with 2 layers 2.5" polyisocyanurate insulation**

**Installation company: \_\_\_\_\_**

*(Provide name, address and telephone # of the roofing company that was awarded the contract)*

## PART 3 EXECUTION

### 3.1 EXAMINATION - ROOF HATCHES

- A. Verify existing conditions at the hatch location including but not limited to: gasket size, hatch size and handle type.

### 3.2 INSTALLATION - ROOF HATCH ACCESSORIES

- A. Install roof hatch accessories in accordance with manufacturer's recommendations.
- B. Coordinate installation of roof hatch accessories with installation new roof membrane.
- C. Roof hatch accessories shall not be installed until the roof hatch has been completely flashed and is in a water tight condition.
- D. Frames shall be carefully plumbed and aligned.
- E. Flash roof hatch, as specified.

**END OF SECTION 07 72 33**

**SECTION 09 91 13**

**EXTERIOR  
PAINTING**

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- SECTION 09 91 13 -

**EXTERIOR PAINTING**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. The work involves the preparation, priming and painting of all non-structural, non-galvanized metal pipes and exposed steel (including the existing plumbing vents, gas lines and large gooseneck exhaust vents). Apply two coats of brush grade exterior paint.
  - 1. Plumbing vent color: Matte Black.
  - 2. Gas Lines color: Safety yellow
- B. Existing units that are rusted and in need of painting shall be coated with a Coroseal rust converting metal primer. Once dry and cured, utilize the installation instructions for a Corothane® I MIO-Aluminum protective marine coating by Sherwin Williams.
- C. The surface of the items to be painted shall be scraped clean of dirt, debris, and/or any contaminants. The areas shall be prepared to receive the new coatings by either scraping or sanding the areas of rust to new clean metal or providing an initial coating of primer and then painting. The prepared area shall meet or exceed the requirements list above and the manufacturer's minimum requirements for preparation.
- D. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and shall be followed to complete the work.

**1.2 SUBMITTALS**

- A. Submit product data listed below:
  - 1. Manufacturer's safety data sheet (MSDS) for each type of paint to be used.
  - 2. Manufacturer's color chart, **for each paint**, to be used.

**1.3 DELIVERY AND STORAGE**

- A. All paints and painting materials shall be delivered in their original and unopened containers plainly marked with the name, brand, analysis of the product and manufacturer.
- B. Store material in a dry area above 40 degrees Fahrenheit and below 80 degrees Fahrenheit. Protect materials from water and direct sun.
- C. Any materials damaged in handling or storage must not be used.
- D. Handle and store per the provided SDS.

**1.4 ENVIRONMENT**

- A. No paint shall be applied when the ambient temperature or the surface temperature of the material to be painted is above or below the manufacturer's recommended application temperature.
- B. Coating should be protected from traffic and other abuse until completely cured and installation is complete.

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- C. Application shall proceed to dry, clean surfaces only. In planning work consider environment and weather related conditions such as mist, frost, dew, condensation, humidity and temperature. Temperature should be above 45 degrees F, rising and stay above 40 degrees F long enough for the initial cure to occur. Moisture of any kind should not be imminent.

## 1.5 COLORS

- A. Colors of finish coats as indicated above. Contractor shall provide the Owner with sample mock-ups of paint installed for approval. **No paint shall be applied before approval by Owner.**

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. The paints to be used in the work shall be of brush grade Sherwin Williams for the Corothane I Mio-Aluminum and Benjamin Moore for the Ultra HP low luster enamel or approved equivalent.
- B. Paint products applied to any surface shall be from the same manufacturer unless other products are specifically recommended by the manufacturer for use with its products.
- C. Apply paint per manufacturer's recommended number of coats (minimum of 2) and follow all between coat recommendations for preparation and drying times.

### 2.2 MATERIALS

- A. Exterior Non-Structural Steel:
1. Benjamin Moore Ultra Spec HP low luster **exterior brush grade paints** (or approved equivalent).
  2. Sherwin Williams Spec Corothane® I MIO-Aluminum protective marine coating **exterior brush grade paints** (or approved equivalent).

## PART 3 EXECUTION

### 3.1 MIXING

- A. Painting materials shall be stored and mixed in a single place, designated by the Owner for this purpose. The Contractor shall not use any plumbing fixture or pipe for mixing or for disposal of any refuse material. The Contractor shall carry to the mixing room all water necessary and shall dump all waste outside of the building into a suitable receptacle. The Contractor will be held responsible for any damage due to his failure to observe these provisions. Water and clean-up material shall be legally disposed of off site.

### 3.2 WORKMANSHIP

- A. Surface preparation shall meet or exceed the coating manufacturer's printed recommendations and these specifications.
- B. Cleaning and painting shall be so programmed that dust and other contaminants from the cleaning process will not fall on prepared surfaces or wet, newly painted surfaces.

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- C. Only skilled Applicators shall be employed in the work. All surfaces to be painted shall be clean and ready to receive paint. The Owner's Representative shall be notified in writing of any conditions that would prevent proper paint application of affect future paint performance and that are not to be corrected under the work of this section. The start of the Work will imply acceptance of conditions either as found or as corrected.
  - D. Paint shall be applied under favorable conditions and shall be brushed out carefully to a smooth, even coating without runs, sags or drips. Each coat of paint shall be allowed to dry thoroughly, not only on the surface, but throughout the thickness of the paint film before the next coat is applied. Finish surfaces shall be uniform in finish and color, and free from flash spots and brush marks. In all cases, the paint film produced shall be satisfactory in all respects to the Owner's Representative.
  - E. Paint shall be applied to obtain coverage per gallon not greater than that recommended by the manufacturer, so that dry film thickness is not less than that required. The Contractor shall record, in a manner satisfactory to the Owner's Representative, the quantities of paint used for successive coats on the various parts of the work.
  - F. **No spray cans or spray applied paint will be allowed or accepted.**

### 3.3 PAINTING OF STEEL

- A. Correct defects and clean surfaces which affect the work. Laitance should be vacuumed from the surface or washed off with clean water to insure proper adhesion of the new paint. Rust and loose paint shall be removed from exterior metal by power wire brushing to SSPC-3.
- B. Apply primer and top coats with brushes in accordance with manufacturer's instructions.
- C. Contrasting color primer shall be used to ensure complete coverage of all surfaces.

### 3.4 CLEAN-UP AND PROTECTION

- A. The Contractor shall not only protect work at all times but shall also protect all adjacent work and materials by the use of sufficient drop cloth during the progress of his work.
- B. Upon completion of the work, the Contractor shall clean up paint spots, oil and stains from floors, glass, hardware and similar finished items.
- C. Empty cans, soiled wiping cloths and related waste shall be removed from the building at the end of each day's work.

**END OF SECTION 09 91 13**

**SECTION 11 81 29**

**FALL PROTECTION**

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**- SECTION 11 81 29 -**  
**FALL PROTECTION**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. A Permanent Fall Protection layout has been specified herein and is shown on drawing RP-101. The contractor shall retain the services of a designated fall protection system installer and coordinate the work to provide a complete system that is tested, inspected and approved. The contractor, through the fall protection contractor, shall provide a stamped letter of certification by a registered professional engineer licensed in the jurisdiction where the project is located. This letter will certify that the installed anchors and systems are in compliance with OSHA and ANSI requirements.
- B. Non-penetrating Guardrail system including:
  - 1. Weighted base plates
  - 2. Tube steel railing sections meeting OSHA requirements.
  - 3. Color to be: galvanized
  - 4. Railings to be Garlock Fit Rite or approved equal.
- C. At all roof ladder locations, provide 15'-0" of new fall protection safety rails with bases and new slip sheets at the top of the ladder as required by OSHA to lead personnel toward the interior of the roof areas.

**1.2 REFERENCES**

- A. Publications listed herein are part of this specification to extent referenced.
  - 1. American Institute of Steel Construction (AISC)
    - a. AISC Publication Load and Resistance Factor Design for Structural Steel Buildings
    - b. AISC Specifications for the Design of Cold-Formed Steel Structural Members
  - 2. American Society for Testing and Materials (ASTM)
    - a. ASTM A36 Specification for Structural Steel
    - b. ASTM A123 Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Hardware
    - c. ASTM A500 Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
    - d. ASTM A780 Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
    - e. ASTM B209-04 Specification for Aluminum and Aluminum-Alloy Sheet and Plate
    - f. ASTM B221-02 Specification for Aluminum and Aluminum-Alloy Extruded Bars, Wire, Shapes, and Tubes
    - g. ASTM B308/B308M-02 Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles
  - 3. American Welding Society (AWS)
    - a. AWS D1.1 Structural Welding Code
  - 4. Occupational Safety and Health Standards
    - a. ANSI/IWCA I-14.1-2001 Window Cleaning Safety

- b. 1910 Subpart D (Walking and Working Surfaces)
- c. 1910.66 Appendix C (Personal Fall Arrest)
- d. 29 CFR 1910.23 – Guarding Floor and Wall Openings and Holes.
- e. OSHA procedures and precautions for employees using descent control equipment.

### 1.3 SYSTEM DESCRIPTION

#### A. Railing System:

- 1. Roof Edge Protection: Provide Safety Rail Co. Systems Non-penetrating Perimeter Guardrail System, including uprights, horizontal rails and accessories.
  - a. Safety rail system with 42 inch height; 39 inch minimum, 45 inch maximum height; to provide perimeter guardrail system on the roof to withstand a minimum load of 200 lb at any point in an outward or downward direction per OSHA Regulation 29 CFR 1926.502(b).
  - b. Uprights: As specified in 2.2.A.1
  - c. Horizontal Rails: As specified in 2.2.A.2

### 1.4 SUBMITTALS

#### A. Product Data: Manufacturer's data sheets on each product proposed

- 1. Test report certified by a professional engineer
- 2. General product data
- 3. Detailed drawings of equipment proposed
- 4. Installation instructions

#### B. Shop Drawings:

- 1. Submit scaled shop drawings showing location plan of all support equipment and sections detailing all parts and accessories.
- 2. Clearly specify equipment dimensions, materials, fabrication details, hardware, and installation instructions.
- 3. Include notes with guidelines of proper use of system.
- 4. Equipment location plan to include identification number next to each piece of equipment, i.e. (anchors, davits, and rigging sleeves.) that are permanently affixed to a structure.
- 5. Field welds shall be indicated on equipment details using AWS symbols and showing length and size. Auxiliary views shall be shown to clarify welding as required.
- 6. Shop drawings shall be prepared under supervision of a registered professional engineer and shall bear engineer's seal and signature. Professional engineer shall be licensed in jurisdiction where project is located. Include P.E. certified report of tested equipment.

#### C. Quality Assurance Submittal Certificates:

- 1. Provide documentation verifying company's amount of experience and successful performance in design, fabrication, and installation of permanent fall protection equipment.
- 2. Submit listing of company's installations representing similar scope and complexity to project requirements for previous 5 years. List shall include information as follows:
  - a. Project name and address

- b. Name of owner
  - c. Name of contractor
  - d. Name of architect (if applicable)
  - e. Date of completion
3. Provide documentation verifying that installers have been trained by the manufacturer and are competent.
- D. Contract Close-out Submittals:
1. Operation and Maintenance:
    - a. Provide a safety inspection logbook for yearly inspections. Log book shall include a certification of compliance letter. The certification of compliance shall state that access system is in compliance with current OSHA regulations and ANSI/IWCA I-14.1-2001 Window Cleaning Safety Standard.
  2. Project Record Document Data:
    - a. Record anchor locations and details.
    - b. Submit as many copies as necessary of a reduced, plastic laminated Project Record Drawing showing as-installed anchor locations, details, and instructional text in English (and Spanish upon request). Post one copy on interior of each roof door or adjacent to exit on roof; owner shall establish exact location.
    - c. Submit a letter of certification by a registered professional engineer licensed in jurisdiction where project is located verifying that installed anchors and system are in compliance with OSHA and ANSI requirements as specified.

## 1.5 QUALITY ASSURANCE

- A. Qualifications:
1. Provide products from a company specializing in design, fabrication, and installation of permanent fall protection equipment with a minimum of 5 years documented experience. Companies like miscellaneous metal fabricators not normally engaged in design and fabrications of fall protection equipment are not acceptable.
  2. Manufacturer and installer shall have specific liability insurance (products and completed operations) in an amount not less than \$5,000,000.
  3. Installer(s) shall be trained or qualified by manufacturer in installation techniques and procedures of permanent suspended access equipment.
- B. Regulatory Requirements:
1. Comply with Occupational Health and Safety Standards:
    - a. 1910.66 Appendix C (Personal Fall Arrest)
    - b. OSHA Procedures and precautions for employees using descent control equipment.
  2. Welding shall comply with AWS D1.1 and shall be performed by welders qualified to work in jurisdiction where project is located.
  3. Comply with AISC publications:
    - a. Load and Resistance Factor Design for Structural Steel Buildings
    - b. Specifications for the Design of Cold-Formed Steel Structural Members.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original unopened packaging.

B. Storage and Protection:

1. Store materials in a protected area away from construction activities.
2. Clean bolts that have become dirty before installing.
3. Do not install damaged materials, removing them from site.
4. Materials to be delivered to the job site in good condition and adequately protected against damage.

## 1.7 SEQUENCING AND COORDINATION

- A. Manufacturer to provide detailed installation instructions and directions for installation of embedded items, welded items, and through-bolted items, etc.
- B. Manufacturer to provide installation assistance during installation of the equipment. However, the responsibility of the installation rest with the general contractor unless equipment is installed and certified by the manufacturer.

## PART 2: PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS & INSTALLERS

- A. The installer must provide proof of insurance to install such systems.
- B. The installer must have a minimum of 5 years experience installing similar systems and provide 3 references of contractors that they have worked with in the past 12 months.
- C. Equivalent or superior materials and/or system substitutions shall be submitted to the owner's representative for review prior to materials ordering.

### 2.2 STRUCTURAL COMPONENTS' MATERIALS

- A. Exposed Structural Components Finish: Galvanized Mild Steel or Stainless Steel
  1. Steel: ASTM A572 GR 50
  2. Steel: ASTM A A36
  3. Galvanizing: ASTM A123
  4. Stainless Steel; 304 ASTM A 193 Grade B8, Class 2
  5. Aluminum; 6061-T6 Alloy
- B. Yield Strength:
  1. Base Plates and Bottom Plates, High Strength Steel: 50 ksi minimum
  2. Other Sections: 36 ksi minimum
- C. Non-Structural Components:
  1. Aluminum; 6061-T6 Alloy
  2. Alloys shall conform to requirements published in AA Aluminum Standards.
  3. Sheet and Plate: ASTM B209
  4. Extruded Bars, Rods, Shapes, and Tubes: ASTM B221
- D. Cold-Rolled Sections:

1. ASTM A500
  2. Yield Strength: 46 ksi minimum
  3. Tensile Strength: 62 ksi minimum
- E. Nuts, Bolts, Davit Pins, and Washers:
1. Stainless Steel; 304 ASTM A 193 Grade B8 or F593C
  2. Galvanized Flat Washers ASTM F-436 or 18 -8 Stainless Steel

## 2.3 MANUFACTURED UNITS

- A. Railings:
1. Upright and horizontal railings to be 1 5/8" x .065" steel
  2. Permanent safety rail system with 42-inch height; 39 inch minimum, 45-inch maximum height; to provide perimeter guardrail system on the roof to withstand a minimum load of 200 lb at any point in an outward or downward direction per OSHA Regulation 29 CFR 1926.502(b).

## 2.4 FABRICATION

- A. Fabricate work true to dimension, square, plumb, level, and free from distortion or defects detrimental to appearance and performance.
- B. Grind off surplus welding material to ensure exposed surfaces are smooth.
- C. Welding shall be in accordance with the AWS Structural Welding Code D1.1/D1.

## PART 3: EXECUTION

### 3.1 EXAMINATION

- A. Site Verification of Conditions:
1. Report to general contractor any conditions that deviate from shop drawings or any defects in workmanship that would cause an unsafe installation. This report shall be verified in writing to the general contractor and any other responsible party.
  2. Correct conditions detrimental to timely and proper execution of work.
  3. Do not proceed until unsatisfactory conditions have been corrected.
  4. Commencement of installation constitutes acceptance of conditions and responsibility for satisfactory performance by installer.
  5. Faults occurring in work of this section due to acceptance of unsatisfactory conditions shall be corrected at no additional cost to owner.

### 3.2 INSTALLATION

- A. General Requirements:
1. Install fall protection system in compliance with manufacturer's instructions. Install equipment level, tightly fitted, and flush to adjacent surfaces as needed for proper installation.

2. Coordinate anchor installation with roofing installation to ensure a watertight and warrantable condition of the roofing. Anchors shall be directly flashed into roofing in a manner compatible with roofing system and anchors.
3. When components come into contact with dissimilar metals, surfaces shall be kept from direct contact to prevent corrosion.
4. No wall anchors shall be installed through membrane roofing system without specification detailing from the Owner's Representative or water proofing company warranting the roof.
5. Deform a minimum of two threads of tail end of anchor studs after nuts have been tightened to prevent accidental removal or vandalism. Deform threads with 2/32" stainless steel punch.

B. Instructions for welding access equipment to structure:

1. All welders must be certified to American Welding Society (AWS) in accordance with AWS standards.
2. Welding rods used to weld the anchor system to be E70 xx electrodes.
3. Prior to welding anchors to structure, abrasively remove, within one inch of all welded surfaces, galvanizing, mill, scale, and rust.
4. Immediately after welding, chip away slag to prepare for welding inspector to inspect welds.
5. An AWS certified welding inspector must inspect and confirm size of all field welds. Following the inspection, a written report must be supplied to the building owner and/or general contractor. Welded joints shall not be painted until after welding has been completed and the weld accepted.
6. Immediately after an acceptable inspection, paint welded areas with cold-galvanizing compound to protect from corrosion.
7. Structural steel to receive roof or wall anchors shall have a surface wide enough so that base plate can be welded all the way around. For example, anchors equipped with 4½ in. (112.5 mm) base plates would require a minimum 5 in. (137.5 mm) surface to weld to.

C. Railing System:

1. Install in accordance with manufacturer's instructions.
2. Set uprights, horizontal rails and corners accurately in location, alignment and elevation, measured from established lines and levels and per installation drawings.
3. Install proper fasteners as recommended by manufacturer in every hole provided on the upright bracket.

### 3.3 REPAIR/RESTORATION

A. Railing touch up with color match rust inhibiting paint.

B. Galvanizing Touch-Up:

1. Immediately after erection clean field welds and abraded areas. Repair damaged areas in compliance with ASTM A780.

### 3.4 FIELD QUALITY CONTROL

A. Inspection and site visits:

1. Inspections and site visits shall be performed while installation of equipment is in progress under the supervision qualified professional engineer registered in the jurisdiction where the project is located.
2. On site inspection of equipment welded to structure shall be performed by an AWS Certified Welding Inspector verifying, in writing, size and quality of welds. Such an inspection shall be performed on each piece of equipment before roofing material is installed.

3. On site inspection shall be performed on all cast in place items while being tied in with the rebar with sufficient time before concrete is poured to allow to adjustments to embedded items as recommended by inspector.
  4. G.C. shall be responsible to schedule above site visits and inspections with sufficient advanced notice given to the inspection company.
- B. Site Tests:
1. All equipment shall be tested on site in accordance with manufacturer's recommendations, under the supervision of a professional engineer, and OSHA Safety Standards, before being placed in service.
  2. Equipment shall be tested under the supervision of a professional engineer with experience with suspended maintenance equipment and manufacturers guidelines.
- C. Manufacturer shall assist and/or supervise installation of fall protection equipment installed by others when such is included in contracted.

### **3.5 ADJUSTING**

- A. Verify that completed work has been installed correctly and products function properly. Make adjustments where needed to ensure satisfactory operation.
- B. Complete inspection logbook to certify system for use noting any deviations, changes, or corrections from original shop drawings. Provide "as-built" anchor layout plan on 11" x 17" paper or larger together with annual inspection logbook.

**END OF SECTION 11 81 29**

**SECTION 22 14 26**

**ROOF DRAINS**

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- SECTION 22 14 26 -  
ROOF DRAINS

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. All existing roof drains shall be replaced with:
1. New cast iron strainers.
  2. New hardware.
  3. New cast iron clamping ring.
  4. New cast iron bowl and pan
  5. Provide new no hub connections as required per the International Plumbing Code.
  6. Provide up to 5'-0" of interior plumbing and connection to the existing cast iron pipes.
  7. Coordinate the height of the new drains above the roof deck to accept the new taper system as shown on the roof plan RP-101.
  8. Clear drains 100' prior to start of work to ensure they are functioning properly.
  9. Clear drains 100' after the entire roof is completed to ensure they are functioning properly and no debris entered the system during the roof installation process.
  10. **If a new hole that exceeds 12" in diameter needs to be made under the existing drain location the contractor shall supply a new steel frame around all sides of the opening connected to the existing joists. The frame shall be four sided and constructed out of L3x3x1/4's. All connections shall be field welded by a certified welder in the state of where the work is performed.**
- B. Existing Thru wall Locations:
1. Provide new 8" wide x 12" high through wall overflow drainage at locations as shown on the Roof Plan RP-001 and in the Detail drawings.
  2. Attach 1/2" APA rated CDX plywood to all 4 sides of the interior of the through wall. Chamfer all leading edges 1/2" at all sides of the through wall.
  3. Fully adhere the new .060 through wall EPDM membrane to all sides of the new opening.
- C. New Overflow Drainage Locations:
1. Provide new 12" wide x 8" high through wall overflow drainage at locations as shown on the Roof Plan RP-001 and in the Detail drawings.
  2. Provide new scuppers, collector boxes and downspouts, as shown in the Detail drawings.
  3. New downspouts 3"x 5" made from .040 Kynar finish aluminum and are to be 4-sided with the slip joint side.
  4. Ensure that the downspouts do not block windows or spill onto walkways below.
  5. All seams to be coated with Kemper or similar, fabric reinforced, approved, material and be watertight.
  6. Scuppers to be constructed from .040 Kynar finish aluminum.

7. Provide scuppers and downspout brackets, as shown on the Detailed Drawings, on all required roof areas.
8. Fully adhere the new .060 through wall EPDM membrane to all sides of the new opening.
- D. See RP-101 for the location of the roof drains that need to be removed, the existing piping extended, and a new drains installed to accommodate the new insulation height.
- E. Prior to start of work, Contractor shall inspect and verify the proper functioning of all roof drains and identify those which are clogged or slow running. Contractor is to snake all drains for a distance of 100' (feet) from the drain opening:
  1. Prior to starting work.
  2. Upon completion of roofing operations.
- F. All roof drainage systems for the existing building shall not be made ineffective due to this work.
- G. Replace the roof drains prior to installing new roof to avoid unnecessary seams.
- H. The existing roof drains will be inspected. If any drains are found to be in poor or failing condition those drains will be replaced on a unit price basis (Base bid quantity with additional ADD/DEDUCT pricing).
- I. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are mutually complimentary to each other and both shall be followed to complete the work.

## 1.2 SUBMITTALS

- A. Submit manufacturer's descriptive literature and data sheets listed below under provisions of the Contract:
  1. Roof drain assembly.
  2. Roof drain accessories to be replaced.
  3. Schedule for roof drain rehabilitation.

## 1.3 DELIVERY, HANDLING AND STORAGE

- A. Contractor shall comply with all recommendations of the pipe manufacturer and of applicable Technical Reports of the Cast Iron Soil Pipe Institute for handling and installation.
- B. All work and materials shall be protected at all times. The Contractor shall make good all damage caused by his workmen either directly or indirectly. All pipe openings shall be closed with caps or plugs during installation. Equipment shall be tightly covered and protected against dirt, water, chemical or mechanical injury.
- C. All work shall be done by a licensed plumber in accordance with the State Plumbing Code and best practices of the trade.
- D. The Contractor shall do all carting, handling and hoisting for his materials and equipment in a safe and satisfactory manner. Any damage resulting therefrom shall be repaired or paid for by this Contractor to the satisfaction of the parties concerned, at no additional cost to the Owner.

## 1.4 CODES AND STANDARDS

- A. All plumbing work shall be done by a plumber licensed in the state in which the work is being conducted and in accordance with all applicable codes and standards.

## 1.5 COORDINATION

- A. Work in connection with other trades by the timely performance of work under this Plumbing Section, and by coordinating the work with roofing and flashing trades to prevent exposure of the building to inclement weather at all times.
- B. The Roofing Contractor's foreman shall be on-site at all times while the plumbing work is on-going.
- C. Drains shall be replaced prior to roofing the surrounding area.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Roof drains shall be Smith #1310Y, or equal, (See drawings for diameter). Drains manufactured by Jay R. Smith Manufacturing Co., Montgomery, Alabama or approved equal product. Provide all necessary accessories, including, but not limited to the following: Duco cast iron body, vandal proof cast iron dome, sump receiver deck plate, bolted clamping collar, gravel guards. Other type drains may be used if pre-approved by the Owner's Representative; however, if this requires the cutting of larger holes and reinforcing at decks, perform this work at no additional cost to the Owner.
- B. Drain piping: Service weight of same diameter as presently exists.

## PART 3 - EXECUTION

### 3.1 NEW DRAIN INSTALLATION

- A. All roof drain elevations shall be checked to ascertain whether or not positive drainage exists. Any drains found to be too high shall be lowered to ensure that ponding does not occur as part of the bid price.
- B. Install new roof drains in accordance with manufacturer's recommendations ensuring flange is flush with the roof membrane and all compression seal connections are proper to create a positive watertight connection with the existing drain leader pipe including:
  - 1. Flash in flange up to and around vertical drain body bosses per roof membrane manufacturer's flashing requirements.
  - 2. Install clamping ring over raised bosses and tighten clamping ring against membrane until secure.
  - 3. Install strainer dome onto clamping ring and lock into place.
  - 4. Roof membrane shall extend into the clamping ring assembly.
- C. New drains shall be secured into the deck and be free from movement. Utilize under-deck clamps.
- D. When replaced, provide up to 5'-0" of interior plumbing and connection to the existing cast iron pipes in the base bid.
- E. Drain flashing:
  - 1. Install roofing system into sump and onto drain rim.
  - 2. Plug drain to prevent debris entry.
  - 3. Clamp flashing collar to drain in bed of waterblock. Provide new hardware.
  - 4. Neatly cut membrane within drain at rim. Membrane to extend one (1") inch into bowl.

5. All work shall be done by a licensed plumber in accordance with the State Plumbing Code and best practices of the trade.
6. The Roofing Contractors foreman shall be on-site at all times while the plumbing work is on-going.
7. At new drain locations install new roof drains in accordance with manufacturers recommendations ensuring flange is flush with the roof membrane and all compression seal connections are proper to create a positive watertight connection with the existing drain leader pipe including:
  - a. Install strainer dome onto clamping ring and lock in place.

### **3.2 EXISTING DRAINPIPE REQUIREMENTS**

- A. Snake clear all existing drain lines for a distance of 100' (feet) from the drain opening after the roof removal and replacement is complete and after all roof drain assemblies are properly installed and flashed. If, during the process of removing the roof system it is found that any of the drains are not in working condition, the drain that is not functioning shall be snaked to ensure that the water is being evacuated off of the roof area. This drain will be snaked again once the project is completed.

**END OF SECTION 22 14 26**

**SECTION 23 00 00**

**TEMPORARY MECHANICAL  
DISCONNECTS**

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- SECTION 23 00 00 -

**TEMPORARY MECHANICAL DISCONNECTS**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Temporarily remove any roof top mechanical equipment regardless of size as needed. Install all roofing and flashing as required and reinstall. **The cost of this work shall be included in the Base Bid.**
- B. Provide new extensions for the existing cast iron plumbing vents, as required, to keep them a minimum of 12" above the up-slope side of the finished roof height. All connections shall be to code and completed by a licensed plumber in the state where work is being performed.
- C. The Contractor shall make all modifications associated with the flashing of the equipment including modifications in the sheet metal, ductwork, piping and electrical wiring.
- D. The Contractor shall be responsible for maintaining watertight integrity of the existing curbs including the installation of temporary flashings as required.
- E. The Contractor shall be responsible for raising all equipment, conduit, pitch pockets, etc. to accommodate the new roof and insulation assembly. **The cost of this work shall be included in the Base Bid.**
- F. Any unit, regardless of size, that is required to be moved for installation of new roofing are to be included in the base bid. This includes evacuations and disconnects of all electrical, plumbing, duct work or other items, as required, to remove the equipment. The work also includes all reconnections of the aforementioned items as well as all testing as required by the manufacturer for the unit and/or the building facilities team to complete this work.
- G. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and both shall be followed to complete the work.

**1.2 QUALITY ASSURANCE**

- A. The Contractor shall employ mechanics proficient in the trades involved.
- B. The Contractor shall disconnect mechanical equipment only when performing roofing work in the immediate area of the equipment.
- C. Each unit shall be fully operational immediately after reinstallation. Shut-down time for each unit shall be limited to an (8) eight-hour period unless otherwise agreed in writing by Owner's Representative.
- D. Prior to commencing any disconnects, the Owner shall be given 48 hours notice.
- E. Contractor shall utilize only licensed Electrical, Plumbing and HVAC personal. All disconnect and reconnection work is to be completed utilizing licensed trade personnel.

**1.3 TESTING**

- A. Prior to commencing roofing work, the Contractor shall test all mechanical units in the presence of the Owner's Representative.
- B. All deficiencies in operation including unusual noises will be noted in writing and shall become a matter of record.

- 
- C. Upon completion of the reinstallation of each unit, it shall be retested by the Contractor in the presence of the Owner's Representative.
  - D. Any deficiencies that were not noted in the initial testing shall be corrected by the Contractor at his expense.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Any replacement parts or additional materials needed due to changes in curb or sleeper heights shall be as recommended by the manufacturer of the mechanical unit or as required by governing codes, and shall match the existing materials as to type, size, thickness and quality.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A. After disconnection, move units a sufficient distance to permit the installation of the new raised curbs, roofing and flashing materials.
- B. Units shall be moved onto existing roofing to the maximum extent possible. Provide plywood bases to rest disconnected units on.
- C. Provide plywood traffic ways for moving units. If mechanical contrivances of wheeled "A" frame-type hoists are used, plywood shall be placed under the equipment for its full route of movement. Plywood shall be a minimum of 5/8" thick.
- D. Under no circumstances shall any mechanical units be stored on completed sections of the new roof or any adjoining roofs not included in this contract.

**END OF SECTION 23 00 00**

**SECTION 26 00 00**

**TEMPORARY ELECTRICAL  
DISCONNECTS**

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- SECTION 26 00 00 -

TEMPORARY ELECTRICAL DISCONNECTS

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Temporarily disconnect all roof top electrical equipment or circuits including fans, roof top circuits and HVAC units as needed. Install all roofing and flashing as required and reconnect all items. **The cost of this work shall be included in the Base Bid.**
- B. The drawings indicate and show limits of construction for this project. The specifications specify materials and work requirements for this project. Both are complimentary to each other and both shall be followed to complete the work.

**1.2 QUALITY ASSURANCE**

- A. The Contractor shall employ mechanical licensed in the electrical trade.
- B. The Contractor shall disconnect electrical equipment or feeds only when performing roofing work in the immediate area of the equipment or feed.
- C. Each feed or unit shall be fully operational immediately after reinstallation. Shutdown time for each unit shall be limited to an (8) eight-hour period unless otherwise agreed in writing by Owner's Representative.
- D. Prior to Commencing and disconnects, the Owner shall be given 48 hours notice.

**1.3 TESTING**

- A. Prior to commencing roofing work, the Contractor shall test all circuits in the presence of the Owner's Representative.
- B. All deficiencies in operation will be noted in writing and shall become a matter of record.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Any replacement parts or additional materials needed due to changes in curb shall be as required by the State Building Code.

**PART 3 - EXECUTION**

**3.1 GENERAL**

- A. After disconnection, move electrical equipment and materials a sufficient distance to permit the installation of roofing and flashing materials.
- B. Perform all work to meet the requirements of the State Building Code.
- C. Resetting: As soon as practicable after the flashing operations on a unit are completed:
  - 1. Install any required duct or electrical connections.
  - 2. Reinstall the units and reconnect for operation.

Everett Police Station  
45 Elm Street  
Everett, MA 02149  
c/o STV/DPM



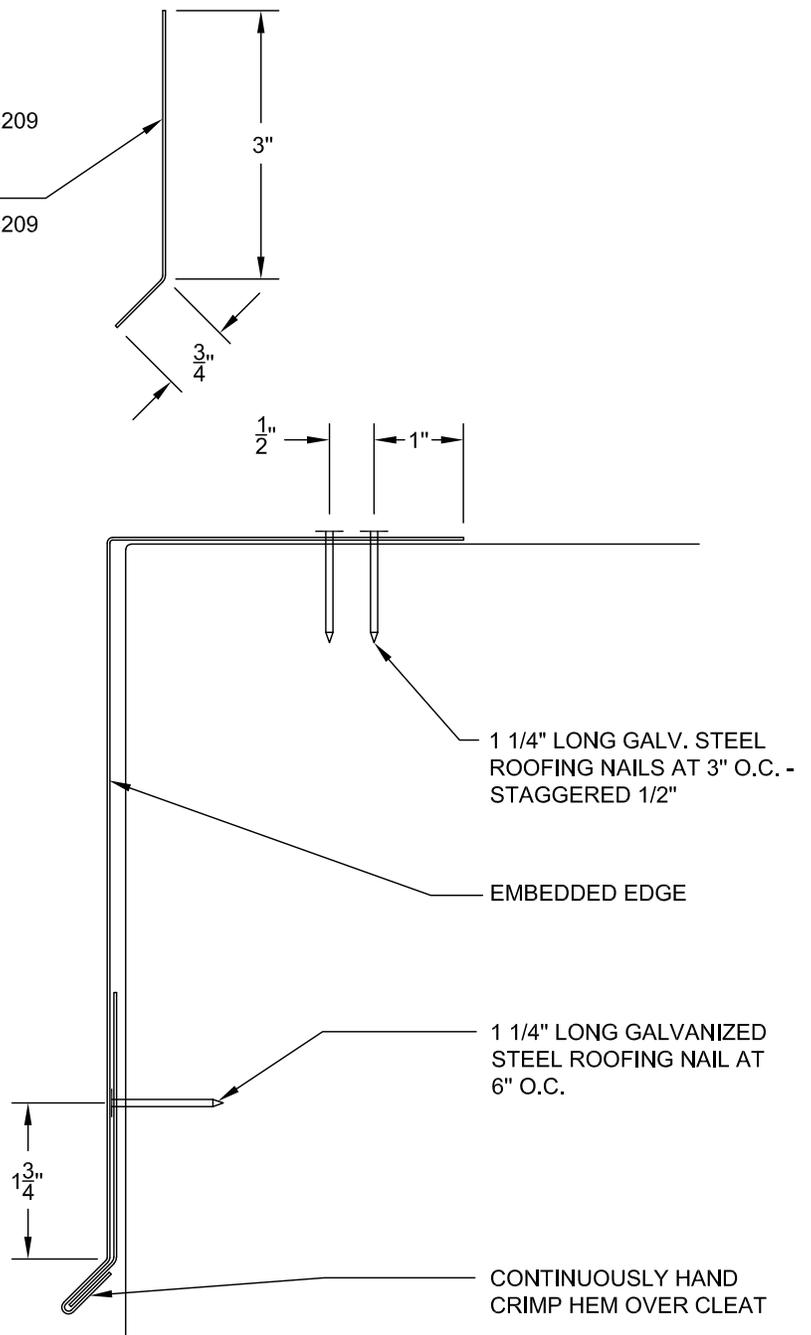
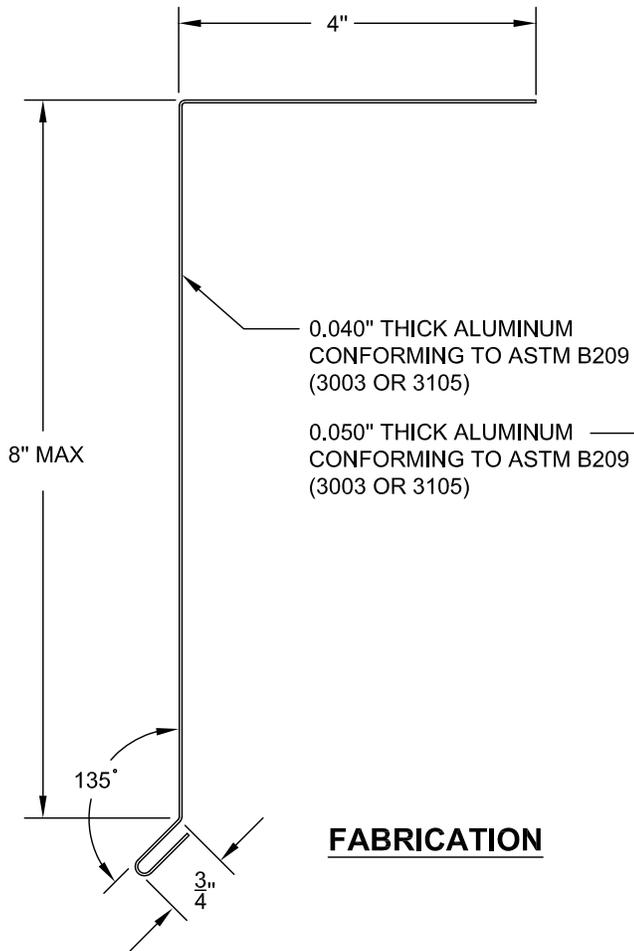
ARM Consultants

PO Box 4, Chester NH 03036

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- D. Retesting: As soon as units have been reconnected and are serviceable, retest them with the Owner's Representative to assure that they are fully operational and do not evidence any deficiencies not previously noted.

**END OF SECTION 26 00 00**



# **ROOF PLAN & DETAIL DRAWINGS**





SYMBOL LEGEND	
	Access Ladder
	Antenna
	Asbestos sample Black = negative RED = positive
	24x24x2 Conc. paver
	Condenser unit
	Curb to be Removed
	DEMOLITION NOTE
	Detail Marker
	Drain w/ or w/o sump
	DRAWING NOTE
	Equipment Fan
	Exp Joint or Change in Slope
	Fall Arrest Anchor
	Guard rail system
	Hot Stack
	Insulation Boards
	Overflow Drain
	Picture Reference and Direction
	Pipe Penetration
	Piping or Duct Work
	Pitchpocket
	Removable Light Fixture
	Roof Hatch
	RTU Curb
	Satellite Dish
	Scupper
	Skylight
	Sleeper
	Smoke Hatch
	Walkway pad

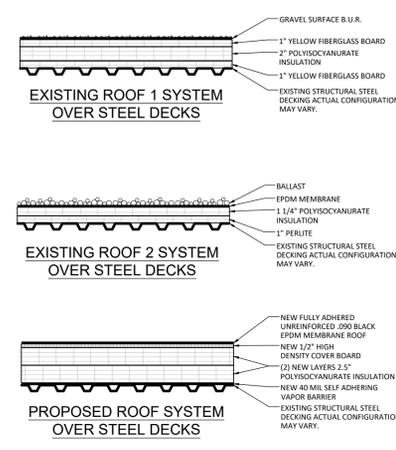
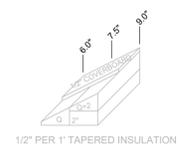
STD HATCH PATTERNS:	STANDARD ABBREVIATIONS
	RIGID BOARD INSULATION
	HIGH DENSITY INSULATION
	WOOD FIBER/PERLITE
	CONCRETE
	SEALANT/ CAULKING
	GYPSUM / DENS DECK
	PLYWOOD / OSB
	BATT INSULATION
	MASONRY
APPROX. B.S. BUR.	APPROXIMATELY BOTH SIDES BUILT UP ROOF
CL. CONN. CONT.	CENTER LINE CONNECTION CONTINUOUS
EL. OR ELEV. EPDM.	ELEVATION ETHYLENE-PROPYLENE-DIENE-MONOMER LEAD COATED COPPER
L.C.C. MAX. MFR. MIN.	LEAD COATED COPPER MAXIMUM MANUFACTURER MINIMUM
N.I.C. O.C. OR OC	NOT IN CONTRACT ON CENTER
POLY. P.V.C. SIM.	POLYISOCYANURATE POLYVINYL CHLORIDE SIMILAR
T.O.P. T.P.O. w/	TOP OF PARAPET THERMAL PLASTIC OLEFIN WITH

- DEMOLITION NOTES:**
- 1 BY HAND OR MECHANICAL MEANS, DEMOLISH AND REMOVE ANY DESIGNATED OBSOLETE EQUIPMENT, PENETRATIONS OR DEVICES. INSTALL NEW DECKING AND ROOFING AS DIRECTED IN THE SPECIFICATIONS.
  - 2 ALL PITCH POCKETS SHALL BE DEMOLISHED TO THE DECKING. ALL CONDUITS AND OTHER PENETRATIONS SHALL BE CLEANED AND SCRAPPED PRIOR TO THE INSTALLATION OF THE NEW PITCH POCKET OR LIQUID FLASHINGS. DO NOT INSTALL PITCH POCKETS AROUND FLEXIBLE CONDUITS
  - 3 REMOVE ALL MEMBRANE, FLASHINGS, AND INSULATION FROM THE ENTIRE ROOF AREA PER THE SPECIFICATIONS. SCRAPE AND CLEAN ALL LOOSE GRAVEL FROM BUILT UP ROOF ONCE UPPER ROOFING AND INSULATION HAS BEEN REMOVED.
  - 4 REMOVE ALL OF THE EXISTING DRAIN HARDWARE, CLAMPING RING AND DOMES TO ALLOW FOR THE NEW MATERIALS PER DETAIL D-1.
  - 5 COMPLETELY REMOVE ALL BASE FLASHINGS BEFORE REFLASHING AT ALL CURBS INCLUDING ROOF TOP UNITS. IF THE CURB IS INSULATED, REPLACE ALL DAMAGED INSULATION TO PROVIDE A SMOOTH SUBSTRATE FOR THE BASE FLASHING.
  - 6 DO NOT OVERLOAD STRUCTURE BY STORING DEMOLITION MATERIALS, PAVERS AND ROOFING. DISPERSE WEIGHT ON ROOF DECK.
  - 7 COORDINATE MOVING AND RESETTING OF LIGHTING, CAMERAS, ANY ELECTRICAL BOXES AND CONDUIT, AND ANY OTHER EQUIPMENT ON THE ROOF OR ROOF EDGE. GIVE OWNER/OWNER'S REPRESENTATIVE 48 HOURS NOTICE BEFORE MOVING.
  - 8 ASBESTOS POSITIVE PATCH AREA TO BE REMEDIATED PER SPECIFICATIONS.
  - 9 REMOVE EXISTING SKYLIGHT. PROVIDE DECK INFILL PER SPECIFICATIONS.
  - 10 COORDINATE RELOCATION AND REINSTALLATION OF FAA AND EMERGENCY SERVICE ANTENNAS WITH OWNER.

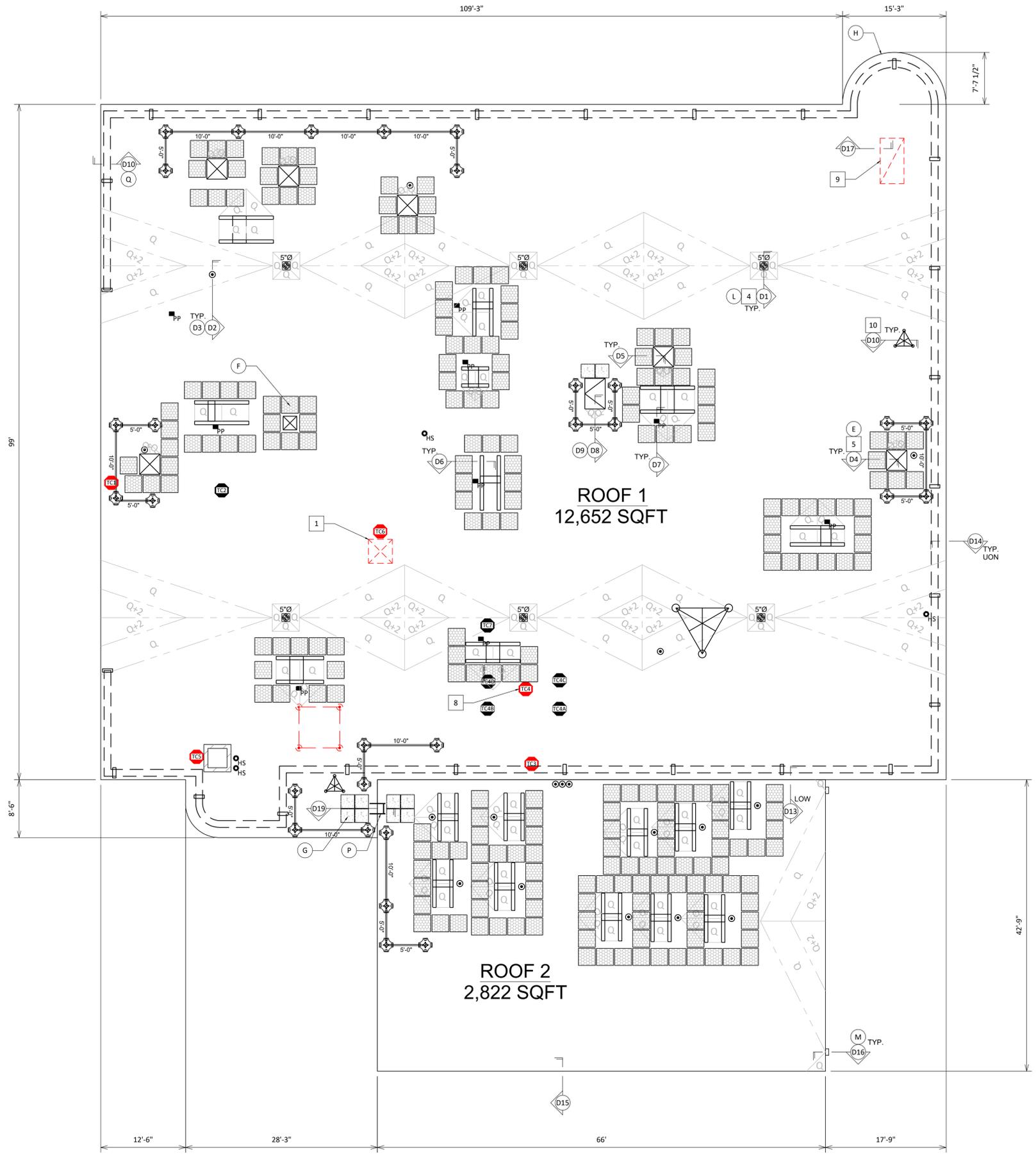
- DRAWING NOTES:**
- CERTAIN DETAILS MAY REQUIRE FIELD ADJUSTMENT OR MODIFICATIONS TO FIT IN A GIVEN SITUATION. AT SOME LOCATIONS A COMBINATION OF TWO OR MORE DETAILS ASSEMBLED TOGETHER OR RELATED SEPARATELY MAY BE REQUIRED.
  - CLEAN, SCRAPE, WIRE BRUSH, PRIME AND PAINT, BY BRUSH, ALL EXPOSED NON-STRUCTURAL, NON-GALVANIZED STEEL (PLUMBING VENT PIPES, ROOF HATCHES, AND EXTERIOR LADDERS) THE COLOR AND PAINT SHALL BE AS SPECIFIED IN THE THE SPECIFICATION.
  - CONTRACTOR ACCESS WILL BE VIA THEIR OWN EXTERIOR STAIR TOWER. STAIR TOWERS SHALL BE LOCKED AT THE END OF EACH WORK DAY TO LEAVE THE ROOF INACCESSIBLE BY PARTIES NOT INVOLVED WITH THE PROJECTS.
  - NEW ROOFS TO BE FULLY ADHERED .090 EPDM OVER NEW 5 1/2" TOTAL THICKNESS POLYISOCYANURATE INSULATION OVER A 40 MIL SELF-ADHERED VAPOR BARRIER. FASTEN ALL BOARDS TO THE EXISTING STRUCTURAL DECKING.
  - PROVIDE NEW 1/2" PER FOOT TAPERED INSULATION ON THE HIGH SIDE OF ALL ROOF CURBS THAT ARE 18" WIDE AND GREATER.
  - INSTALL MANUFACTURER'S 30" X 30" WIDE WALKWAY PADS IN PATTERN AS SHOWN ON PLAN.
  - INSTALL 24" X 24" X 2" CONCRETE PAVERS IN PATTERN AS SHOWN ON PLAN.
  - MOCK UP OF THE ROUNDED METAL IS REQUIRED TO BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE THE PROJECT'S METAL CAN BE PERMANENTLY INSTALLED.
  - PROVIDE "IN-PLACE MOCKUP" OF ALL METAL FLASHING AND TERMINATIONS. PROVIDE AT LEAST ONE CORNER AND ONE JOINT FOR ALL CONDITIONS FOR APPROVAL. APPROVED MOCKUPS IN AN UNDISTURBED CONDITION AT THE TIME OF SUBSTANTIAL COMPLETION MAY BECOME PART OF THE COMPLETED WORK.
  - UTILIZE BLIND RECEIVERS AT ALL VERTICAL TERMINATION POINTS.
  - PROVIDE NEW RINGS, DOMES AND HARDWARE FOR THE EXISTING DRAINS. THIS INCLUDES DRILL AND TAP WORK ON THE EXISTING BOLTS AS REQUIRED TO PERFORM THE WORK.
  - PROVIDE SCUPPERS AND DOWNSPOUTS AT INDICATED LOCATIONS.
  - PROVIDE LIQUID FLASHING (CARLISLE OR APPROVED EQUAL) PER SPECIFICATION TO ENCAPSULATE ALL CONDUIT, PIPING, OR EQUIPMENT MOUNT ALONG RISING WALL WHERE FLASHING IS INTERRUPTED.
  - INSTALL EXISTING LADDER FROM ROOF 1 TO ROOF 2 AT INDICATED LOCATION ON PLAN.
  - PROVIDE SLEEPERS FOR CABLE TRAY EVERY 16" AND PIPE SUPPORTS HALFWAY BETWEEN ALL CABLE TRAY SLEEPERS TO MAINTAIN SUPPORT EVERY 8".

ROOF #	APPROX SQ FT
ROOF 1	12,652 SQFT ±
ROOF 2	2,822 SQFT ±
<b>TOTAL ROOF AREA:</b>	<b>15,474 SQFT ±</b>

**CONTRACTOR TO VERIFY ALL DIMENSIONS**

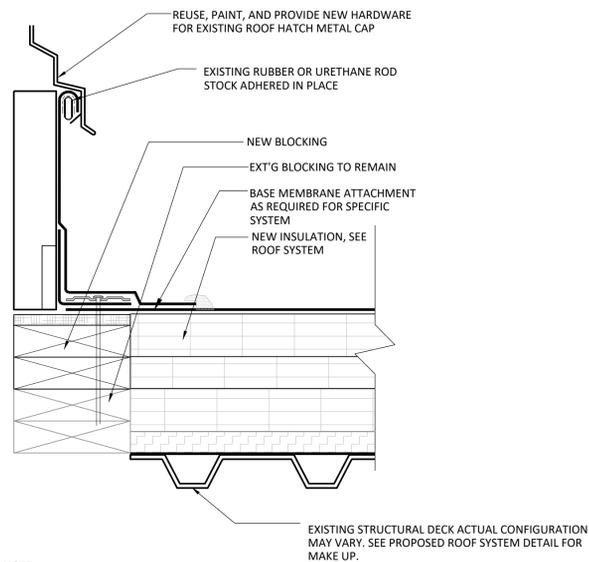


**EXISTING CROSS SECTION INFORMATION IS BASED ON VISUAL INSPECTION. INFORMATION SHOULD BE VERIFIED BY THE CONTRACTOR IN THE FIELD.**



ARM Consultants LLC P.O. Box 411, 02156 (603) 224-6020	
PROJECT NAME:	EVERETT POLICE STATION
PROJECT LOCATION:	45 ELM STREET EVERETT, MA 02149
OWNER:	STV I DPM
DRAWN BY:	EAL
CHECKED BY:	BT
DATE ISSUED:	12/12/2025
SCALE:	1/16" = 1'-0" (ON "D" SIZE PAPER)
DRAWING:	RP-101
SHEET TITLE:	ROOF PLAN

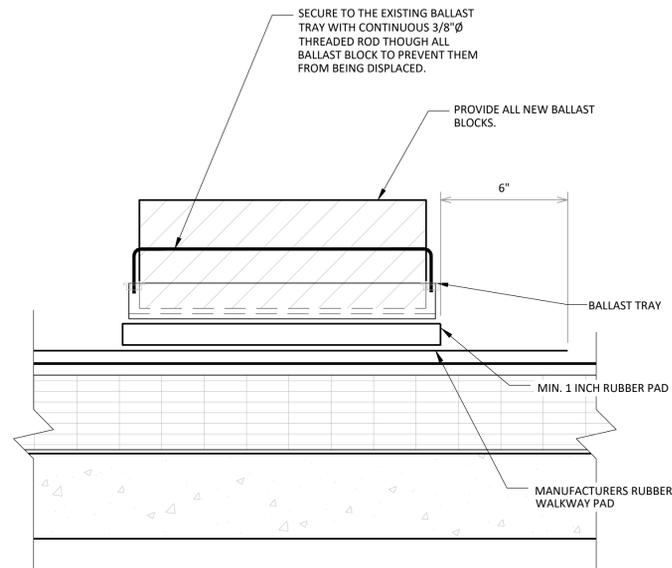




**NOTE:**

- DO NOT INSTALL SCREWS OR FASTENERS THROUGH THE SIDES OF THE UNIT.
- THE WOOD BLOCKING IS SHOWN AT THE ANTICIPATED THICKNESS OF THE INSULATION ASSEMBLY. ANY VARIATION IN INSULATION THICKNESS DUE TO CRICKETS SHIMMING OR OTHER CONTRACTOR INSTALLED MATERIALS MUST BE ACCOMMODATED FOR AND THE BLOCKING MUST BE ADJUSTED TO FINISH FLUSH WITH THE INSULATION AT NO ADDED EXPENSE TO THE BUILDING OWNER. COORDINATE HEIGHTS IN THE FIELD PRIOR TO INSTALLATION OF THE BLOCKING.

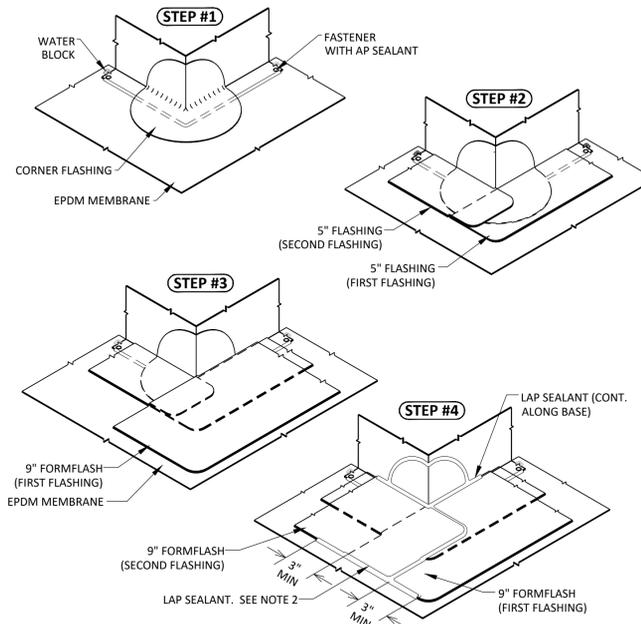
**D-9 ROOF HATCH CURB** SCALE: 3" = 1' - 0"



**NOTES:**

- IF WEIGHT OF UNIT EXCEEDS 25 PSI, A WOOD NAILER BELOW THE MEMBRANE IS REQUIRED.

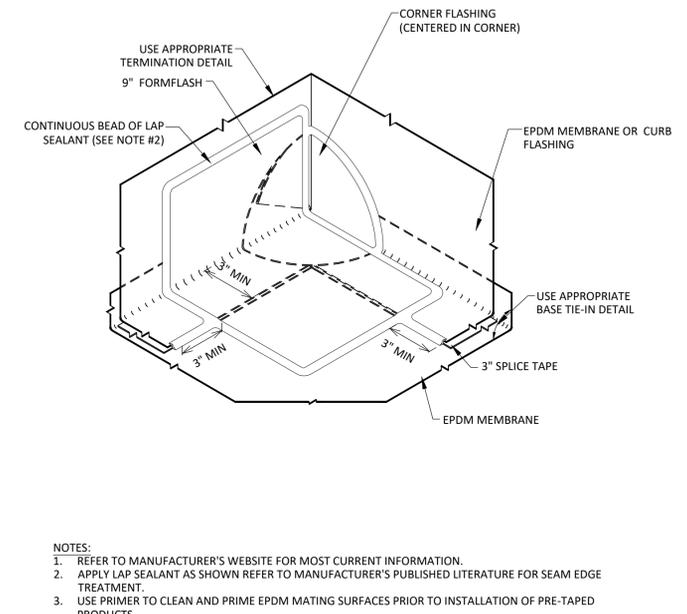
**D-10 BALLAST TRAY** SCALE: 3" = 1' - 0"



**NOTES:**

- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.
- APPLY LAP SEALANT AS SHOWN REFER TO MANUFACTURER'S PUBLISHED LITERATURE FOR SEAM EDGE TREATMENT.
- USE PRIMER TO CLEAN AND PRIME EPDM MATING SURFACES PRIOR TO INSTALLATION OF PRE-TAPED PRODUCTS.

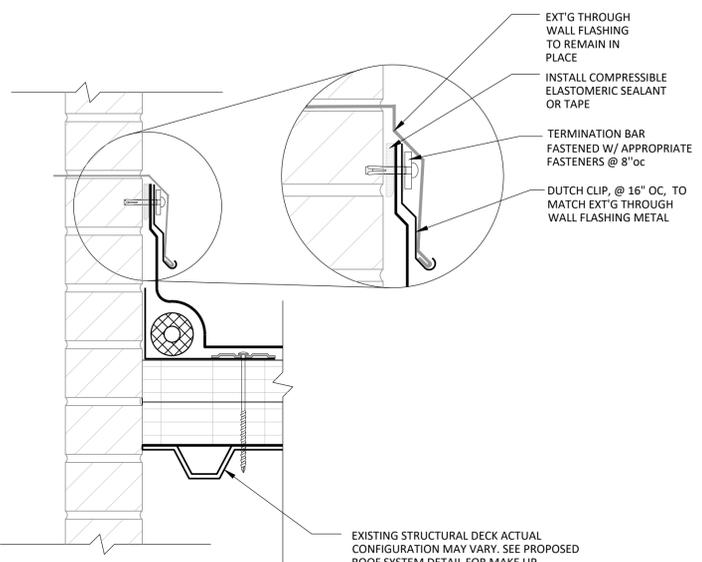
**D-11 OUTSIDE CORNER FLASHING** SCALE: N.T.S.



**NOTES:**

- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.
- APPLY LAP SEALANT AS SHOWN REFER TO MANUFACTURER'S PUBLISHED LITERATURE FOR SEAM EDGE TREATMENT.
- USE PRIMER TO CLEAN AND PRIME EPDM MATING SURFACES PRIOR TO INSTALLATION OF PRE-TAPED PRODUCTS.

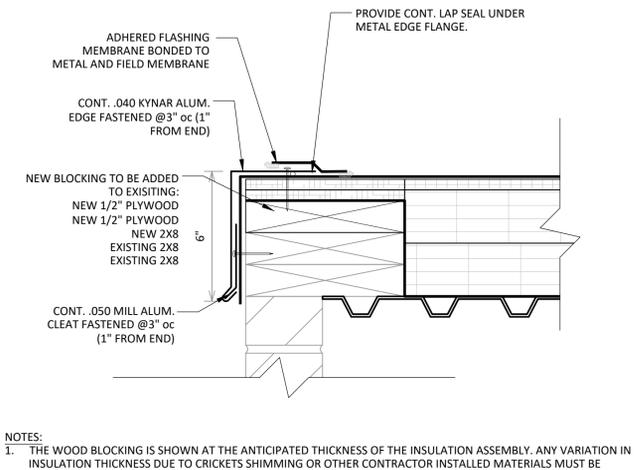
**D-12 INSIDE CORNER FLASHING** SCALE: N.T.S.



**NOTES:**

- THE WOOD BLOCKING IS SHOWN AT THE ANTICIPATED THICKNESS OF THE INSULATION ASSEMBLY. ANY VARIATION IN INSULATION THICKNESS DUE TO CRICKETS SHIMMING OR OTHER CONTRACTOR INSTALLED MATERIALS MUST BE ACCOMMODATED FOR AND THE BLOCKING MUST BE ADJUSTED TO FINISH FLUSH WITH THE INSULATION AT NO ADDED EXPENSE TO THE BUILDING OWNER. COORDINATE HEIGHTS IN THE FIELD PRIOR TO INSTALLATION OF THE BLOCKING.
- PROVIDE ISOLATION TO ENSURE THAT ANY DISSIMILAR METALS DO NOT COME IN CONTACT WITH EACH OTHER IN THE FINAL PRODUCT TO PREVENT GALVANIC ACTION.

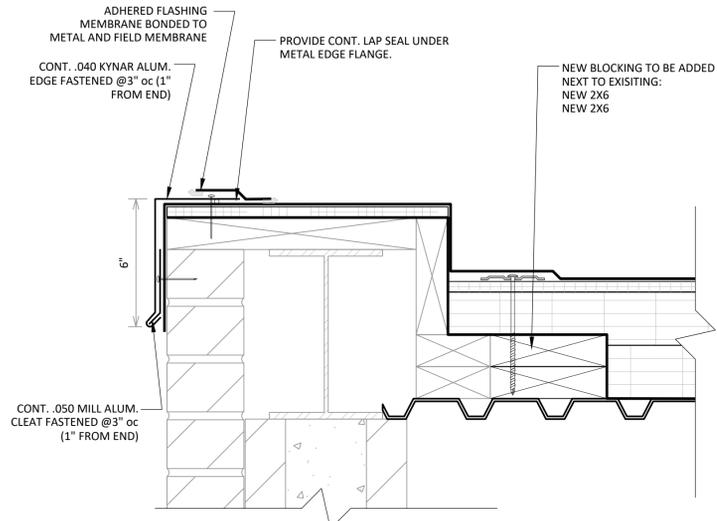
**D-13 EXPANSION JOINT** SCALE: 3" = 1' - 0"



**NOTES:**

- THE WOOD BLOCKING IS SHOWN AT THE ANTICIPATED THICKNESS OF THE INSULATION ASSEMBLY. ANY VARIATION IN INSULATION THICKNESS DUE TO CRICKETS SHIMMING OR OTHER CONTRACTOR INSTALLED MATERIALS MUST BE ACCOMMODATED FOR AND THE BLOCKING MUST BE ADJUSTED TO FINISH FLUSH WITH THE INSULATION AT NO ADDED EXPENSE TO THE BUILDING OWNER. COORDINATE HEIGHTS IN THE FIELD PRIOR TO INSTALLATION OF THE BLOCKING.
- PROVIDE ISOLATION TO ENSURE THAT ANY DISSIMILAR METALS DO NOT COME IN CONTACT WITH EACH OTHER IN THE FINAL PRODUCT TO PREVENT GALVANIC ACTION.

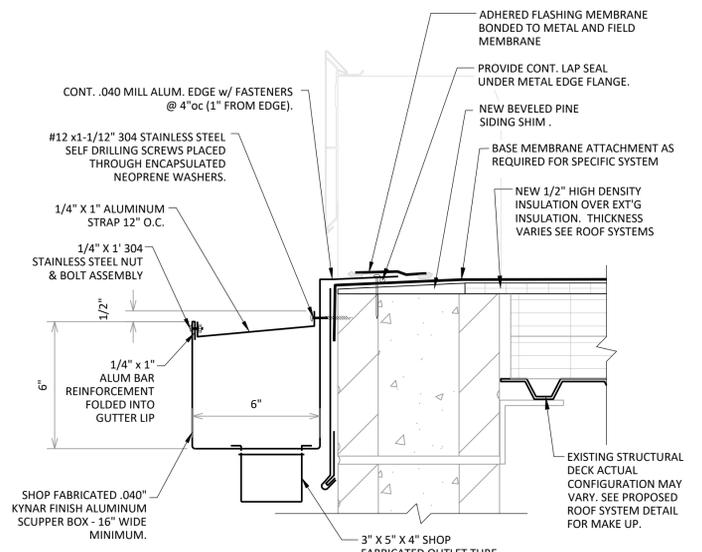
**D-14 EDGE DETAIL (ROOF 1)** SCALE: 3" = 1' - 0"



**NOTES:**

- THE WOOD BLOCKING IS SHOWN AT THE ANTICIPATED THICKNESS OF THE INSULATION ASSEMBLY. ANY VARIATION IN INSULATION THICKNESS DUE TO CRICKETS SHIMMING OR OTHER CONTRACTOR INSTALLED MATERIALS MUST BE ACCOMMODATED FOR AND THE BLOCKING MUST BE ADJUSTED TO FINISH FLUSH WITH THE INSULATION AT NO ADDED EXPENSE TO THE BUILDING OWNER. COORDINATE HEIGHTS IN THE FIELD PRIOR TO INSTALLATION OF THE BLOCKING.
- PROVIDE ISOLATION TO ENSURE THAT ANY DISSIMILAR METALS DO NOT COME IN CONTACT WITH EACH OTHER IN THE FINAL PRODUCT TO PREVENT GALVANIC ACTION.
- SHAVE 1/2" OFF THE BOTTOM OF THE TOP LAYER OF 2.5" POLYISOCYANURATE INSULATION TO ALIGN WITH BLOCKING.

**D-15 EDGE DETAIL (ROOF 2)** SCALE: 3" = 1' - 0"



**NOTE:**

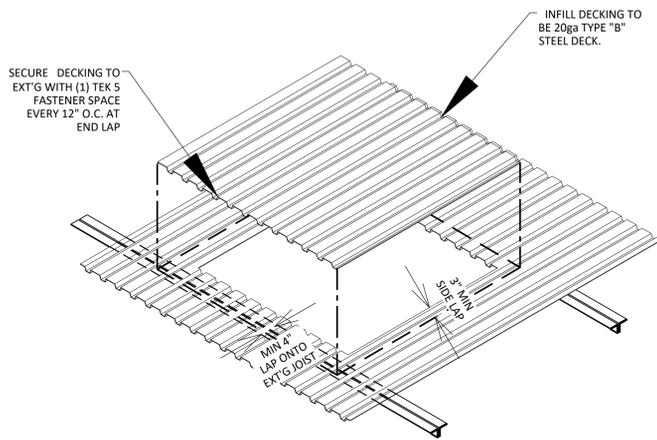
- PROVIDE CONT. LAP SEAL UNDER METAL EDGE FLANGE.
- PROVIDE LIQUID FLASHING AT ALL GUTTER JOINTS AND END CAPS.
- ENSURE NO LENGTH OF GUTTER IS LONGER THAN 40'-0" WITHOUT AN EXPANSION JOINT.
- NO DOWNSPOUT SHALL BLOCK OR CROSS IN FRONT OF A WINDOW OR BE MORE THAN 35' FROM ANOTHER DOWNSPOUT.
- PROVIDE 3" EXTENSION ON THE BASE OF THE DOWNSPOUT TO KEEP WATER AWAY FROM THE BUILDING.
- PROVIDE GUTTER EXPANSION AND STANDARD JOINTS PER SMACNA AND THE NRCA. MINIMUM WILL BE COATED WITH KEMPER OF SIMILAR MATERIALS.

**D-16 SCUPPER DETAIL** SCALE: 3" = 1' - 0"

#	DATE	BY	DESCRIPTION

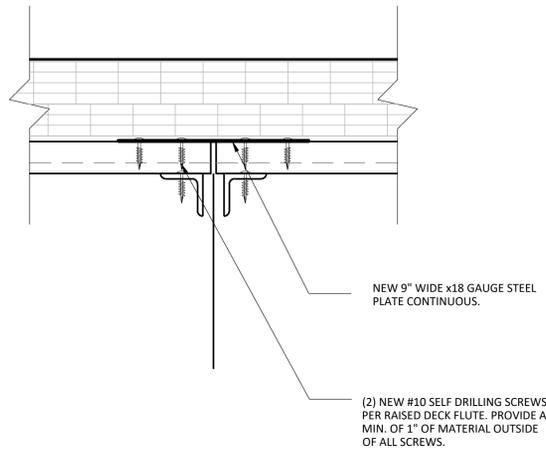
PROJECT NAME: **EVERETT POLICE STATION**  
PROJECT LOCATION: **45 ELM STREET  
EVERETT, MA 02149**

DRAWN BY: **EAL** CHECKED BY: **BT**  
DATE ISSUED: **12/12/2025**  
SCALE: **3" = 1' - 0"**  
(ON "D" SIZE PAPER)



D-17 SKYLIGHT DECK INFILL

SCALE: N.T.S.

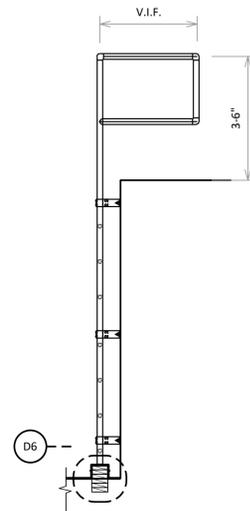


NOTES:

- ONLY USE THIS DETAIL IF THE DECK DOES NOT "NEST" INTO THE EXISTING DECKING. IF THE DECKING IS ABLE TO "NEST" THEN THE STEEL DECK INSTITUTE'S RECOMMENDATIONS FOR STANDARD OVERLAP AND ATTACHMENT SHALL BE USED.
- TRIM THE EXISTING DECKING BACK TO ENSURE THAT THE NEW AND EXISTING DECKING WILL BEAR ON HALF OF THE BEARING POINT. RE-SECURE THE EXISTING DECKING AS REQUIRED.

D-18 STEEL DECK REPAIR

SCALE: 3" = 1' - 0"

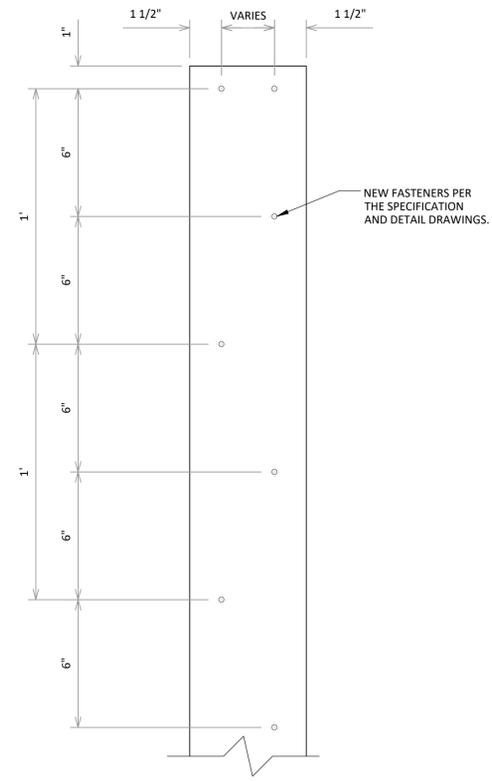


NOTES:

- THE FASTENERS USED FOR SECURING THE LADDER TO THE EXTERIOR WALL SHALL BE 3/8" DIAMETER THROUGH BOLTS WITH LOCK WASHERS AND NUTS. ALL HARDWARE TO BE A307 OR BETTER. THE FASTENERS SHALL BE INSTALLED AT EACH PURLIN IN THE EXTERIOR WALL ASSEMBLY. INSTALL ALL COMPONENTS PER THE MANUFACTURER'S RECOMMENDATIONS.
- LADDERS SHALL BE CONSTRUCTED OF A-36 STEEL OR GREATER.
- LADDERS TO PROVIDE SUFFICIENT TOE SPACE ABOVE THE FINISHED ROOF HEIGHT TO ALLOW FOR 7" CLEARANCE.
- LADDER ASSEMBLIES TO BE SHOP GALVANIZED PRIOR TO INSTALLATION. (SEE SPECIFICATION FOR ADDITIONAL INFORMATION.)
- SUPPORT BRACKETS TO BE EQUALLY SPACED AT 4'-6"oc MAX SPACING FOR ALL LADDERS.
- LADDER TO HAVE STAINLESS STEEL FALL PROTECTION GUIDE PERMANENTLY INSTALLED. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.

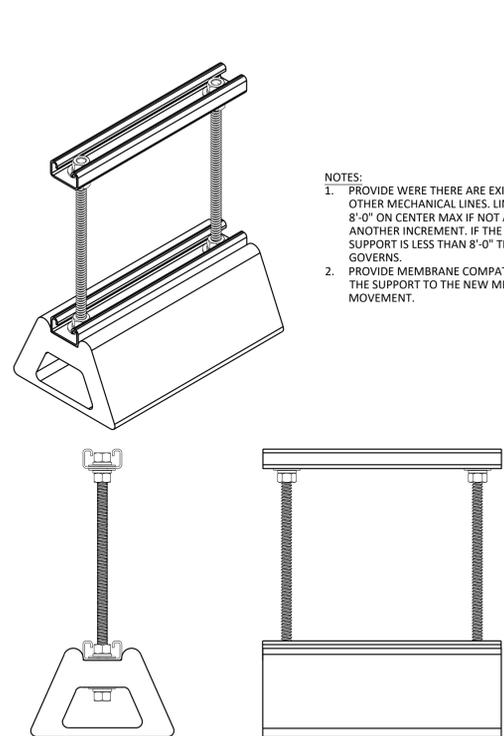
D-19 LADDER DETAIL

SCALE: N.T.S.



D-20 EDGE BLOCKING FASTENER SPACING

SCALE: N.T.S.

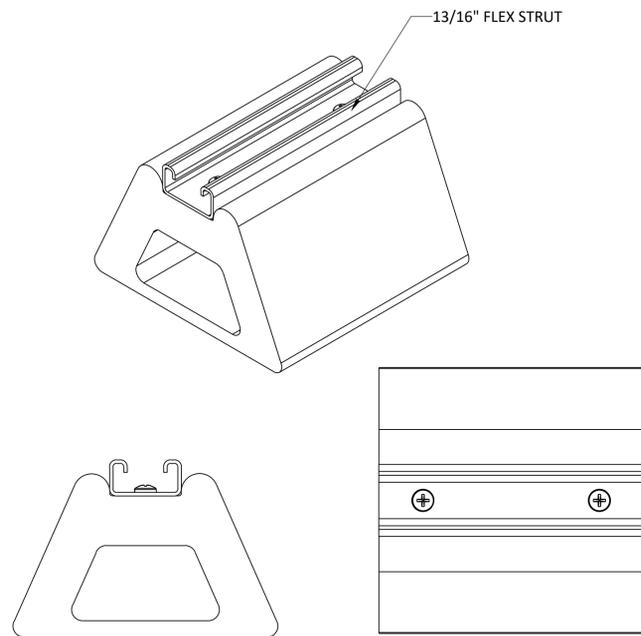


NOTES:

- PROVIDE WHERE THERE ARE EXISTING GAS, ELECTRICAL OR OTHER MECHANICAL LINES. LINE SHALL BE SUPPORTED AT 8'-0" ON CENTER MAX IF NOT ALREADY SUPPORTED AT ANOTHER INCREMENT. IF THE EXISTING INCREMENT OF SUPPORT IS LESS THAN 8'-0" THEN THAT INCREMENT GOVERNS.
- PROVIDE MEMBRANE COMPATIBLE "STRAP" THROUGH THE SUPPORT TO THE NEW MEMBRANE TO PREVENT MOVEMENT.

D-21 PIPE SUPPORT

SCALE: 3" = 1' - 0"

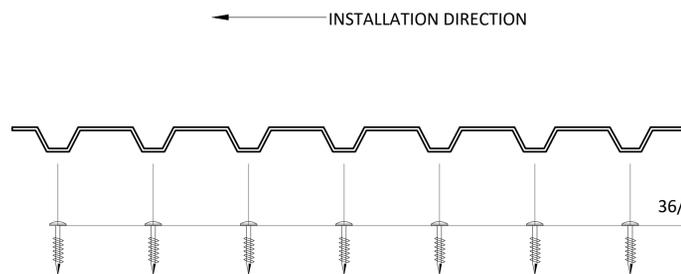


NOTES:

- PROVIDE WHERE THERE ARE EXISTING GAS, ELECTRICAL OR OTHER MECHANICAL LINES. LINE SHALL BE SUPPORTED AT 8'-0" ON CENTER MAX IF NOT ALREADY SUPPORTED AT ANOTHER INCREMENT. IF THE EXISTING INCREMENT OF SUPPORT IS LESS THAN 8'-0" THEN THAT INCREMENT GOVERNS.
- PROVIDE MEMBRANE COMPATIBLE "STRAP" THROUGH THE SUPPORT TO THE NEW MEMBRANE TO PREVENT MOVEMENT.

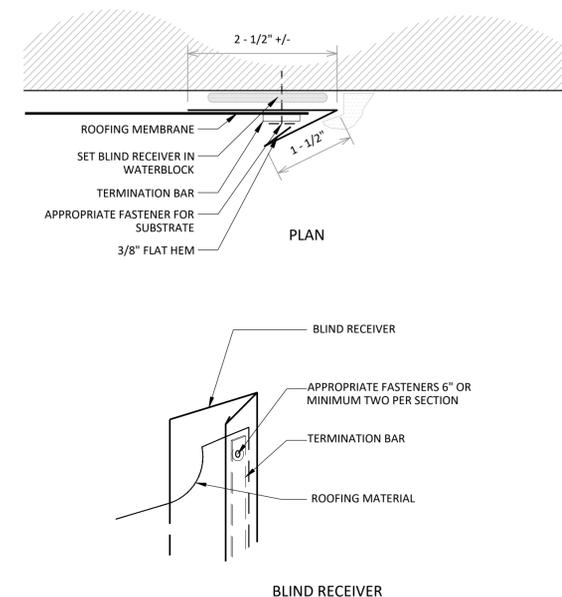
D-22 PIPE SUPPORT

SCALE: 3" = 1' - 0"



D-23 STEEL DECK FASTENING RATE

SCALE: N.T.S.



NOTES:

- THE BLIND RECEIVER SHALL BE USED AT ALL MEMBRANE OR METAL, HORIZONTAL OR VERTICAL TERMINATION AS DIRECTED.
- THE RECEIVER SHALL BE SET IN SPECIFIED URETHANE CAULKING AND A BEAD OF CAULKING SHALL LAID INTERNALLY PRIOR TO FINISHING THE RECEIVER CLOSED.
- DIMENSIONS OF A GIVEN RECEIVER MAY VARY.
- WHEN THE RECEIVER IS COMBINED WITH COPING CAP, COUNTER FLASHING OR OTHER FLASHING DEVICES IT WILL BE MITERED, SEAMED OR OTHERWISE MECHANICALLY SECURED SO AS TO PROVIDE

D-24 BLIND RECEIVER

SCALE: N.T.S.

DESCRIPTION

BY

DATE

#

PROJECT NAME: EVERETT POLICE STATION

PROJECT LOCATION: 45 ELM STREET  
EVERETT, MA 02149

DRAWN BY: EAL

CHECKED BY: BT

DATE ISSUED: 12/12/2025

SCALE: 3" = 1' - 0"

(ON "D" SIZE PAPER)

DRAWING: RP-503

PROJECT TITLE: ROOF DETAILS