

Town of Dedham
Rana Mana-Doerfer
Director of Procurement



Town of Dedham
Department of Facilities &
Maintenance
Web site: www.dedham-ma.gov

Endicott Estate Roof Replacement
Invitation for Bid
20230016

Release Date	Wednesday June 14 th , 2023
Pre-Bid Conference	Thursday June 22 nd , 2023 @ 10:00 AM at 656 East Street, Dedham, MA 02026
Deadline for Questions	Friday June 30 th , 2023 @ 12:00 PM
Bids Due	Monday July 17 th , 2023 @ 10:00 AM

Procurement Overview

Primary Contact (bid questions)	Rana Mana-Doerfer, Director of Procurement
Contract Manager	Bernardo Rodriguez, Facilities Project Manager
Bid Package Available	Wednesday June 14th, 2023 -Information and details of bidding requirements may be obtained at the Town Manager's Office, 450 Washington St, Dedham, MA 02026, 3 rd floor for a \$50 non-refundable fee, or online at the Town's Website for FREE
Pre-Bid Meeting	Thursday June 22nd, 2023 @ 10:00 AM at 656 East Street, Dedham, MA 02026
Bid Deposit	5% bid deposit is required as part of bid
Deadline for Written Questions	Friday June 30th, 2023 @ 12:00 PM Questions can be submitted via mail, or email using the information below. By mail: Attn: Procurement Office, 450 Washington Street, Dedham, MA 02026 By Email: procurement@dedham-ma.gov All Questions will be answered in a formal addendum.
Addenda	If any changes are made to this bid, an addendum will be issued. Addenda will be posted on the Town's Webpage and emailed to all bidders on our recorded bidders list.
When and Where Bids are Due	Monday July 17th, 2023 @ 10:00 AM. Attn: Director of Procurement, Town Hall, 450 Washington St, Dedham, MA 02026.
Bid Opening	Monday July 17th, 2023 @ 10:00 AM Dedham Town Hall, Room 305, 3 rd Floor
Number of Required Copies	ONE (1) Original, 3 Copies, AND 1 Digital USB Copy. 5 total.
Contract Award	Award will be made within 90 business days upon Town Manager and Town Counsel Approval and Signature
Upon Award of Contract	
Payment Bond	100% of the bid value
Performance Bond	100% of the bid value
Insurance Refer to Contract Terms	Insurance Refer to Contract Terms (See page 00800-2)

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SECTION 00 02 00

INVITATION FOR BIDS

Sealed bids for furnishing the following item will be received at the **Office of Procurement, Dedham Town Hall, 450 Washington Street, Dedham, MA 02026** until the time specified below at which time the bids will be publicly opened and read.

Specifications and bid forms may be obtained at the Office of Procurement Monday through Friday between 8:30 a.m. and 4:30 p.m.

Bids will be opened in the Office of Procurement, Room 305 on **July 17, 2023, at 10:00 a.m.** Each Bid must be accompanied by a bid security consisting of a BID BOND, CASH, or, CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

Pre-Bid Conference and Site Visit will be held at the **Endicott Estate** located at **656 East Street, Dedham, MA 02026, on June 22, 2023 at 10:00 a.m.** It is imperative that all prospective bidders have a representative in attendance.

A performance bond in an amount equal to 100 percent of the total amount of the contract price with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract, as well as a labor and materials bond in an amount equal to 100 percent of the total contract price.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including, but not limited to G.L. c.149, §§44A-44H, as amended.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Workforce Development and the weekly payroll record submittal requirements under the provisions of Massachusetts General Laws, Chapter 149, Section 26 through 27D inclusive.

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

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

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

The Town of Dedham

By: Leon I. Goodwin, III, Town Manager

SECTION 00 10 00

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of Dedham, Massachusetts, herein called the Owner, acting by and through its Board of Selectmen, will receive sealed Bids for the project known as the **Endicott Estate Roof Replacement Project**.

General bids shall be addressed to the Rana Mana-Doerfer, Director of Procurement, Town of Dedham Procurement Office, 450 Washington Street, Dedham, MA 02026 and endorsed "**Bid for Endicott Estate Roof Replacement Project**" (Project) will be received at the Office of Procurement until 10:00 a.m. prevailing time, on **July 17, 2023, at 10:00 a.m.** at which time and place said bids will be publicly opened and read aloud.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The Work consists of **remove and replace existing asphalt shingle roof assembly including roof underlayments and associated sheet metal flashings down to structural deck. Install new asphalt shingle roof system with new roofing underlayment and sheet metal flashings and all miscellaneous accessories**, and all work incidental thereto, in accordance with the Specifications and conceptual plans attached hereto.

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the Owner or its Architect/Engineer, and shall then become a part of the Contract Documents.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the Work and as herein specified.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item.

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, their address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids, above.

Properly executed bid security shall be placed in a sealed envelope and shall be attached to the outside of the envelope containing the bid.

Bid signatures will be checked.

All addenda will be sent certified mail, with return receipt requested, and/or facsimile or e-mail to all prospective bidders. All bidders shall include with their bids the written acknowledgment form provided in Section 00 30 00 FORM OF GENERAL BID.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present at the bid opening may examine all bids after the bid opening and after the reading of the three apparent low bids.

5. Modification

Any bidder may modify his bid by written communication at any time prior to the scheduled closing time for receipt of bids. Any telegraphic communication must be received by the Owner prior to the closing time, and, provided further, the Owner must be satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation is not received within two days from the closing time, no consideration will be given to a telegraphic communication.

The communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him

to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive, and binding.

The Owner may make such investigations as it deems necessary, and the bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.

7. Conditions of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

8. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the Owner.

Questions concerning this IFB must ONLY be submitted in writing to the Procurement Office before 4:00 PM Friday March 10th, 2023 Questions may be emailed to procurement@dedham-ma.gov

Or mailed to 450 Washington St, Dedham, MA, 02026. Attn: Rana Mana-Doerfer
Written responses will be emailed to all bidders on record as having received the IFB package.

The Town of Dedham has identified a sole point of contact with bidders for the purpose of this IFB. Any attempt to contact any other Town of Dedham employee or to circumvent these procedures in any manner may be grounds for disqualification of the bidder from the procurement process.

Bidders shall promptly raise the issue of any ambiguity, inconsistency, or error, which they may discover upon examination of the bid documents, the work site or any other conditions which apply to the work. Inquiries concerning any part of this Bid shall be directed to the individual(s) listed under the **Procurement Overview**. Bidders should note that **oral communications are not binding on the Town and only written responses by the Town will be considered**. All requests/questions must be submitted in writing. Questions may be delivered by hand, or email as referenced under the **Procurement Overview** by the deadline. Questions that may be asked during any pre-bid conference should also be sent in writing in order to receive an official response.

Requests properly presented that in the opinion of the Town require interpretation, correction, or change in the Bid Documents will result in an issuance of an Addendum to the Bid Documents. Such Addendum shall subsequently become part of the contract. The Town will forward responses to all persons who are on record as receiving the bid package. Questions received after the due date will not be responded to unless the Town

determines it is necessary. Bidders, please allow enough time for hand delivery or facsimile transmissions.

All addenda so issued shall become part of the Contract Documents.

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

11. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the Contract the same as though written out in full.

12. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after presentation thereof by the Owner, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid, but the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

13. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

14. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the

information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents. It is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner or the Architect/Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

15. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the Owner, in the amount of five (5) percent of the value of the bid. Such security of general bidders will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

16. Right to Reject Bid

The Owner reserves the right to waive any informalities in bids and to reject any and all bids, should the Owner deem it to be in the public interest to do so.

The Owner may also reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities.

17. Time for Completion

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00 30 00 FORM OF GENERAL BID.

18. Comparison of Bids

Bids will be compared on the basis of prices set forth in the bid forms. In the event that there is a discrepancy between the lump sum or unit prices written in words and figures, the prices written in words will govern.

19. Award of Contract

The Contract will be awarded to "the lowest responsible and eligible bidder" pursuant to General Laws Chapter 149, Section 44A (2), as amended. Such a bidder shall possess the skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding.

20. Statutes Regulating Competitive Bidding

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 149, Sections 44A through 44H, as amended, need not be accepted and the Owner may reject every such bid.

21. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of Department of Labor and Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the bidder, before bid opening, to request any additional information on Prevailing Wage Rates for those tradespeople who may be employed for the proposed work under this contract.

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records.

23. INSURANCE

The Contractor shall carry and continuously maintain until completion of the Contract, insurance as specified in Agreement and in such form as shall protect him performing work covered by this Contract, and the Town of Dedham and its employees, agents and officials, from all claims and liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract. The Town shall be named as an additional insured. The Contractor covenants and agrees to hold the Town and its employees, agents and officials harmless from loss or damage due to claims for bodily injury or death and/or property damage arising from, or in connection with, operations under this Contract.

25. PROJECT MANAGER

The Owner may utilize the services of a project manager, whose duties shall be as set forth in an Agreement for Project Manager Services.

SECTION 00 30 00

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

a corporation, organized and existing under the laws of the state of _____

a partnership

a joint venture

an individual
doing business as _____

To the City/Town of Dedham_, Massachusetts (hereinafter called "Owner").

A) The undersigned Bidder, in compliance with your invitation for bids for the project known as **Endicott Estate Roof Replacement**, having examined the plans and specifications and related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents and the plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

The Bidder hereby agrees to commence work on or before the date to be specified in written "Notice to Proceed" of the Owner, and to fully complete the project within 75 (seventy-five) consecutive calendar days thereafter. The Bidder further agrees to pay as liquidated damages the sum of One Thousand (\$ 1000.00) Dollars for each consecutive calendar day thereafter that the work is not complete as provided in the contract.

*Specify corporation, partnership or individual as applicable.

B) Bidder acknowledges receipt of and this bid includes the following addenda:

No. _____ Dated:

No. _____ Dated:

No. _____ Dated:

No. _____ Dated:

C) The Bidder agrees to perform the bid work described in the specifications and shown on the plans for the following contract price: \$ _____ .

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

The Bidder understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts, including General Laws Chapter 149 and Chapter 30, Section 39M, as amended.

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

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

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal Agreement set forth in Section 00 50 00 CONTRACT.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00 10 00 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bond are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract price in accordance with Section 00 61 00 PERFORMANCE BOND, Section 00 62 00 PAYMENT BOND, and as stipulated in the contract.

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

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

(attach supplementary list if necessary)

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

<u>Completion Date</u>	<u>Project Name</u>	<u>Contract Amount</u>	<u>Design Engineer</u>	<u>Reference Name</u>	<u>Telephone No.</u>
----------------------------	-------------------------	----------------------------	----------------------------	---------------------------	--------------------------

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

Bank reference _____
(Name)

(Bank)

(Address)

(Telephone No.)

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

The undersigned Bidder hereby certifies under penalties of perjury, as follows: (1) that he/she 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 who 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 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 10 hours in duration.

The undersigned certifies under 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 paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

Respectfully submitted:

Date: _____

By: _____

(Signature)

(Type Name of Bidder)

(Title)

(Business Address)

(City and State)

(Telephone Number)

SECTION 00 50 00

AGREEMENT

THIS AGREEMENT made this _____ day of _____
in the year Two Thousand and _____, between _____, with a
usual place of business at _____, hereinafter
called the CONTRACTOR, and the Town of Dedham, acting by its _____, with a
usual place of business at 450 Washington Street, Dedham, MA 02026, hereinafter called the
OWNER.

The CONTRACTOR and the OWNER, for the consideration hereinafter named, agree as follows:

1. Scope of Work

The Contractor shall furnish all labor, materials, equipment and insurance to perform all work required for the project known as the **Endicott Estate Roof Replacement** Project, in strict accordance with the Contract Documents and all related Drawings and Specifications. The said Documents, Specifications, Drawings and any supplemental general conditions are incorporated herein by reference and are made a part of this Agreement.

2. Contract Price

The Owner shall pay the Contractor for the performance of this Agreement, subject to additions and deductions provided herein, in current funds, the sum of
\$ _____.

3. Commencement and Completion of Work and Liquidated Damages

It is agreed that time is of the essence of this Agreement. The Contractor shall commence and prosecute the work under this Agreement upon execution hereof and shall complete the work on or before _____.

A. Definition of Term: The Term "Substantial completion" shall mean the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the project, or designated portion(s) thereof, for the use for which it is intended.

B. Time as Essential Condition: It is understood and agreed that the commencement of and substantial completion of the work are essential conditions of this Agreement. It is further agreed that time is of the essence for each and every portion of the Contract Documents wherein a definite and certain length of time is fixed for the performance of

any act whatsoever; and where under the Contract Documents any additional time is allowed for the completion of any work, the new time fixed by such extension shall be of the essence of this Agreement. It is understood and agreed that the times for the completion of the work are reasonable, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

- C. Progress and Completion: Contractor shall commence work promptly upon execution of this Agreement and shall prosecute and complete the work regularly, diligently and uninterruptedly at such a rate of progress as will insure Substantial Completion within the stipulated number of calendar days.
- D. Liquidated Damages: It is expressly agreed between the Contractor and the Owner that the Contractor will be responsible for all damages which may arise due to the Contractor's failure to substantially complete the work within the above specified time. If the Contractor shall neglect, fail or refuse to complete the work within the specified number of days, or any extension thereof authorized by the Owner, Contractor agrees, as a part of the consideration for the execution of this Contract by the Owner, to pay the Owner the amount specified herein, not as a penalty, but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day, excluding Saturdays, Sundays and legal Holidays, that the Contractor shall be in default of Substantial completion after the date specified in the Agreement. Due to the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, said amount is agreed to be the amount of damages which the Owner would sustain, and said amount shall be retained from time to time by the Owner from current periodic estimates. The amount of liquidated damages shall be One Thousand Dollars (\$1,000.00) per day.

4. Performance of the Work

- A. Direction of the Work: The Contractor shall supervise and direct the Work, using his best skills and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the project site during the performance of the Work. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Agreement.
- B. Responsibility for the Work: (1) The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.

(2) The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the Contractor.

- C. Permits and Fees: Unless otherwise expressly provided, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Agreement and which are legally required at the time the bids are received, and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project.
- D. Notices, Compliance With Laws: (1) The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Agreement.
- (2) If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate modification.
- (3) If the Contractor performs any Work which he knows or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefor and shall bear all costs attributable thereto.
- (4) In the performance of the Work, the Contractor shall comply with all applicable federal, state and local laws and regulations including those relating to workplace and employee safety. The Contractor shall notify the Owner immediately of any conditions at the place of the work which violate said laws and regulations and shall take prompt action to correct and eliminate any such violations.
- E. Project Superintendent: The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.
- F. Progress Schedule: The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.
- G. Drawings, Specifications and Submittals:
- (1) The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, and "As-Built" Drawings and Specifications in good order and marked currently to record all changes made during construction, and approved Shop Drawings,

Product Data and Samples. These shall be delivered to the Owner upon completion of the Work.

(2) By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

(3) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Owner's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submission and the Owner 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 Owner's approval thereof.

(4) The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Owner on previous submittals.

(5) No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Owner. All such portions of the Work shall be in accordance with approved submittals.

- H. Protection of the Work and Owner's Property: The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Agreement. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury. The Contractor shall clean the work area and restore it to its original condition upon completion of the work.
- I. Quality of the Work: The Contractor shall perform the work in a good, workmanlike manner. The Contractor hereby guarantees that the entire work constructed by him under the Agreement will meet fully all requirements thereof as to quality of workmanship and materials. The Contractor hereby agrees to make at his own expense any repairs or replacements made necessary by defects in materials or workmanship supplied to him that become evident within one (1) year after the date of the final payment, and to restore to full compliance with the requirements set forth herein any part of the work constructed hereunder, which during said one (1) year period is found to be deficient with respect to any provisions of the Contract Documents. The Contractor also agrees to hold the Owner harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor shall be liable to the Owner for the cost thereof.

J. Warranty: The Contractor guarantees to Owner that all materials incorporated into the work will be new unless otherwise specified or agreed. Prior to final payment, the Contractor shall deliver to the Owner all manufacturers' warranties, together with such endorsements or assignments as are necessary to ensure to the Owner the full rights and benefits of such warranties.

5. Affirmative Action/Equal Employment Opportunity

The Contractor is directed to comply with all applicable State Laws, Ordinances, Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of the Contractor to comply with any such law, rule or regulation shall constitute grounds for the Owner to terminate the Agreement.

6. Site Information Not Guaranteed; Contractor's Investigation

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of the Contractor and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state, and local laws, rules, ordinances, and regulations that in any manner may affect costs, progress, or performance of the work. Contractor has made, or has caused to be made, examinations, investigations, and tests and studies of such reports and related data in addition to those referred to in the paragraph above as he deems necessary for the performance of the work at the Contract Price, within the Contract Time, and in accordance with the other Terms and Conditions of the Contract Documents; and no additional examinations, tests, investigations, reports, and similar data are or will be required by the Contractor for such purposes.

Contractor has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the Contract Documents. Contractor has given the Owner written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents, and the resolution thereof by the Owner is acceptable to the Contractor.

It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner, arising from or by reason of any variance which may exist between the information made available and the actual subsurface conditions or other conditions or structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

7. Project Architect or Engineer

There is a project architect-engineer for this project who is **Gorman Richardson Lewis Architects, Inc.** Except as otherwise indicated in the Contract Documents, the Architect/Engineer shall be a representative of the Owner and the Contractor shall direct all communications, questions and comments on the work and the performance thereof to the Architect/Engineer. Except as otherwise provided, the Architect/Engineer shall have all the authority of the Owner set forth in the Contract Documents. In general, the Architect/Engineer shall have the authority to review the performance of the work, reject work which is defective or otherwise does not comply with the Contract Documents and to order the Contractor to remedy defective work and take such actions which are necessary to make the work conform to the Contract Documents.

8. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of the Department of Labor and Workforce Development under the provisions of Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the Contractor to provide the Town with certified payrolls and to comply with all requirements of the above-cited statutes.

The schedules of prevailing wage rates are included in the Contract Documents.

9. Payments to the Contractor

Within fifteen (15) days after receipt from the Contractor of a proper and satisfactory periodic estimate requesting payment of the amount due for the preceding month, the Owner shall have fifteen (15) days to make payment for:

- A. The work performed during the preceding month.
- B. 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.
- C. Less the following retention items:
 - 1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor.
 - 2. A retention for direct payments to Subcontractors, if any, based on demands for same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws.
 - 3. A retention not exceeding five percent (5%) of the approved amount of the periodic payment.

- D. After the receipt of a periodic estimate requesting final payment and within sixty-five (65) days after the Contractor fully completes the Work, or substantially completes the Work so that the value of the Work remaining to be done is, on the estimate of the Owner, less than 1% of the original Contract Price, or substantially completes the Work and the Owner takes possession or occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the Contract less:
1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work.
 2. A retention for direct payments to Subcontractors, if any, based on demands of same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws, or based on the record of payments by the Contractor to the Subcontractors under this Contract if such record of payment indicates that the Contractor has not paid Subcontractors as provided in Section 39F of Chapter 30 of the General Laws.

If the Owner fails to make payment as herein provided, there shall be added to each such payment, daily interest at the rate of 3 percentage points above the rediscount rate than 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 of a periodic estimate for final payment until fifteen (15) days after receipt of such a periodic estimate by the Owner as provided in the first paragraph of this Article. The Contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

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

- E. Changes in the Work: No changes in the work covered by the approved Contract Documents shall be made without prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:
- (a) Unit bid prices previously approved.
 - (b) An agreed lump sum.

- (c) The actual cost of:
 - (1) Labor.
 - (2) Materials entering permanently into the work.
 - (3) The ownership or rental cost of construction equipment during the time of use on the extra work.
 - (4) Power and consumable supplies for the operation of power equipment.
 - (5) Wages to be paid.

To the cost under (c) there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

- F. Claims for Additional Costs: If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Owner written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Town on account of any delay in the commencement or performance of the work and/or any hindrance, delay or suspension of any portion of the work including, but not limited to, any claims or damages on account of having to perform out of sequence work, claims for damages on account of loss of production or other interference with the work whether such delay is caused by the Town or otherwise, except as and to the extent expressly provided under G.L. c.30, §39O in the case of written orders by the Town. The Contractor acknowledges that the Contractor's sole remedy for any such claim will be an extension of time as provided herein.

10. Final Payment, Effect

The acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor arising under the Agreement.

11. Contract Documents

The Contract Documents consist of the following, together with this Agreement:

Invitation to Bid
Instructions to Bidders
This Contract Form
Bid Form

Performance Bond
Labor & Materials Payment Bond
Non-Collusion Certificate
Tax Compliance Certificate
Clerk's Certificate of Corporate Vote
Certificate of Insurance
General Conditions
Supplementary General Conditions
General Requirements
Specifications and Addenda
Contract Drawings
Schedule of Prevailing Wages

12. Terms Required By Law

This Agreement shall be considered to include all terms required to be included in it by the Massachusetts General Laws, and all other laws, as though such terms were set forth in full herein.

13. Indemnification

The Contractor shall indemnify and hold harmless the Owner from and against any and all claims, damages, losses, and expenses, including attorney's fees, arising out of the performance of this Agreement when such claims, damages, losses, and expenses are caused, in whole or in part, by the acts, errors, or omissions of the Contractor or his employees, agents, subcontractors or representatives.

14. Insurance

The Contractor shall purchase and maintain such insurance as will protect both the Owner and the Contractor from claims which may arise under the Agreement, including operations performed for the named insured by independent contractors and general inspection thereof by the named insured. In addition, the Contractor shall require its subcontractors to maintain such insurance. Coverage shall be provided for:

- .1 claims under workers' or workmen's compensation, disability benefit and other applicable employee benefit acts;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;

- .5 claims for damages, including damages to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- .6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- .7 claims involving contractual liability applicable to the Contractor's obligations under Article 13.

The limits of liability for coverage required under the preceding paragraph shall be as Specified in the Supplemental Conditions.

Except for Workmen's Compensation, all liability coverage shall name the Town as an additional insured and shall provide for 30 days prior written notice to the Town of any modification or termination of coverage provided thereby. The Contractor shall provide the Owner with appropriate certificate(s) of insurance evidencing compliance with this provision prior to the commencement of any work under this Agreement.

15. Notice

All notices required to be given hereunder shall be in writing and delivered to, or mailed first class to, the parties' respective addresses stated above. In the event that immediate notice is required, it may be given by telephone or facsimile, but shall, to the extent possible, be followed by notice in writing in the manner set forth above.

16. Termination

- A. Each party shall have the right to terminate this Agreement in the event of a failure of the other party to comply with the terms of the Agreement. Such termination shall be effective upon seven days' notice to the party in default and the failure within that time of said party to cure its default.
- B. The Owner shall have the right to terminate the Agreement without cause, upon ten (10) days' written notice to the Contractor. In the event that the Agreement is terminated pursuant to this subparagraph, the Contractor shall be reimbursed in accordance with the Contract Documents for all Work performed up to the termination date, and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. Payment for material or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interests.

17. Miscellaneous

- A. Royalties and Patents: The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all

such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified; but if the Contractor believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner, and thereafter the Owner insists on the use of the design, process or products specified.

- B. Assignment: The Contractor shall not assign or transfer any of its rights, duties or obligations under this Agreement without the written approval of the Owner.
- C. Governing Law: This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Massachusetts.
- D. By its signature hereon, the Contractor certifies, under the pains and penalties of perjury, that it has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

[Remainder of page intentionally blank.]

AGREED:

TOWN OF DEDHAM, MASSACHUSETTS
(Owner)

By its _____

CONTRACTOR: _____

By _____

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____

(Owner's Counsel)

In accordance with G.L. c.44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefor and that the _____ has been authorized to execute the contract and approve all requisitions and change orders.

By _____

(Owner's Accountant)

(Name)

CERTIFICATE OF VOTE
(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified
(Secretary of the Corporation)

and acting Secretary of _____ and I further certify that a meeting of the

(Name of Corporation)

Directors of said Company, duly called and held on _____, at which
(Date of Meeting)

all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

**CERTIFICATIONS REQUIRED BY LAW
FOR PUBLIC CONSTRUCTION CONTRACTS**

You must COMPLETE and SIGN the following certifications. You must also print, at the bottom of this page, the name of the contractor for whom these certifications are submitted.

TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I, the undersigned, authorized signatory for the below named contractor, do hereby certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

NON-COLLUSION

The undersigned 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.

PUBLIC CONTRACTOR DEBARMENT

The undersigned certifies under penalty of perjury that the below named contractor 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.

OSHA TRAINING

Pursuant to G.L. c. 30, §39S, the Contractor hereby certifies under penalties of perjury as follows:

- (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) 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 they shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and
- (3) 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.

COMPLETE AND SIGN BELOW:

Authorized Person's Signature

Date

Print Name & Title of Signatory

Name of Contractor

SECTION 00 61 00

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture or Individual)

_____ of _____, State of _____
(Surety) (City & State)

_____ hereinafter called the "Surety" and licensed by the State
Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are
held and firmly bound to the City/Town of _____, Massachusetts, hereinafter called
"Owner", in the penal sum of

_____ Dollars
(\$ _____) in lawful money of the United States, for the payment of which
sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and
successors, jointly and severally, firmly by these presents.

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

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

PROVIDED, FURTHER, that the Surety's obligation under this Bond shall arise after (1)
the Owner has declared the Principal in default of the Construction Contract or any provision
thereof or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to
execute the work consistent with, and in conformance to, the Construction Contract (collectively
referred to as a "Contractor Default"). The determination of a Contractor Default shall be made
solely by the Owner. The Owner need not terminate the Construction Contract to declare a
Contractor Default or to invoke its rights under this Bond.

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

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

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

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

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

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

ATTEST:

(Principal Secretary) By _____

(Address-Zip Code)

Witness as to Principal (SEAL)

(Address-Zip Code)

ATTEST:

By _____

(Attorney-in-Fact)

(Address-Zip Code)

Witness as to Surety (SEAL)

(Address-Zip Code)

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

SECTION 00 62 00

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a _____
(Name of Contractor) (Corporation, Partnership, Joint Venture or Individual)

hereinafter called "Principal" and _____ of _____,
(Surety)

State of _____ hereinafter called the "Surety" and licensed by the State
(City and State)

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City/Town of _____, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars

(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, for the construction described as follows:

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

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

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

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

ATTEST:

_____		_____
		Surety
_____	By	_____
		(Attorney-in-Fact)

		(Address-Zip Code)
_____	(SEAL)	
Witness as to Surety		

(Address-Zip Code)		

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

SECTION 00 80 00

SUPPLEMENTAL CONDITIONS

	<u>Page</u>
1. Introduction	2
2. Prevailing Wage Rates	2
3. Insurance Requirements	2

SECTION 00 85 00 - Incorporation of Applicable Provisions of the Massachusetts General Laws

Attachment A - Wage Rates and Certificate of Compliance

§ SC 1.1 INTRODUCTION

The following provisions modify, change, delete from or add to Section 00 50 00 Agreement. Where any Subsection of the Agreement is modified or any Article Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplemental Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

§ SC 2.1 PREVAILING WAGE

In accordance with General Laws Chapter 149, Section 26 through 27D, the Contractor is obligated to comply with the prevailing wage rates established by the Commissioner of the Department of Labor and Workforce Development for mechanics, apprentices, chauffeurs, teamsters and laborers employed on the Project. The schedule of applicable prevailing wage rates for the Project, together with a Certificate of Compliance therewith, are set forth in Attachment A herein.

§ SC 3.1 CONTRACTOR'S LIABILITY INSURANCE

In no case shall the limits of liability be less than the following:

Type of Insurance	Limit Requirements & Notes
General Liability	<p>\$1,000,000 Per Occurrence \$2,000,000 General Aggregate \$2,000,000 Products/Completed Operations Aggregate</p> <p>General Liability coverage must be maintained on an Occurrence basis, and must be amended to state that the Aggregate Limit applies on a Per Project basis. Explosion, collapse and underground property damage (XCU) hazards must be included. Town of Dedham shall be included as Additional Insured with respect to ongoing and completed operations via endorsements CG 2010 10/01 and CG 2037 10/01 or equivalent, and this policy shall be Primary and Non-Contributory with respect to any other insurance available to Additional Insureds. A Waiver of Subrogation shall be provided in favor of Town of Dedham.</p>
Auto Liability	<p>\$1,000,000 Combined Single Limit – Bodily Injury & Property Damage</p> <p>Auto Liability coverage shall be afforded for all owned, non-owned and hired vehicles used in the performance of the work. Town of Dedham shall be included as Additional Insured, and this policy shall be Primary and Non-Contributory with respect to any other insurance available to Additional Insureds. A Waiver of Subrogation shall be provided in favor of Town of Dedham.</p>
Workers' Compensation & Employers' Liability	<p>Part I: Statutory Limits Part II: \$500,000 Each Accident \$500,000 Disease Per Employee \$500,000 Disease Policy Aggregate</p> <p>A Waiver of Subrogation shall be provided in favor of Town of Dedham.</p>
Umbrella/Excess Liability	<p>\$5,000,000 Per Occurrence \$5,000,000 Aggregate</p> <p>The Contractor shall provide Umbrella Liability coverage in a form at least as broad as primary coverages required in this Exhibit with respect to General Liability, Auto Liability and Employers' Liability. Additional Insured status shall be provided to Town of Dedham as provided by primary coverages. Waivers of Subrogation shall be provided in favor of Town of Dedham as provided by primary coverages. This policy shall be primary/non-contributory with respect to any other insurance available to Additional Insured(s).</p>
Pollution/Environmental Liability	<p>\$1,000,000 Each Claim \$1,000,000 Aggregate</p>

	Additional Insured status shall be provided to Town of Dedham, and this policy shall be Primary and Non-Contributory with respect to any other insurance available to Additional Insured(s). A Waiver of Subrogation shall be provided in favor of Town of Dedham.
Riggers' Liability	Contractor and/or its subcontractor(s) shall carry Riggers Liability Insurance with limits no less than \$1,000,000 per occurrence if Contractor's Work involves moving, lifting, lowering, rigging or hoisting of property or equipment belonging to others. Such insurance shall insure against physical loss or damage to the property or equipment. Owner and Contractor shall be listed as additional insured on such policies.
Additional Types of Insurance	The Contractor shall provide such other types of insurance as may be required at Town of Dedham's discretion.

SECTION 00 85 00

Incorporation of Applicable Provisions of the
Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.

SECTION 00 90 00

SPECIFICATIONS

DIVISION 1 GENERAL REQUIREMENTS

01 11 00	SUMMARY OF WORK
01 22 00	UNIT PRICES
01 23 00	ALTERNATES
01 31 13	COORDINATION
01 31 19	PROJECT MEETINGS
01 35 00	SUBMITTAL PROCEDURES
01 43 30	MOCK-UPS
01 45 00	QUALITY CONTROL
01 50 00	TEMPORARY FACILITIES AND CONTROLS
01 60 00	MATERIAL AND EQUIPMENT
01 62 00	PRODUCT OPTIONS AND SUBSTITUTIONS
01 65 00	DELIVERY, STORAGE, AND HANDLING
01 73 29	CUTTING AND PATCHING
01 74 00	PROGRESS AND FINAL CLEANING AND POST PUNCH LIST REPAIR CLEANING
01 74 19	CONSTRUCTION WASTE MANAGEMENT
01 77 20	SUBSTANTIAL COMPLETION
01 77 30	PROJECT CLOSEOUT AND FINAL COMPLETION

DIVISION 2 EXISTING CONDITIONS

02 41 13	SELECTIVE DEMOLITION
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DIVISION 3 CONCRETE

NOT USED

DIVISION 4 MASONRY

NOT USED

DIVISION 5

NOT USED

DIVISION 6 WOOD, PLASTICS, AND COMPOSITES

06 10 00	ROUGH CARPENTRY
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DIVISION 7 THERMAL AND MOISTURE PROTECTION

07 31 00	ASPHALT SHINGLE ROOFING
07 46 00	EXTERIOR SIDING
07 56 30	FLUID APPLIED ROOFING RESTORATION

07 60 00 BOX GUTTER AND MEMBRANE ASSEMBLY
07 62 00 FLASHING AND SHEET METAL
07 90 00 SEALANTS

DIVISION 8 OPENINGS

NOT USED

DIVISION 9 FINISHES

09 90 00 PAINTING & COATINGS

01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 PROJECT IDENTIFICATION AND DESCRIPTION OF WORK

- A. Project Identification: The name of the Project on the Contract Documents is
ENDICOTT ESTATE ROOF REPLACEMENT
Town of Dedham
Dedham, MA 02026

- B. Work in this Contract shall include, but is not limited to the following items.

Base Bid:

1. Remove and replace existing asphalt shingle roof assembly including roof underlayments and associated sheet metal flashings down to structural deck. Install new asphalt shingle roof system with new roofing underlayment and sheet metal flashings and all miscellaneous accessories.
2. Remove and replace fascia board to match existing.
3. Remove and replace flashings at base of chimneys.
4. Remove and replace existing wood siding at dormer locations for installation of flashing. Replace to match existing. Paint new siding to match existing at dormer locations.

Alternate 1: Remove and replace existing downspout systems at Roof Section A. Existing wood gutters to remain at Roof Section A. Provide a gutter liner system at all wood gutter locations.

Alternate 2: Install fluid applied membrane over existing modified roof system at Roof Sections B, C, D, and E.

Alternate 3: Remove and replace existing aluminum gutters and downspouts at Roof Sections B, C, D, and E.

- C. The Contractor will have no use of the interior of building unless authorized by Owner. All access to the roof to be provided by the Contractor from the exterior.
- D. All work shall be in accordance with the Bidding and Contract Documents prepared by Architect, GORMAN RICHARDSON LEWIS ARCHITECTS, INC., 239 South Street, Hopkinton, Massachusetts 01748, and their consultants.

1.3 CONSTRUCTION PERIOD

- A. Time is of the essence. Construction shall be executed in a timely and orderly manner as follows:
1. Notice to Proceed: The project will be awarded within 30 days of the bid due date.
 2. Contract Executed: Within 30 days of Notice to Proceed.
 3. Commencement of Work: November 1, 2023.
 4. Substantial Completion Date: by December 15, 2023
 5. Final Completion Date: 30 days after substantial completion.

1.4 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit use of the premises for Work and for storage, to allow for:
1. Owner occupancy of the building.
 2. Public use of building grounds.
- B. Coordinate use of premises under direction of Owner.
1. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on the site.
 2. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.
 3. Obtain and pay for the use of additional storage or work areas needed for operations.
 4. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.
 5. Building will be occupied during construction. Noisy and intrusive work to be coordinated with Owner to be performed after normal hours or around scheduled events.
- C. Prior to beginning work of the Contract, the General Contractor shall meet with the Owner and the Architect to determine procedures regarding access to and use of site, exterior staging, parking and storage areas, tree protection, special site conditions and safety issues, and any other restrictions regarding the use of the site areas surrounding the construction.
- D. The General Contractor shall keep all public and private access roads, and walks clear of debris caused by this work during the entire term of the Contract. The General Contractor shall repair all public and private streets, drives, curbs, walks, and other improvements where disturbed by work of, or related to, building operations, leaving them in as good condition after completion of the work as before operations started, in accordance with rules, regulations, and specifications of the public agencies having jurisdiction.
- E. Parking for the Contractor's vehicles shall be coordinated with the Owner. The Contractor will be responsible for paid parking spaces if required.

- F. Access roads and fire-lanes on and about the site shall be kept open and free at all times, including public roads and access to adjacent homes and businesses.

1.5 REMOVAL/REINSTALLATION OF EXISTING FIXTURES FURNITURE AND EQUIPMENT

- A. Removal of existing Fixtures, Furniture, and Equipment (FF&E) from the project area, prior to commencement of the Work in areas to be agreed on by Owner and Contractor including temporary storage and re-installation will be performed by Town of Dedham personnel.

1.6 OWNER'S OCCUPANCY

- A. The Owner will continue to occupy and use the building(s) during the execution of the work.
- B. Owner Occupancy: The Owner reserves the right to place and install equipment in completed areas of the work prior to Substantial Completion, provided that such occupancy does not interfere with completion of the Work.
 - 1. Execute Certificate of Substantial Completion for each specific Portion of the Work prior to Owner occupancy. After Owner occupancy, Contractor shall allow free and clear access to all partially occupied areas.

1.7 EXAMINATION OF SITE AND PREBID CONFERENCE AND WALKTHROUGH

- A. Prior to bidding the General Contractor and each of the Filed Subcontractors and other Subcontractors shall carefully examine the site and the Contract Documents to ensure their knowledge of conditions and requirements affecting the work. No claim for extra compensation or extension of time will be allowed for General Contractor's, Filed Subcontractor's or other Subcontractors' failure to comply with this requirement nor will any condition at the site, whether or not in agreement with conditions shown or called for on the Contract Documents, be allowed as a basis for such claims, except as otherwise specifically provided for.
- B. Refer to Document 00 11 00 ADVERTISEMENT TO BID for pre-bid conference and scheduled site visits.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 11 00

SUMMARY OF WORK

Page 3 of 3

01 22 00 01
UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 DESCRIPTION

This Section contains instructions and references other Contract Documents that relate to Unit Prices. The Owner may elect certain aspects of the work, whose quantities cannot be determined at this time, to be performed or deleted by the Contractor. If such work items are elected, the Contract price will be adjusted by the Unit Price amount shown for each item in the Bid Forms.

- A. A Unit Price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract Documents are increased or decreased.
- B. The Bidders shall submit with their Bids, prices for the performance of Unit Price work. The general scope of the Unit Price work is defined within this section.
- C. The successful Bidder shall coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each Unit Price Item is complete and fully integrated into the project.
- D. The specific quantities of Unit Price Work included in the Base Bid are provided herein. This applies to items whose exact quantities are unknown but are anticipated to exist, for example, additional corroded metal deck.
- E. The quantities of Unit Price Work listed in this Section and the bid and contract forms are in addition to the quantities shown on the Contract Drawings.
- F. The Unit Prices requested herein shall include a pro-rata share of all costs for materials, labor, equipment costs, overhead, profit, and applicable taxes.
- G. Where not otherwise specified, Unit Prices cover net costs and credits to the Owner for executing authorized changes in the Work. No separate adjustments are made for labor, materials, transportation, handling, storage, overhead, profit, or other related work expenses.
- H. If unit price quantities vary twenty (20) percent greater than the amounts carried in the Base Bid, the Owner reserves the right to re-negotiate unit price costs.

- I. Should the Unit Prices referenced in this section not be used as part of the project, they shall be credited back to the Owner, less fifteen (15) percent for overhead and profit.

1.3 DESCRIPTION OF WORK

- A. The Unit Prices for items of Work, as set forth in the Schedule of Unit Prices, shall be used to determine adjustments to the Contract Amount when changes in the Work involving said items are made in accordance with the Contract Documents.
- B. 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.
- C. The successful Bidder shall coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each Unit Price Item is complete and fully integrated into the project.

1.4 APPLICABILITY OF UNIT PRICES

- A. Prior to commencing removal or replacement of materials set forth in the schedule of Unit Prices, the Contractor shall notify the Owner in sufficient time to permit proper inspection and measurements to be taken. Only quantities that have been approved in writing by the Owner will be considered in the determination of adjustments to the Contract Sum.
- B. Unit Price Work includes providing and installing all accessories and appurtenant work necessary to properly execute the Unit Price Work.
- C. Performance of work not required by the Contract Documents, or which is not authorized by Change Order or Field Order, whether or not such work 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.

1.5 VERIFICATION OF UNIT PRICES

The following minimum procedures must be included by the Contractor for each of the indicated unit repair items for the duration of the project:

- A. The Contractor is required to track and record actual placed and completed Unit Price Work throughout the course of construction, and submit a breakdown to the Owner and Engineer on a weekly basis or as requested. The breakdown shall include the following for each Unit Price item:
 1. Completed quantity to date
 2. Remaining quantity to date

3. Percentage of total quantity remaining

- B. The Contractor shall contact the Owner and Engineer if a Unit Price quantity is anticipated to be reached prior to exceeding that quantity. No additional costs will be awarded to the Contractor for additional Unit Price Work without written approval from the Owner and/or Engineer.
- C. The Contractor must provide safe, adequate, and ample access to the Owner and Engineer for verification of the Unit Price Work throughout the course of construction.
- D. Photographic documentation of Unit Price work, with an approximate scaling devise, must be performed if an Owner’s representative is not available at the time of the work being performed.

1.6 SCHEDULE OF UNIT PRICES

Specification Section	Unit Price Item	Estimated Quantity (beyond drawings)	Unit of Measure	Unit Price Dollar/Cents	Total Amount Dollar/Cents
06 10 00 ROUGH CARPENTRY	Remove and replace deteriorated sheathing	500	Square Foot	\$	\$

PART 2 - PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

01 23 00
ALTERNATES

PART 1 – SCOPE OF THE WORK

- A. This Section lists the Alternates which appear in the Contract Documents. Consult the individual sections of the detailed requirements of each Alternate.
- B. Bid prices for each Alternate shall include overhead, profit, and all other expenses incidental to the Work under each Alternate.
- C. The Contractor shall be responsible for examining the scope of each Alternate generally defined herein and for recognizing modifications to the Work caused by the Alternates and including the cost thereof in the bid price.
- D. The Contractor's alternate amount shall include the net change in cost to perform all of the work described in the Alternate.

PART 2 – ALTERNATES

- A. Alternate 1:
 - 1. **Remove and replace existing downspout systems at Roof Section A. Existing wood gutters to remain at Roof Section A. Provide a gutter liner system at all wood gutter locations.**
 - a. Specification Reference: Section 07 60 00 BOX GUTTER AND MEMBRANE ASSEMBLY and Section 07 62 00 FLASHING AND SHEET METAL.
- B. Alternate 2:
 - 1. **Install fluid applied membrane over existing modified roof system at Roof Sections B, C, D, and E.**
 - a. Specification Reference: Section 07 56 30 FLUID APPLIED ROOFING RESTORATION.
- C. Alternate 3:
 - 1. **Remove and replace existing aluminum gutters and downspouts at Roof Sections B, C, D, and E.**
 - a. Specification Reference: Section 07 62 00 FLASHING AND SHEET METAL.

PART 3 – NOT USED.

END OF SECTION

01 31 13
COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 DESCRIPTION OF WORK

- A. Work Included: This Section specifies supervisory and administrative requirements for coordination of Work, including, but not limited to:
1. Coordination of work of employees.
 2. Expedition of Work to assure compliance with schedules.
 3. Coordination of Work with that of other contractors and work by Owner.
 4. Compliance with orders and instructions of Architect or Owner.
- B. Related Sections: Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. 01 31 19 PROJECT MEETINGS
 2. 01 35 00 SUBMITTAL PROCEDURES
 3. 01 50 00 TEMPORARY FACILITIES AND CONTROLS
 4. 01 73 29 CUTTING AND PATCHING
 5. 01 77 20 SUBSTANTIAL COMPLETION
 6. 01 77 30 PROJECT CLOSEOUT AND FINAL COMPLETION

1.3 COORDINATION BY CONTRACTOR

- A. Coordinate the Work of the Contract, including other subcontractors. Anticipate areas where the installation of work will be restricted, congested, or difficult. Consult all affected subcontractors.
1. All work associated with this Contract shall be fully coordinated with the Owner.
 2. Coordinate and comply with requirements regarding use of the building, access, dumpster locations, utilities, and related facilities, as agreed to between the Owner and Contractor.

1.4 EXISTING UTILITIES AND SERVICES

- A. The Contractor shall immediately notify Architect and appropriate authorities when coming across an unknown utility or service line, and await decision as to how to proceed. When an existing utility or service line must be cut and plugged or capped,

moved, or relocated, or has become damaged, Contractor shall notify Architect. If it is on a utility or provider side of metering or building perimeter, notify the utility or service entity involved as well.

- B. Assure protection, support, or moving of utilities or services to adjust them to new work. Contractor shall be responsible for damage caused to existing, active utilities or services under work of this Contract, whether or not such utilities are indicated on Drawings, including resultant damages or injuries to persons or properties.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 31 19
PROJECT MEETINGS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including but not limited to:
 - 1. Pre-Construction Meeting(s).
 - 2. Progress Meetings.
 - 3. Coordination Meetings.
 - 4. Special Meetings.
- B. Representatives of contractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The Owner and the Architect may attend any meeting to ascertain that Work is expedited consistent with Contract Documents and construction schedules.

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. 01 35 00 SUBMITTAL PROCEDURES
 - 2. 01 77 20 SUBSTANTIAL COMPLETION
 - 3. 01 77 30 PROJECT CLOSEOUT AND FINAL COMPLETION

1.4 MEETINGS, GENERAL

- A. Organization, scheduling, agendas, invitations, minutes, etc. are the responsibility of the Contractor unless the meeting is called by the Architect.
- B. Agendas: Prepare agendas for Project Meetings. Distribute copies to parties in attendance. It is preferable to distribute Agendas two (2) working days in advance of each meeting, however, the realities of the project may require updates to the agendas immediately before the meetings.

- C. Meeting Notices: Prepare and distribute written notices of Project Meetings two (2) working days in advance of each meeting.
- D. Arrangements: Make physical arrangements for Project Meetings, including but not limited to:
 - 1. Arranging space, table and seating.
- E. Preside at Project Meetings. Unless the Architect calls for a special meeting, the Contractor shall preside at all meetings.
- F. Minutes: Record Minutes of Project Meetings, including significant procedures and decisions. Record Minutes for special meetings called by the Architect will be the responsibility of the Architect.
- G. Distribution of Minutes: Reproduce and distribute copies of Project Meeting minutes not later than three (3) working days after each meeting to participants of meeting, to parties affected by decisions made at meetings, and to Architect.
 - 1. Electronic Distribution is preferred, with supplemental paper copies available at each meeting.

1.5 PRE-CONSTRUCTION MEETING

- A. Schedule not later than 10 days after date of Notice to Proceed.
- B. Location: A central site, at the **ENDICOTT ESTATE** if possible, convenient for all parties, designated by Contractor.
- C. Attendance: Require and notify the following to attend
 - 1. Owner's Representative.
 - 2. Architect.
 - 3. Contractor's Superintendent.
 - 4. Major subcontractors.
 - 5. Lift Contractor
 - 8. Others as appropriate.
- D. Suggested Agenda:
 - 1. Discussion of major subcontractors and suppliers.
 - 2. Projected Construction Progress Schedules.
 - 3. Critical work sequencing.
 - 4. Equipment and material deliveries and priorities.
 - 5. Project Coordination, including designation of responsible personnel.
 - 6. Procedures and processing of:
 - a. Submittals.
 - b. Change Orders.
 - c. Application for Payment.
 - 7. Adequacy of distribution of Contract Documents.

8. Procedures for maintaining:
 - a. As-Designed Documents (by Architect)
 - b. As-Built Documents (by Contractor and Sub-Contractors)
 - c. Project Record Documents (by Contractor and Sub-Contractors)
9. Use of premises:
 - a. Office, work, and storage areas.
 - b. Owner's requirements.
10. Construction facilities, controls, and construction aids.
11. Temporary utilities.
12. Safety and first-aid procedures.
13. Security procedures.
14. Contractor Parking.
15. Deliveries.
16. Housekeeping procedures.
17. Project Progress Meetings.

1.6 PROJECT PROGRESS MEETINGS

- A. Schedule weekly meetings, unless it is mutually agreed by Owner, Architect and Contractor that another meeting schedule is appropriate.
- B. Location of the meetings: On-site at location acceptable to the Owner.
- C. Attendance: Require and notify the following to attend:
 1. Owner's Representative.
 2. Suppliers, as appropriate to the agenda.
 3. Others as may be selected by the Contractor or recommended by the Architect.
- D. Architect's attendance is optional.
- E. Suggested Agenda:
 1. Review and approval of minutes of previous meeting.
 2. Review of Work progress since previous meeting.
 3. Field observations, problems and conflicts.
 4. Problems which impede Construction Progress Schedule.
 5. Review of off-site fabrication and delivery schedules.
 6. Corrective measures and procedures to regain projected schedule.
 7. Report on and if needed revisions to Construction Progress Schedule.
 8. Progress schedule during succeeding work period.
 - a. One Week look ahead.
 - b. Two week look ahead.
 9. Review submittal schedules; expedite as required.
 10. Maintenance of quality standards.
 11. Pending changes and substitutions.
 12. Review proposed changes for:

- a. Effect on Construction Progress Schedule and on completion date.
- b. Effect on other contracts of the Project.
- 13. Other business.

1.7 COORDINATION MEETINGS

- A. Conduct Coordination Meetings as necessary to properly coordinate the trades. Require representation of parties involved in coordination or planning of activities involved.

1.8 SPECIAL MEETINGS

- A. Conduct Special Meetings as required throughout the course of the Work. Special meeting issues may include, but are not limited to:
 - 1. Safety issues.
 - 2. Labor issues.
 - 3. Special schedule issues.
- B. The Owner and the Architect reserve the right to call special meetings when they deem it to be in the best interest of the project.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 35 00
SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 SUMMARY

- A. This section sets forth administrative and procedural requirements for the following types of submittals:
 1. Shop Drawings.
 2. Product Data.
 3. Samples.
 4. Quality Control Submittals.
 5. Submittals for commissioning.

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 1. Submittals Required: Types of submittals required are listed in each product section.
 2. Reports of field tests and inspections: Section 01 45 00, "Quality Control".
 3. Closeout Submittals: Submittals of final property survey, warranties, record documents, operating manuals, maintenance materials are specified in Section 01 77 20 SUBSTANTIAL COMPLETION and Section 01 77 30 PROJECT CLOSEOUT AND FINAL COMPLETION.

1.4 SUBMITTAL SCHEDULE

- A. Contractor to submit to the Architect within 10 days from the date of Owner Authorization to proceed with construction, a Schedule of Submittals. For each submittal:
 1. Identify the proposed date for Contractor to make the submission to the Architect.
 2. Identify date Contractor requires reviewed submittal back from the Architect.
 3. Allow ten working days from date of Architect's receipt of Submittal for Architect's review.

4. Schedule submittals so that Architect may review them in a sequence that reflects the logical sequence of the Work.
 5. Identify priority if needed.
 6. Submit items which must be coordinated, such as colors of finishes, at the same time, so that submittals may be reviewed together.
- B. Contractor will be responsible for delay resulting from failure to present submittals to the Architect in accordance with the Submittal Schedule.
1. The Architect and the Design Team will allot time in accordance with the Submittal schedule.
 2. Un-coordinated modifications of the submittal schedule without Architect and Design Team input will jeopardize procurement.
- C. Procurement prior to satisfactory submittal review is at the procurer's sole risk.

1.5 COMPLYING PRODUCTS

- A. For products specified only by reference standard, select any product meeting that standard.
- B. For products specified by description of physical properties or performance, submit a product meeting the specified requirements.
- C. For products specified by naming one or more brand names or manufacturers, select one of the named products.
- D. The Architect will not consider requests for substitutions in place of specified products.

1.6 CONTRACTOR'S REVIEW, RECORDING AND TRANSMITTAL RESPONSIBILITIES

- A. In advance of presenting any submittal to the Architect and the Design Team, review each submittal from Contractors, Subcontractors, Suppliers and Fabricators.
- B. As a minimum, verify conformance with the Construction documents for:
 1. Materials.
 2. Field dimensions.
 3. Adjacent construction.
 4. Conformance with specified environmental and job conditions.
 5. Coordination with other work.
- C. Stamp each Submittal with Contractor's review stamp and sign to signify that it has been reviewed by and that information given on the submittals has been verified by the Design Build Constructor.

1. Transmit each submittal with a numbered letter of transmittal that identifies:
 - a. Sequence number.
 - b. Date of transmittal.
 - c. Project name and Architect's job number.
 - d. Contractor, Subcontractor, Supplier or Fabricator name.
 - e. Applicable specification section and identification of the product(s) or item(s) being submitted.
 2. Maintain a log of submissions by number indicating status of each.
- D. The Architect will review only those submittals explicitly required by the Contract Documents or requested as the work proceeds.
- E. The Architect will review only submittals bearing the Contractor's stamp as evidence of review.
- F. In reviewing Shop Drawings, Product Data, Samples and similar submittals, the Architect shall be entitled to rely upon the Contractor's representation that the information given is correct and accurate.

1.7 SPECIFICS REQUIREMENTS FOR EACH TYPE OF SUBMITTAL

- A. Shop Drawings:
1. Prepare shop drawings specific to this project to describe the fabrication and installation of products.
 2. Draw clearly and present complete information.
 3. Include plans, elevations and large-scale details, as appropriate to the work shown.
 4. Note field dimensions and adjacent construction.
 5. Include schedules, patterns, calculations and instructions regarding coordination and installation as required.
 6. Manufacturer's pre-printed standard details are not acceptable as shop drawings.
 7. Drawings made from Contract Drawings are not acceptable as shop drawings.
- B. Quantity of Shop Drawing Submittals:
1. If submitted as hard copy:
 - a. Submit five (5) copies of each submittal.
 - b. Three (3) reviewed copies will be returned or at the discretion of the Architect, the submittal will be scanned and returned electronically.
 2. If submitted electronically:
 - a. Only a reviewed electronic copy will be returned.

- C. Architectural shell drawings in electronic format ("CADD Drawings") may be obtained upon request by the Contractor to the Architect, for use by the Contractor, Subcontractors, Fabricators or Suppliers to facilitate the preparation of shop drawings, subject to execution of an "Agreement and Release" in the form required by the Architect, and a fee to compensate the Architect for its service in providing the documents for this use.
 - 1. If "CAD Drawings" are used in the preparation of shop drawings, do not extract dimensions from the drawings; refer to the written dimensions, and then check these for internal consistency and verify them in the field as the work progresses.
 - 2. The Contractor and the subcontractor, fabricator, or other entity preparing shop drawings remains solely responsible for the information on the shop drawings.

1.8 PRODUCT DATA

- A. Submit manufacturer's printed data:
 - 1. Clearly mark each copy to identify pertinent products or models; cross out information which is not applicable to the work and supplement standard information to provide information which is specifically applicable to the work.
 - 2. Show performance characteristics and capacities.
 - 3. Show dimensions and clearances required.
 - 4. For equipment, show wiring or piping diagrams and controls.
- B. Quantity of Product Data Submittals:
 - 1. If submitted as hard copy:
 - a. Submit five (5) copies of each submittal.
 - b. Three (3) reviewed copies will be returned
 - 2. If submitted electronically:
 - a. Only a reviewed electronic copy will be returned.

1.9 SAMPLES

- A. Provide samples of size specified or of adequate size to permit proper evaluation of material by the Architect.
- B. Where variations in color or in other characteristics are to be expected, submit samples showing the maximum range of variation.
- C. Tag or permanently mark each sample to identify the item; indicate applicable transmittal number on tag.
- D. Quantity of Sample Submittals:
 - 1. Submit three (3) of each samples.
 - a. Two (2) reviewed samples will be returned.

1.10 QUALITY CONTROL SUBMITTALS

- A. Quality control submittals:
 - 1. Include information provided after submittal acceptance by the Architect and prior to delivery and installation of products.
 - 2. Document compliance with the Contract Documents
 - 3. Are furnished for the Architect's information only
 - 4. Will not receive the Architects review stamp unless specifically stated under the submittals subheading of the specification sections.

- B. Quality control submittals required by various sections of these specifications include, without limitation:
 - 1. Qualifications of manufacturer or installer.
 - 2. Test reports on fabricated products and mixes.
 - 3. Certificates.
 - 4. Material safety data sheets.

- C. Quantity of Quality Control Submittals:
 - 1. If submitted as hard copy:
 - a. Submit three (3) copies of each submittal.
 - b. No reviewed copies will be returned
 - 2. If submitted electronically:
 - a. No reviewed electronic copy will be returned.

- D. Include on the accompanying transmittal form:
 - 1. Date of submission.
 - 2. Project title and number.
 - 3. Names of Contractor and the subcontractor, fabricator and installer, as applicable.
 - 4. Specification Section number and identification of the product.
 - 5. If applicable, the name, address and telephone number of the testing or inspecting agency or certifying agency or engineer (or similar applicable information); this information need not be on the transmittal form if it is clearly readable on the report or certification.

1.11 ARCHITECT'S REVIEW

- A. The Architect will stamp each submittal to indicate the action taken and the Contractor shall comply with the direction given.

- B. The Architect will accept only original hard copy or original electronic copy.

- C. The Architect will take no action on any submittal which has been faxed at any time prior to submittal to the Architect.

- D. The Architect will take no action on any submittal which is faxed to the Architect.
- E. The Architect will take no action on any submittal which is submitted by any project entity other than the Contractor.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

MOCK-UPS
01 43 30

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. General: Provide and coordinate Mock-Up assemblies at Project site for Architect's review and acceptance, in accordance with requirements of the Contract Documents. Refer to individual Specification Sections for Mock-Up requirements. Generally, without limitation, Mock-Ups on site include the following:
1. Mock-Ups of individual pieces of the work, as specified within individual Specification Section.
 2. It shall be the responsibility of the Contractor to coordinate the work of the related Specification Sections so that each Mock-Up meets the specified requirements.
- B. Mock-Ups to be prepared for the purposes of:
1. Verification of product and material selections.
 2. Demonstration of aesthetic effects.
 3. Evaluate material quality.
 4. Establish acceptable execution and workmanship.
 5. Review Coordination and construction.
 6. Testing and operation.
- C. Requirements:
1. No Mock-Up shall be any part of the final construction unless the Specification Section specifically states otherwise. If stated otherwise it shall be termed an "In-Place Mock-Up".
 2. No permanent construction of any component of a Mock-Up shall begin until the entire Mock-Up is completed and accepted by the Architect.
 3. Where Mock-Ups illustrate intersections with existing construction and/or materials, simulation is to be provided by materials with physical properties identical or similar as possible to the existing materials.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
 - 1. 01 45 00 QUALITY CONTROL.

1.4 DEFINITIONS

- A. In-Place Mock-Ups: Full-size, physical assemblies that are constructed in-place and remain part of final construction.
 - 1. In-place mock-ups will be used to verify selections made under sample submittals, to demonstrate aesthetic effects, qualities of materials and execution, and to review construction, coordination, testing, or operation.
 - 2. Approved in-place mock-ups establish the standard by which the Work will be judged.
 - 3. Approved In- Place Mock-Ups may remain part of the completed Work.

1.5 SUBMITTALS

- A. Schedule: Contractor shall submit a schedule of Mock-Up construction, including dates for Mock-Up review by the Architect.
 - 1. Mock-up schedule shall be reviewed at each progress meeting, revised and resubmitted as required.
 - 2. Schedule shall allow sufficient time for Mock-Ups which are not accepted to be reconstructed and reviewed until accepted by the Architect.
- B. Photographs of Mock-Ups: Submit photographs of mock-ups after completion of installation and acceptance of each mock-up.
- C. Submittal Samples: Refer to individual Specification Sections for submittal requirements of mock-up components and coordinate accordingly.

1.6 QUALITY ASSURANCE

- A. Design Modifications: Make design modifications to Mock-Up work only as required to meet performance requirements and to coordinate the work.
- B. Indicate proposed design modifications on shop drawings. Maintain original design concept without altering profiles and alignments indicated.

- C. Clearly identify all Design Modifications incorporated into the Mock-Ups. If no Design Modification is called to the attention of the Architect, the Architect will conclude that the Mock-Up exactly reflects the Design Documents.
- D. Obtain the specific acceptance from the Architect for all Design Modifications

PART 2 – PRODUCTS

2.1 MATERIALS AND PRODUCTS

- A. Provide materials, components, and products for Mock-Ups as specified in individual Specification Sections.

PART 3 – EXECUTION

3.1 GENERAL

- A. Refer to PART 3, EXECUTION portions of the various Specification Sections for specific requirements regarding condition of surfaces, erection, and erection tolerances.

3.2 MOCK-UP QUANTITY, LOCATION, ACCEPTANCE

- A. Provide Mock-Ups of types and sizes indicated in the Drawings to evaluate and set the standard of quality for that work.
- B. Obtain Architect's acceptance of visual qualities prior to commencing work that individual Mock-Up is intended to represent.
- C. Protect and maintain approved Mock-Ups throughout the work of the Contract.
- D. Locate Mock-Ups as shown on the Drawings.
 - 1. Provide as many mock-ups as required until Architect's approval has been received.
 - 2. In-Place Mock-Ups, approved Mock-Ups may be incorporated into the finish work.

END OF SECTION

01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This section specifies procedures for measuring and reporting the quality and performance of construction, including:
1. Code required and specification required tests and inspections. performed by independent agencies employed by the Owner and Managed by the Architect.
 2. Code required and specified tests and inspections provided by the Contractor or by an independent testing agency employed and managed by the Contractor regardless of whether the tests are code required, specified or undertaken at the option of the Contractor.
 3. Testing related responsibilities of the Contractor.
 3. Testing related responsibilities of the Testing Agency.
 4. Establishment of Benchmarks for workmanship; performance of materials, assemblies and equipment.
 5. Management of Field Observation Reports (Field Reports, Exceptions, Rolling Punchlist, Deficiencies and Notice Of Deficiency (NOD)).

1.3 SUBMITTALS

- A. Test Reports:
1. For tests and inspections which are paid for by the Owner and managed by the Architect, certified written reports will be forwarded from the inspecting agency to the Architect for Distribution to the Owner and Contractor. Such reports will be incorporated into the Architects Field Observation Reports and sent to local authorities.
 2. For code required and specified tests and inspections which are paid for by and managed by the Contractor, certified written reports will be forwarded from the inspecting agency to the Contractor for Distribution to the Owner and Architect. Such reports will be incorporated into the Architects Field Observation Reports and sent to local authorities.
 3. For tests and inspections which are paid for and performed at the option of the Contractor, written reports certified or otherwise may be distributed to the Owner and Architect at the sole discretion of the Contractor.

1.4 TESTING BY OWNER

- A. Where inspections, tests, and other requirements of the Contract Documents are specifically indicated to be the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
 - 1. The Owner may delegate to the Architect the responsibility for hiring the testing agency, however the Owner will pay the cost for the qualified independent testing agency.

1.5 TESTING BY THE CONTRACTOR

- A. Scope of Testing Performed by Contractor: The Contractor shall provide all other inspections, tests, and other quality control services specified elsewhere in the Contract Documents or required by authorities having jurisdiction.
- B. Include costs for these services in the Contract Sum.
 - 1. Unless the Contract Documents or local authorities permit such testing or inspections to be performed by the Contractor's own forces, the Contractor shall employ and pay a qualified independent testing agency or agencies to perform these services. This agency shall be referred to as "the Contractor's Testing Agency" or "the Contractor's Testing and Inspection Agency".

1.6 CONTRACTOR'S RESPONSIBILITIES FOR ALL TESTING

- A. Regardless of whether testing and inspection is performed by the Owner's Testing and Inspection Agency or the Contractor's Testing and Inspection Agency, the Contractor shall be responsible for coordination and scheduling of testing, and for associated services, as follows:
 - 1. Schedule times for inspections, tests, taking samples, and similar activities. Coordinate this schedule with construction activities so that testing does not delay the work and so that testing is completed before work to be tested is closed in or otherwise made inaccessible. Provide and include in the cost of the work all Associated Services.
 - 2. When the Owner delegates the management of the Owner's Testing to the Architect, coordinate and cooperate with the Architect with needed scheduling, access and Associated Services as described below. Include in the cost of the work all Associated Services.
 - 3. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable support services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services may include, but are not limited to, the following:
 - a. Provide access to the Work.
 - b. Furnish incidental labor and facilities necessary to facilitate inspections and tests.

- c. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
 - d. Provide facilities for storage and curing of test samples.
 - e. Deliver samples to testing laboratories.
 - f. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 - g. Provide security and protection of samples and test equipment at the Project Site.
 - h. Protect construction exposed by or for quality-control service activities.
- B. Retesting: The Contractor is responsible for the costs of and all coordination of retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Documents, regardless of whether or not the original test was Contractor's responsibility.
- C. Do not cover or enclose with permanent construction items or assemblies which are to be tested or inspected until such testing or inspection has been completed and the Work has been accepted in accordance with the Contract Documents.
- 1. Protect construction exposed by or for testing and inspection until it is covered or enclosed with permanent construction.
 - 2. After inspection and testing is completed, complete the enclosing Work and repair substrates and finishes that have been damaged by the testing.
- D. Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with requirements for cutting and patching specified in Section 01 73 29 CUTTING AND PATCHING.

1.7 TESTING AGENCY'S RESPONSIBILITIES FOR ALL TESTING

- A. Duties of the Testing Agency:
- 1. Provide qualified personnel to perform required inspections and tests.
 - 2. Furnish equipment, tools and supplies necessary for taking samples and performing tests, except where sampling is indicated to be the responsibility of the Contractor.
 - 3. Prepare test reports, as specified elsewhere in this Section.
 - 4. Promptly notify the Architect and the Contractor of irregularities or deficiencies observed in the Work during performance of its services.
- B. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
- C. Promptly after completion of each inspection or test performed, the testing agency shall prepare a certified written report of the tests or inspections performed. Submittal of such reports shall be a prerequisite to payment for the work being tested.

- D. Report Data: Include as a minimum, the following information:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Name of individual making the inspection or test. Have this person sign the report after it is completed.
 5. Identification of product or assembly and Specification Section.
 6. Dates and locations of samples and tests or inspections.
 7. Ambient conditions at the time of sample taking and testing.
 8. Description of the type of inspection or test method.
 9. Complete inspection or test data.
 10. An interpretation of test results, including comments or professional opinion on whether inspected or tested Work complies with the Contract Documents.
 11. Recommendation for remedial action or retesting.
- E. Submittal:
1. If the Testing Agency is performing the testing for the Owner, the Testing Agency shall deliver reports to the Architect as follows:
 - a. If paper, three (3) copies, plus additional copies as requested by the Architect for special distribution. The Architect will forward paper copies of the test reports to the Owner, Contractor and the local authority having jurisdiction.
 - b. If electronic, forward PDF file to the Architect. The Architect will forward electronic copies of the test reports to the Owner, Contractor and the local authority having jurisdiction.
 2. If the Testing Agency is performing the code or specification required testing for the Contractor, the Testing Agency shall deliver reports to the Contractor as follows:
 - a. If paper, three (3) copies, plus additional copies as requested by the Contractor for distribution. The Contractor will forward paper copies of the test reports to the Architect, Owner and the local authority having jurisdiction, if required.
 - b. If electronic, forward PDF file to the Contractor. The Contractor will forward electronic copies of the test reports to the Architect and the Owner. The Architect will forward electronic copies of the test reports to the local authority having jurisdiction.
 3. If the Testing Agency is performing optional testing for the Contractor, the Testing Agency shall deliver reports to the Contractor as follows:
 - a. If paper, three (3) copies, plus additional copies as requested by the Contractor. Further distribution is at the Contractor's option.
 - b. If electronic, forward PDF file to the Contractor. Further distribution is at the Contractor's option.

1.8 FIELD SAMPLES

- A. Field Samples:
 - 1. Retain and maintain approved Field Samples during construction in undisturbed condition as standard for judging completed construction.
 - 2. Field Samples are to be accessible to Sub-Contractors and field crew to ensure that the installed work is consistent with prior approvals.
 - 3. Retain Field Samples until directed otherwise by the Architect.
 - 4. In the absence of direction, return field samples to the Architect.

1.9 BENCHMARKS

- A. Benchmarks:
 - 1. Benchmarks are used by the Contractor, Architect and Owner to verify compliance of the Work to the Contract Documents.
 - 2. They are established by standards, samples, and submittal as part of the Work prior to installation of the related work.
 - 3. Prior to installation of a major component of the Work, and/or as called for in the Specifications, the Contractor, Architect and Owner shall discuss and agree what components are to be "benchmarks".

END OF SECTION

01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. Furnish and install temporary services and facilities, including utilities, construction and support facilities, security and protection required for the Work.
- B. Construction facilities and temporary controls which may be required for this Project include, but are not limited to:
 - 1. Fire protection during construction.
 - 2. Use of the existing facility.
 - 3. Temporary protection of building construction.
 - 4. Environmental controls during construction.
 - 5. Temporary barriers, safety devices and signs.

1.3 REFERENCED STANDARDS

- A. National Fire Protection Association (NFPA):
 - 1. NFPA 10, Standard for Portable Fire Extinguishers.
 - 2. NFPA 70, National Electrical Code.
 - 3. NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
 - 1. State Building Code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, Fire Department and Rescue Squad rules.
 - 5. Environmental protection regulations.
 - 6. The State Electrical Code, referred to in this section as the "Electrical Code."
 - 7. Massachusetts Criminal Offense Record Information (CORI).

- B. Superintendence: Contractor's superintendent shall be on site from the beginning of the Work, prior to placing or erecting temporary construction specified in this Section.
- C. Standards: Contractor shall be responsible for identifying and complying with applicable standards and guidelines for safe construction of the Work.
- D. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 JOB SITE CONDITIONS

- A. The building will be occupied during construction. The Contractor shall provide all protection and barriers necessary to separate the work areas and adjacent or below areas from pedestrian or vehicle traffic. Protect the existing building, building finishes, landscaping and paved areas from damage.
- B. Existing Access Roads and Parking Areas: Do not obstruct existing driveways, roads, and parking on the site that are used by the Owner or Owner's personnel, unless otherwise approved by the Owner.

1.6 SEQUENCING AND SCHEDULING

- A. Install or initiate temporary services in a timely fashion, when they are needed, so that the progress of the work is not delayed.
- B. Maintain temporary facilities until the time of Substantial Completion, or until they are no longer required.
- C. Loading roof with crane shall be coordinated with Owner and agreed upon dates.

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. The Contractor shall be responsible for selecting suitable materials and equipment that meet applicable codes and regulations.
- B. Fire Extinguishers: Provide hand-carried, portable UL-rated fire extinguishers conforming to NFPA recommendations. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent and size required by location and class of fire exposure, and location of fire extinguishers.
- C. Tarpaulins: Use only fire-retardant tarpaulins.

PART 3 - EXECUTION

3.1 FIRE PROTECTION DURING CONSTRUCTION

- A. Applicable Standards: Comply with NFPA 10 and NFPA 241.
- B. Temporary Fire Protection:
 - 1. Provide and maintain temporary fire protection devices while any work of this Project is underway.
 - 2. As a minimum, provide portable fire extinguishers.
 - 3. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
- C. Precaution: Institute controls to minimize or eliminate risk of fires. As a minimum:
 - 1. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires.
 - 2. Prohibit smoking on the Project site.
 - 3. Store combustible materials in containers in fire-safe locations.
 - 4. Supervise torching and welding operations to prevent accidental ignition.
 - 5. Supervise installations which involve flammable materials or processes capable of starting combustion.
 - 6. Supervise combustion type temporary heating units.
 - 7. Keep the area within the limits of the Project orderly and clean and promptly remove combustible rubbish from the site.
- D. Comply with all reasonable recommendations regarding fire protection made by the representative of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal.
- E. Fire Watch: Maintain a fire watch of the interior and exterior of the facility for at least one hour after the following activities have ceased for the day: torching, welding, installation of epoxy flooring, or other activities capable of starting combustion.
- F. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection system, and place into operation. Make sure key personnel understand how the system operates.
 - 1. If it is necessary thereafter to disable the permanent system for short periods of time, provide temporary protection of type acceptable to Owner's insurer and to the local fire department while the permanent system is inoperative.

3.2 USE OF PERMANENT LIFTS

- A. Temporary Use of Permanent Lifts: Do not use Owner's Elevators or Lifts for construction purposes.

3.3 FIELD FACILITIES

- A. Storage:
1. Materials and equipment storage space on the site will be limited. The Contractor shall coordinate the location for equipment and materials storage with the Owner. The Contractor may not block handicap parking spots or pedestrian and vehicle traffic. Contractor shall coordinate all materials and equipment storage with the Owner.
- B. Sanitary Facilities:
1. The Contractor shall provide and service an adequate number of toilet booths with chemical type toilets. The toilets shall be erected in a location approved by the Owner and shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements.
- C. Electrical Service:
1. Temporary service and lighting shall be provided by a licensed electrician selected and paid for by the Contractor. This work shall be performed under the direct supervision of at least one master electrician, who will be present on the project at all times when such work is being performed. This service shall include coordination with the local utility and other authorities having jurisdiction.
 2. The Contractor may make use of the electricity available at the site, metered and paid for by the Owner.
 3. Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the trade requiring such excessive amperage shall provide temporary service to supply the power.
 4. All temporary work shall be provided in conformity with the National Electric Code, State laws, and requirements of the power company. Particular attention is called to Commonwealth of Massachusetts, Department of Labor Division of Occupational Safety Regulations.
 5. Temporary Electric Service and Lighting shall include but not be limited to:
 - i. All labor, materials, and equipment necessary to supply temporary power of adequate capacity for the project.
 - ii. Transformers and meters, when required by the power company, furnished by the power company and paid for by the Contractor.
 - iii. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for by the trade requiring same.
 - iv. The Contractor shall furnish, install, and maintain lamps in operating condition.
 - v. The Contractor, and each Subcontractor, shall furnish their own extension cords and additional lamps as may be required for their work.
 - vi. All lamps installed in permanent lighting fixtures and used as temporary lights

during the construction period shall be removed and replaced shortly before Substantial Completion by the appropriate set of lamps required to be provided under the Electrical section of the specifications.

- vii. The temporary electrical facilities shall be dismantled and completely removed from the project site. This removal shall occur when the permanent electrical system is operational and accepted by the Architect. Removal shall be done by a properly licensed electrician.

D. Water:

1. The Contractor may make use of the available water supply at the site for construction purposes, provided the permission of the Owner is obtained beforehand, water is verified at the source and only as long as the water is not used wastefully.
2. The Contractor shall provide all necessary piping and hoses to utilize the available sources of water.
3. The Contractor shall provide an adequate supply of cool potable drinking water with individual drinking cups for personnel on the job.

E. Temporary Telecommunications:

1. The Contractor shall be available through mobile phone service at all times and shall provide a 24 hour phone number and contact in case of emergencies.

F. Contractor Parking:

1. Contractor parking to be coordinated with the Owner in advance.

G. Noise, Odor and Dust Control:

1. The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, odor, dust, and other disturbances by:
 - i. Keeping common pedestrian and vehicular circulation areas clean and unobstructed;
 - ii. Insulating work area from occupied portions as far as possible; and
 - iii. Sealing dust and fumes from contaminating occupied spaces.
 - iv. Noisy and intrusive work to be coordinated with Owner and performed after normal hours.

H. Existing Utilities:

1. Plumbing, heating, and electrical work, including reinstallation of equipment and other work to be performed by the Contractor, shall be carried out without interference to the building's normal operation. Where work requires interruption of service, the Contractor shall make advance arrangements with the Owner for dealing with such interruption.
2. Ensure proper and safe operation and maintenance of utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner. Maintain and operate appurtenances within the construction area which serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by

any representative or personnel of the Owner shall not relieve the Contractor of his responsibilities in connection with operation and maintenance of these facilities and equipment.

I. Notification:

1. Notify the Owner's Representative at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off HVAC, steam, electric, water or other service from the Owner's supply systems. The actual operation shall be witnessed by authorized representatives of the Owner. Plumbing, heating and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where work requires interruption of a service, make advance arrangements with the Owner for dealing with such interruption.

3.4 TEMPORARY STRUCTURES AND MATERIAL HANDLING

- A. The Contractor shall provide such storage sheds, temporary buildings, or trailers as required for the performance of the Contract. Subcontractors shall provide their own temporary buildings and trailers. Storage shall be located where directed by the Owner.
- B. Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.
- C. The Contractor must obtain the permission of the Owner for the use of any storage facilities available on site, but the Owner assumes no responsibility for articles stored.
- D. Lawns, paving or other surfaces within areas used by the Contractor shall be restored to original condition when temporary structures are removed.

3.5 HOISTING FACILITIES

- A. Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades. All such hoisting service shall be without cost to the Subcontractors.
- B. Loading roof with materials only to be performed after hours and must be coordinated with the Owner with minimum 72 hours advance notice.

3.6 TEMPORARY PROTECTION OF BUILDING CONSTRUCTION

- A. Protect the Work and other existing conditions against damage from normal day-to-day construction activities including, without limitation, movement of materials and personnel, traffic of all kinds, weather hazards, spillages and other reasonably foreseeable danger.

1. Specific protections (masking or covering, for example) are specified in the Section covering the trade doing the work. However, the Contractor shall be responsible for protecting the Work and other existing conditions against general hazards.
2. Typical Situations: Without limiting the generality of this Article, protect the Work against the following hazards and abuses:
 - B. Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.
 - C. Protect window and door jambs from damage resulting from collision.
 - D. Protect finished floors against traffic soiling.
 - E. Protect installed glass against breakage.
 - F. Protect exposed work areas and stored materials against weather damage.
 - G. After the installation of any Work is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

3.7 TEMPORARY STAGING, STAIRS AND CHUTES

- A. Except as otherwise specified, the Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking over 8 ft. in height, as required for the use of all trades for proper execution of the Work.
- B. The Contractor shall furnish, install, maintain in safe condition, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.
- C. Contractor shall provide all staging and ladders as required to access the roof.
- D. Debris shall not be allowed to fall freely from upper levels of the building.

3.8 WALKWAY COVERING

- A. Install walkway coverings above all entrances and at locations required to properly protect all construction and pedestrian personnel from falling debris. Roof coverings over entrances shall be constructed with layers of 3/4-inch thick plywood with a roof span rating of not less than 32-inches. Roof covering supports shall be placed at not more than 32-inches on center for the length of the coverings. The framework supporting the walkway covering shall be free-standing and well braced. The roof covering and support

framing shall be designed to support a live load of at least 150 psf. The roof coverings shall be of width sufficient to cover the entrance doorway and extend 8-feet away from the building face. A minimum height clearance of 8-feet, 6-inches shall be maintained for temporary overhead protection. Protection shall be in accordance with all applicable OSHA standards.

- B. Provide temporary 60 watt lighting under overhead staging locations where the general public may frequent. Temporary lighting shall be spaced 8' minimum on center.
- C. Provide temporary signage as required to show access/egress areas, or temporary closures of entrance ways.

3.9 ENVIRONMENTAL CONTROLS

- A. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result.
- B. Consistent with safe and reasonable construction practices, employ equipment, machinery and techniques of a kind which will minimize detrimental impact on the environment. Avoid excessive noise, unnecessary air pollution from dust, demolition, machinery exhaust, and the use of sprayed-on materials. Do not employ open burning on the construction site. Dispose of waste material only at authorized disposal sites. Refer to Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT.
- C. Air-Borne Dust Control: Provide adequate means for containing dust caused by construction operations. Wet down demolition debris and cover dumpsters with tarps, if necessary to prevent dust and debris from blowing around.
- D. Noise Control: Comply with local city or town bylaws limiting hours of construction.
- E. *There shall be no smoking on the Project property.*

3.10 TEMPORARY BARRIERS, SAFETY DEVICES, AND SIGNS

- A. Security Enclosure and Lockup: Secure partially completed areas of construction to prevent unauthorized entrance, vandalism, and theft.
 - 1. Storage: Provide a secure lock-up for materials and equipment which are of significant value or attractive for theft.
 - 2. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- B. Barricades, Warning Signs: Provide as required to warn and keep people away from hazards on the site. Comply with standards and code requirements for erection of

structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.

- C. Informational Signs: Post signs as required to provide directional information to construction personnel and visitors. Construct signs in an attractive manner, of materials and of a size acceptable to the Architect.

3.11 USE OF DUMPSTERS

- A. Dumpsters: Prior to providing dumpsters on-site for construction waste, obtain written approval of Owner for location of all dumpsters.

3.12 TERMINATION AND REPAIR

- A. Termination and Removal: Remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion.
- B. Repair or replace Work damaged by installation and removal of temporary facilities. Comply with requirements of 01 73 29 CUTTING AND PATCHING.
- C. Repair public right-of-way where disturbed by construction or removal of temporary facilities, including paving, plantings, and improvements, in accordance with the standards and requirements of authorities having jurisdiction, as applicable, and leave public property in as good condition after completion as before operations started.

END OF SECTION

01 60 00
MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for materials and equipment used for the Project.

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. 01 11 00 SUMMARY OF WORK
 - 2. 01 35 00 SUBMITTALS
 - 3. 01 77 20 SUBSTANTIAL COMPLETION
 - 4. 01 77 30 PROJECT CLOSEOUT AND FINAL COMPLETION

1.4 PRODUCTS

- A. Products include material, equipment, and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification Section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structures, except as specifically required, or allowed, by the Contract Documents.
- E. In the case of an inconsistency between Drawings and the Project Manual, or within either document which is not clarified by addendum, the product of greater quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.5 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.

1.6 MANUFACTURERS' INSTRUCTIONS

- A. When work is specified to comply with manufacturers' instructions, submit copies as specified in Section 01 35 00 SUBMITTAL PROCEDURES, distribute copies to persons involved, and maintain one set in field office.
- B. Perform work in accordance with details of instructions and specified requirements.

1.7 TRANSPORTATION AND HANDLING

- A. Refer to Document 00 52 00 OWNER-CONTRACTOR AGREEMENT and Specifications Sections for requirements pertaining to transportation and handling of materials and equipment.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturers' unopened containers or packaging. Keep dry.
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct, and products are undamaged.

1.8 STORAGE AND PROTECTION

- A. Refer to Document 00 52 00 STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR and Specifications Sections for requirements pertaining to storage and protection of materials and equipment.
- B. Store products in accordance with manufacturers' instruction, with seals and labels intact and legible. Store sensitive products in weather tight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.
- C. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- D. Arrange storage to provide access for inspection. Periodically inspect to assure that products are undamaged, and are maintained under required conditions.

- E. Contractor shall protect all loose and installed materials from damage until final acceptance of the Project.

1.9 PRODUCT STANDARDS

- A. Any product specified by reference to the number, symbol, or title of a standard, such as Commercial Standard, a Federal Specification, an ASTM Standard, an ANSI Standard, a trade association standard, or other similar standard, shall comply with the requirements of the latest issue of such standard or revision thereof, including any amendment or supplement thereto, as listed in the latest official index in effect as of the bid date.
- B. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in the Specifications. The Architect will furnish, upon request, information as to how copies of the standards referred to may be obtained.
- C. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned, in accordance with the manufacturer's printed instructions, unless otherwise specified.

1.10 SUBSTITUTIONS OF SPECIFIED PRODUCTS AND SYSTEMS

- A. Substitutions of specified products and systems shall comply with requirements of Chapter 30, Section 39M of General Laws, and additional requirements and procedures specified herein.
- B. The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible materials and equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect will judge the design, functionality, and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the project, as well as for their intrinsic merits. The Architect will not approve, as equal to materials specified, proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Work. With respect to exterior finishes value or effect, the Architect may not approve as equal any proposed substitute which, in the Architect's sole opinion, would not produce the same artistic or aesthetic value or effect. In order to permit coordinated design of color and finishes the Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.
- C. Specific reference in the Specification to any product, material, or process by name, make, or catalog number shall be interpreted as establishing a standard of quality. An item will be considered equal to the item so named or described if (1) it is at least equal

in quality, durability, appearance, strength and design; (2) it performs at least equally the function imposed by the general design for the work; and (3) it conforms substantially, even with deviations to the detailed requirements for the item in the Specification. [M.G.L. Chapter 30, Section 39M (b).] The Architect shall be the sole judge of whether and proposed substitute product, material, process, or method is equal to that specified according to this standard, and his decision shall be final and binding on the Contractor and any Subcontractor or Sub-Subcontractor.

- D. If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents.
- E. In requesting approval of deviations of substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality or result at least equal to that otherwise attainable. If in the opinion of the Architect, the evidence presented by the General Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.
- F. Any additional cost, loss, or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by Owner or the Architect, unless such substitution was made at the written request or direction of Owner or the Architect.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 62 00
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. This section specifies general requirements for selecting products.
- B. Related Work:
 - 1. Section 01 35 00 SUBMITTAL PROCEDURES
 - 2. Section 01 45 00 QUALITY CONTROL
 - 3. Section 01 60 00 MATERIAL AND EQUIPMENT

1.3 PRODUCT OPTIONS

- A. For products specified only by reference standard, select any product meeting that standard.
- B. For products specified by description of physical properties or performance, submit a product meeting the specified requirements. Provide sufficient documentation of performance testing to demonstrate compliance with the requirements to the satisfaction of the Architect.
- C. For products specified by naming an acceptable product as an example, submit that product or another product matching the performance and characteristics of the named product. Provide sufficient documentation of performance testing to demonstrate compliance with the requirements to the satisfaction of the Architect.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 65 00
DELIVERY, STORAGE, and HANDLING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This section specifies general requirements for delivering, storing, and handling materials, including Owner-furnished materials.

1.3 PRODUCT DELIVERY

- A. Require manufactured materials to be delivered in manufacturer's original packaging, with labels clearly indicating the contents and special handling and safety requirements. On labels, show product names, model numbers, types, grades, compliance, and other information needed for identification.
- B. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

1.4 PRODUCT STORAGE

- A. Store materials safely on the site and protect them from weather, water and from other damage. Comply with manufacturer's instructions with regard to acceptable temperature and humidity conditions so that materials will not deteriorate or age excessively while in storage.
- B. Generally, for materials stored outdoors (except for landscaping materials), store materials off the ground on pallets and cover them in a way that protects them from rain and snow but allows air to circulate.
- C. Store items which are vulnerable to damage from impact, dirt, dust, and rough-handling – such as equipment with moving parts, valves, controls, finish hardware and items with easily damaged finishes - in original packaging until just prior to installation. Leave protective coatings on finished items until just prior to Substantial Completion, unless directed by the Architect to remove the protection.
- D. Deliver to storage location on-site as directed by Owner.

- E. Contractor shall maintain Material Safety Data Sheets (MSDS) for hazardous materials used and/or stored on-site during construction.

1.5 EXTRA MATERIALS AND MAINTENANCE MATERIALS

- A. Furnish extra materials, maintenance materials, spare parts and supplies required by the various sections, neatly packaged with protective covering for storage and identified with labels clearly describing contents and application or location where item is installed.
- B. Deliver to storage location on-site as directed by Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, fitting, and patching work required to complete the Work or to:
1. Make its several parts fit together properly.
 2. Uncover portions of the Work to provide for installations of ill-timed work.
 3. Remove and replace defective work.
 4. Remove and replace work not conforming to requirements of Contract Documents.
- B. Subcontractors shall cut existing construction, under the direction of the Contractor, to provide for installation of components required by their respective trades or performance of other construction activities required by their trade and the subsequent fitting and patching required to restore surfaces to their original condition. In instances of conflicts of trades the Contractor shall coordinate proper control of cutting by the trades and be responsible for unnecessary over cutting or damage caused by improper cutting and or patching.

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. 01 11 00 SUMMARY OF WORK
 2. 02 41 13 SELECTIVE DEMOLITION

1.4 QUALITY ASSURANCE

- A. Permission to patch any items of work does not imply a waiver of the Architect's right to require complete removal and replacement in said areas and of said items if, in Architect's opinion, patching does not satisfactorily restore quality and appearance of work.
- B. Requirements for Structural Work: Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.

- C. Operational and Safety Limitations: Do not cut-and-patch operational elements and safety related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- D. Visual Requirements: Do not cut-and-patch work that is exposed on exterior or in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by the Architect. Remove and replace work judged by the Architect to be visually unsatisfactory.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Except as otherwise indicated or authorized by the Architect, provide materials for cutting-and-patching which will result in equal-or-better work than the work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable.
- B. Comply with the requirements and use materials identical with the original materials where feasible and where recognized that satisfactory results can be produced thereby.
- C. Comply with specifications and standards for each specific product involved.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to Architect in writing; do not proceed with work until Architect has provided further instructions.

3.2 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
- B. Provide devices and methods to protect other portions of Project from damage.

- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work.

3.3 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- C. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.
- D. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
- E. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.
- F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

END OF SECTION

01 74 00

PROGRESS, FINAL CLEANING AND POST PUNCH LIST REPAIR CLEANING

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section specifies cleaning requirements for work of this Project. Included are the following:
 - 1. Progress cleaning requirements during construction.
 - 2. Final cleaning by professional cleaners prior to Substantial Completion.
 - 3. Post punch list repair cleaning

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Document 00 52 00 00 OWNER-CONTRACTOR AGREEMENT, GENERAL PROVISIONS OF THE CONTRACT
 - 2. Section 01 11 00 SUMMARY OF WORK
 - 3. Section 01 77 20 SUBSTANTIAL COMPLETION
 - 4. Respective Sections of Specifications: Closeout Submittals for work of the Section.

1.4 SUBMITTALS

- A. Product Data: For each type of cleaning product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements. Provide MSDS for each product.
- B. Qualification Data: For professional cleaners to be engaged for final cleaning including qualifications of field supervisors and references for similar projects.

PART 2 – PRODUCTS

2.1 CLEANING MATERIALS

01 74 00

PROGRESS, FINAL CLEANING AND POST PUNCH LIST REPAIR CLEANING

- A. General: Provide cleaning materials that will not create hazards to health nor property and will not damage surfaces or finishes.
- B. Use cleaning materials and methods recommended by manufacturer of surface to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 – EXECUTION

3.1 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
- B. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
- C. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- D. Site: Maintain Project site free of waste materials and debris.
- E. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- F. Remove liquid spills promptly.
- G. Where dust will impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- H. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- I. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- J. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

- K. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- L. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- M. Clean Project site, yards, grounds and public ways daily to remove construction related rubbish, waste material, litter, and other foreign substances.
- N. Maintain toilet facilities used by construction personnel daily. Restock paper goods. Wash down all fixtures and sanitize. Empty waste receptacles, polish mirrors, clean and sanitize all contact surfaces including doors and hardware.

3.2 FINAL CLEANING

- A. General: Provide final cleaning by professional cleaners. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project in advance of Owner's move-in of furnishings and equipment.
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities including landscape areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

- i. Clean glass. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- 2. Leave Project clean and ready for occupancy.
 - 3. Evaluation of cleaning will be part of Punchlist review.

3.3 CLEANING AFTER PUNCH LIST REPAIR WORK

- A. Provide cleaning after punch list repair work by professional cleaners to provide same level of cleaning as Final Cleaning per paragraph 3.2 above.

END OF SECTION

01 74 19
CONSTRUCTION WASTE MANAGEMENT

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section specifies requirements for the Contractor's implementation of waste management controls and systems for the duration of the Work.
- B. Related Sections include the following:
 - 1. 01 50 00 TEMPORARY FACILITIES AND CONTROLS.
 - 2. 02 41 13 SELECTIVE DEMOLITION.

1.3 INTENT

- A. This Section specifies requirements for the Contractor's implementation of waste management controls and systems for the duration of the Work.
- B. It has been established that this Project shall generate the least amount of waste practical and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- C. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized to the greatest extent practical.
- D. The Contractor shall develop a Waste Management Plan for this Project.
- E. Each subcontractor shall be responsible for segregating their own waste as directed by the Contractor.
- F. The Contractor shall be responsible for ensuring that debris will be disposed of at appropriately designated licensed solid waste disposal facilities.

1.4 WASTE MANAGEMENT PLAN

- A. Waste Management Plan:

1. Within 10 calendar days after receipt of Notice to Proceed, the Contractor shall provide a plan containing the following:
 - a. Analysis of the proposed jobsite waste to be generated, including types and rough quantities.
 - b. Alternatives to Disposal at Landfill:
 - i. A list of each material proposed to be salvaged or recycled during the course of the Project.
 - ii. Include the following and any additional items proposed:
 - Cardboard.
 - Clean dimensional wood.
 - Beverage containers.
 - Concrete.
 - Gypsum Board.
 - Asphalt.
 - Metals from framing, banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass and bronze.
 - Mechanical and electrical equipment.
 - Building components which can be removed relatively intact from existing construction.
 - c. Meetings:
 - i. A description of the regular meetings to be held to address waste management.
 - d. Materials Handling Procedures:
 - i. A description of the means by which any waste materials identified above will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
 - e. Transportation: A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials.
- B. Summary Report:
 1. Prior to Substantial Completion, the Contractor shall submit a written Waste Management Report summarizing the types and quantities of materials recycled and disposed of under the Waste Management Plan.
 2. Also include the name and location of disposal facilities.
- C. Recycling
 1. Refer to the Massachusetts Recycling Directory available at the Massachusetts State Bookstore (617-727-2834) in the State Capital Building for recycling operations within the State.

2. Metal, including but not limited to aluminum, steel, and reinforcing steel shall be recycled.
3. Wood that is not painted and does not contain preservatives (i.e. creosote, arsenic, and chromium-containing preservatives) shall be segregated and recycled.

1.5 WASTE MANAGEMENT PLAN IMPLEMENTATION:

- A. Manager:
 1. The Contractor shall designate an on-site person responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.
- B. Distribution:
 1. The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each subcontractor, the Owner and the Architect.
- C. Instruction:
 1. The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- D. Separation Facilities:
 1. The Contractor shall layout and label a specific area to facilitate separation of materials for recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
 2. Location of separation areas shall be acceptable to the Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 77 20
SUBSTANTIAL COMPLETION

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This section specifies requirements for Substantial Completion, including:
1. Substantial Completion.
 2. Progress Punch List Inspections.
 3. Re-inspection fees.
 4. Project Record Documents.
 5. Operation and Maintenance Manuals and Warranties.
 6. Submittal of spare parts and maintenance materials.
 7. Owner training.

1.3 SUBSTANTIAL COMPLETION AND SUBSTANTIAL COMPLETION PROCESS

- A. Definition of Substantial Completion:
1. For the purposes of this project: *“The time and day when construction has substantially met the requirements of the Construction Documents and construction allows the Owner to legally use the project anywhere and everywhere for the Owner’s intended purpose.”*
- B. The Contractor shall organize a Substantial Completion meeting and walk-through with the Owner and Architect.
1. After the walkthrough, declaration of Substantial Completion will be determined.
 2. Complete final cleaning of the work or of the portion of the work which is designated for Substantial Completion, as specified in Section 01 74 00 “PROGRESS, FINAL CLEANING AND POST PUNCH LIST REPAIR CLEANING”, prior to the Substantial Completion walkthrough.
- C. Submit the following a minimum of two business days prior to or at the time and date of Substantial Completion:
1. Certifications, testing reports, and preliminary balancing reports, and similar information substantiating that project conforms to the requirements of the Contract Documents.
 2. Application for reduction of retainage (and consent of surety if applicable).

3. List of Incomplete Work which will be recognized as exceptions which will be appended to Architect's Certificate of Substantial Completion.
4. One copy of each warranty required by the Contract Documents, in the name of the Owner, endorsed by the Contractor, and in a form reasonably acceptable to the Architect. (The Architect will accept unbound warranties at this time; these warranties will be returned to the Contractor for binding into the binders specified in this Section).
5. Draft Operation and Maintenance Manuals consistently organized into suitable bound and indexed sets.
6. Owner training completed with a written certification of same signed by the Contractor and the Owner.
7. Checklist of activities and deliverables required for Substantial Completion and Final Completion including mutually agreeable dates.
8. Project Record Documents
9. Confirmation of closed Exceptions and Rolling Punch List items.
10. Written statement from the Contractor certifying that all hazardous materials associated with the work performed or brought to the jobsite by construction personnel as required to execute the work has been removed and/or disposed of properly.
 - a. Provide a list of any hazardous materials that will remain on the site that are specifically required to perform
11. Punch List work: List of unacceptable work requiring repair or replacement.
12. Architect will verify that a statement regarding hazardous materials has been provided prior to issuing Certificate of Substantial Completion.
13. Submit written certification to the Architect that the Project or designated portion thereof, has achieved Substantial Completion.
 - a. Include contractor's Punch List and list of Incomplete Work.
 - b. If the Architect agrees that the Project has achieved Substantial Completion, the Architect will take the following actions:
 - i. Review the work of the project determined by the Contractor as Substantially Complete and prepare an additional list of items that the Architect requires to be completed or corrected ("Punch List"), as determined by the inspection(s).
 - ii. Prepare and issue a Certificate of Substantial Completion on a form provided by the Architect, including:
 - Date of Substantial Completion.
 - Punch List. Include items from the walk through with the Owner and Architect.
 - Schedule for completion of Punch List items provided by the Contractor.
 - Date and time on which the Owner will occupy the Work or designated portion thereof.
 - Responsibilities of the Owner and Contractor for transfer of insurance, utilities, operation of mechanical and electrical systems, maintenance, cleaning, and security.

- Signatures of Architect, Contractor, and Owner.
 - The Contractor shall complete punch list work in accordance with the schedule for completion as defined in Item above.
- c. Should Architect consider the work to be less than substantially complete, the Architect will:
- i. Promptly notify the Contractor in writing, listing incomplete or defective work.
 - ii. The Contractor shall take immediate steps to correct the remaining item and send a second written certification that work is substantially complete.
 - iii. The Architect will re-inspect the work.
- d. Warranties required by the Contract Documents for work cited as not substantially complete shall commence when such work is accepted as substantially complete.
- e. Remove construction facilities and temporary controls, except those that are required to complete incomplete work.
- f. Architect will verify that Project Record Documents are complete and accurate.
14. Warranties:
- a. Submit all warranties with a Warranty Summary Sheet identifying Section, Item, Warranty Start, Warranty End, Warranty Holder.
 - b. All Warranties will be in the name of the Owner.

1.4 MULTIPLE SUBSTANTIAL COMPLETION PUNCH LIST INSPECTIONS/MULTIPLE SUBSTANTIAL COMPLETION PROCESSES

- A. In the event multiple Substantial Completion Punch List Inspections are required prior to Substantial Completion, the requirements of this Section apply.
- B. The Architect has included in their fee time for a single Substantial Completion Process including associated inspections.
- 1. If, due to decisions made solely by the Contractor, the Contractor requires multiple Substantial Completion Processes and/or multiple Substantial Completion Punch List Inspections prior to Substantial Completion, the Architect will proceed on an hourly basis.
 - 2. The hourly fees will be in accordance with the schedule of fees and charges appended to the Architect-Owner Agreement, or in the absence thereof, the hourly rate in effect at the time of the multiple Substantial Completion Processes and/or multiple Substantial Completion Punch List Inspections request.
 - 3. If the Contractor invokes multiple Substantial Completion Processes and/or multiple Substantial Completion Punch List Inspections, the Contractor thereby accepts the conditions of this paragraph B in its entirety.

- C. Contractor produces "Progress Punch List Schedule" of subdivided project areas or systems to coordinate with construction sequence.
- D. This Schedule will establish dates when each area will be substantially complete and ready for "Progress Punch List" inspection.
- E. Contractor submits "Progress Punch List Schedule" to Architect for review and comment.
- F. Mutually agreeable "Progress Punch List Schedule" is established.
- G. For each area or system, Contractor submits to Architect and Owner "Request For Progress punch List Inspection" per established "Progress Punch List Schedule" with "Contractor's Punch List" for that area or system.
 - 1. Notification includes date when inspection is requested. Notification will be issued a minimum of 2 days prior to requested inspection date.
 - 2. Should Architect consider the Work to be less than substantially complete, the Architect will promptly notify the Contractor in writing, listing incomplete or defective Work.
 - a. The Contractor shall take immediate steps to remedy deficiencies.
 - b. The Contractor will then send a second written certification that work is substantially complete.
 - c. If the Architect considers the area or system substantially complete, the Architect will re- inspect the area or system.
 - 3. Not later than 5 days of the requested inspection date, the Architect will amend the "Contractor's Punch List with additional observations and return it electronically to the Contractor as the "Progress Punch List."
 - a. Architect's Progress Punch List will include location, date of inspection, and observation.
 - b. Contractor completes "Progress Punch List" for each area with item numbers, building zone, Punch List item completion date, and subcontractor added and distributes to the Architect.
 - c. "Progress Punch List" for each area is compiled into a comprehensive "Master Progress Punch List" as each area is completed.
 - d. The "Master Progress Punch List" will be maintained and managed by the Contractor.
 - e. Contractor to coordinate with Architect for sign-off of completed "Master Progress Punch List" items after sign-off by subcontractor and Contractor.
- H. At the time of Project Substantial Completion, remaining "Master Progress Punch List" items and any additional Punch List items are compiled into and become "The Punch List" with anticipated completion dates and attached to The Certificate of Substantial Completion.

1.5 RE-INSPECTIONS FEES

- A. When the Architect is caused to perform more than the following inspections due to failure of Work to comply with the Contract Documents and or a single date of Substantial Completion or incomplete work, the Contractor, through the Owner will compensate the Architect for such additional services on an hourly basis. The hourly fees will be in accordance with the schedule of fees and charges appended to the Architect-Owner Agreement, or in the absence thereof, the hourly rate in effect at the time of the multiple Progress Punch List Inspection Requests.
- B. The following represent the inspections for which time is allocated in the Architect's fee:
 - 1. Progress Punch List Inspection:
 - a. The Architect will append observations to the Contractor's written and typed Punch List.
 - 2. Substantial Completion Punch List Inspection:
 - a. The Architect will review corrections called for in the combined Contractor's Punch List with the appended observations by the Architect.
 - 3. Final Completion Inspection:
 - a. The Architect's final inspection immediately prior to the Certificate of final Completion.
- C. Costs for additional inspections will be billed to the Owner by the Architect. Such amounts will be deducted from the Contract Sum payable to the Contractor.
 - 1. The Architect will notify both the Owner and Contractor prior to making additional inspections.

1.6 PROJECT RECORD DOCUMENTS

- A. Project Record Documents are not As-Built Documents. (See below of As-Built Documents).
- B. Documents and Samples on the Site:
 - 1. Contractor to keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, shop drawings and product data, testing data, change orders, field orders, and other modifications.
 - 2. At Substantial Completion, these documents and samples shall be referred to as the Project Record Documents.
 - 3. During Construction, store Project Record Documents neatly and securely, in files or on racks, clearly indexed by trade activity or Specification Section
 - 4. Do not use Project Record Documents for construction purposes.
- C. On the Project Record Documents, legibly mark significant field changes such as following, using colored pencils, or felt-tipped pens, assigning a different color to each trade.

- D. The Architect may request to review the Project Record Documents at any time during the project.
 - 1. Submit the Project Record Documents as requested to Architect who shall, after review for completeness, not for content return them to the Contractor.
 - 2. The Contractor is solely responsible for the content and accuracy of the Project Record Documents.
 - 3. Keeping the Project Record Documents up to date is a requirement of the Contract and shall be considered when the Architect is reviewing Payment Requisitions.

1.7 AS-BUILT DOCUMENTS

- A. Obtain from the Architect, at the Contractor's expense, a clean set of As-Designed CAD files.
- B. The Contractor shall modify the As-Designed Documents to show all modifications, changes, decisions, clarifications, actual dimensions and locations, and similar information as recorded on the Project Record Drawings.
- C. The Contractor shall verify actual field conditions and make changes necessary to record actual construction in place.
- D. As-Built Document Submittal Requirements:
 - 1. The Contractor shall collect As-Built Documents from all subcontractors, review documents for completeness.
 - 2. The Contractor shall compile all subcontractor As-Built Documents into one complete set in electronic format.
 - 3. The Contractor shall submit two blackline print sets and one electronic copy of the As- Built Documents to the Architect for review.
 - 4. The Architect shall review the As-Built Document submittal for format only.
 - 5. The Contractor and his Sub-Contractors is solely responsible for the content and accuracy of the As-Built Documents.
 - 6. Submit As-Built Documents to the Owner in the following quantities:
 - a. Owner: Two hard copies and one electronic copy.

1.8 OPERATION AND MAINTENANCE MANUALS, SPARE PARTS, AND WARRANTIES

- A. Prior to Substantial Completion, submit to the Architect the intended table of contents of the Operation and Maintenance (O&M) Manuals that the Contractor intends to submit to the Owner.
 - 1. Upon acknowledgement by the Architect that the intended table of contents is complete, reasonable organized, and satisfies the Specifications, submit a draft of the Operation and Maintenance Manuals, list of warranties, and list of spare parts.

2. Generally, include operation and maintenance information for all items of equipment, and maintenance information for all products which may require special care, such as carpet, special finishes, whether or not a submittal is specifically required by the technical sections of these Specifications.
 - a. Include instructions for installation, start-up, operation, inspections, maintenance, parts lists, and data sheets.
 - b. On manufacturer's printed literature, where the literature covers more than one model, indicate by check-mark or circle in ink the correct model number and data for the model number.
- B. Organize the Operation and Maintenance Manuals as follows:
 1. Bind in 3-ring binders with vinyl cover.
 2. Cover and Spine:
 - a. Identify each volume number (i.e. 1 of 12) on front and spine with typed or printed title "OPERATION AND MAINTENANCE MANUAL," title of Project, date, identity of subject matter covered in each particular volume.
 - b. On spine, place information so it reads "right side up" when the binder cover faces up.
 3. Inside Cover/Title Page:
 - a. Repeat information on the cover and identify the Contractor.
 4. Table of Contents:
 - a. For each volume, arranged in CSI Division and Section as per the Specification order, neatly typewritten.
 - b. Organize information by systems, following the sequence of the Table of Contents of the Project Manual.
 5. Separate products and system within the binder by tabbed and labeled dividers.
 6. If binder contains information on products or systems from more than one Division of the Specifications, provide separate labeled tab for each Division.
 7. List of extended or special warranties, with a summary of the duration of the warranty.
 - a. This information shall immediately follow the Table of Contents.
 8. List of spare parts incorporated in appropriate divisions.
- C. Require each manufacturer to prepare/provide information on its own products. In those instances where equipment or controls are job-assembled by a subcontractor, then require that subcontractor to prepare maintenance instructions.
- D. Warranties and Guarantees:
 1. Assemble one fully executed copy of each warranty, bond, and service and maintenance contract.
 2. Warranties required are specified in the respective Specification sections.
- E. Submittal:
 1. Submit one review copy of the fully compiled O&M Manual in final form to the Architect.

2. The Architect will review for completeness and organization only.
 - a. The content accuracy and detail of the O&M Manual is solely the responsibility of the Contractor.

1.9 ATTIC STOCK, SPARE PARTS, AND MAINTENANCE MATERIALS AS SPECIFIED

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
 1. Where Attic Stock, Spare Parts, and Maintenance Materials, are specified, identify the following in the O&M Manual:
 - a. Description
 - b. Quantity
 - c. Detail
 - d. Spare parts shall be neatly wrapped or packaged in standard sizes and clearly labeled with content and date.
- B. Deliver to Project site and place in location as directed by Owner.
 1. Obtain approval from the Owner prior to Final Completion.
 2. Approval will be in the form of the fully executed Provide Attic Stock Certification.
- C. Provide Attic Stock Certification.
 1. Insert Provide Attic Stock Certification in O&M Manual in the position of this Section 01 77 20.

1.10 OWNER TRAINING

- A. Where Specifications require that Contractor provide training for the Owner's personnel, provide such training in accordance with this Article and prior to the date of Substantial Completion.
- B. Contractor shall provide a training schedule.
- C. Schedule training at least seven days in advance, and at a time convenient for the Owner, when the appropriate trainees will be available.
- D. Provide for the Owner's use, a draft of the relevant Operations and Maintenance Manual (O&M Manual) during training.
- E. Record the training sessions on video for subsequent use by the Owner.
- F. When training is complete, prepare and submit to the Architect for the Owner's records, a report of the training.
 1. Include project name, name and address of the Contractor and of the Sub-Contractor or individual providing the training, brief description of the item or system which was the subject of the training, dates, times and duration of the

- training, and names and job identification or title of Owner's personnel in attendance.
2. Briefly report on activities or events occurring during the training period, describing problems or questions that arose (if any) and how these were resolved.
- G. Provide Executed Training Certificate.
1. Execute Training Certificate and insert in the O&M Manual in the position of this Section 01 77 20.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 77 30
PROJECT CLOSE-OUT AND FINAL COMPLETION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This section specifies requirements for Project Closeout / Final Completion, including:
 - 1. Final Completion
 - 2. Final Completion Inspections
 - 3. Final As-Built Documents

1.3 FINAL COMPLETION

- A. Contractor shall submit written certification to the Architect that the Project has been completed in accordance with the Contract Documents, including punch list items, and is ready for Final Inspection.

1.4 ARCHITECT'S FINAL INSPECTION

- A. The Architect will make a single final inspection within one week after receipt of the Contractor's certification, or as otherwise agreed upon in specific instances.
- B. Should the Architect consider that the Project has achieved Final Completion in accordance with the Contract Documents:
 - 1. The Architect will ask the Contractor to make Project closeout submittals required for Final Completion.
- C. Should the Architect consider that the Project has not achieved Final Completion:
 - 1. The Architect will immediately notify the Contractor stating reasons, and the Contractor shall immediately complete the Work, request inspection, and otherwise comply with this Contract.

1.5 CLOSEOUT SUBMITTALS

- A. The Contractor shall prepare closeout submittals and submit to the Owner with a copy to the Architect prior to Final Completion, allowing sufficient time for Owner review in accordance with a mutually agreeable schedule:
 - 1. Final As-Built Documents.

2. Project warranties (guarantees) and maintenance agreements, assembled in binders in accordance with Section 01 77 20, "SUBSTANTIAL COMPLETION".
 3. Final completed Project Operation and Maintenance Manuals assemble in binders in accordance with Section 01 77 20, "SUBSTANTIAL COMPLETION".
 4. Spare parts neatly wrapped or packaged in standard sizes and clearly labeled.
 5. Certificate of insurance for products and completed operations.
 6. Consent of Sureties to Final Payment for Performance and Payment Bonds furnished under this Contract.
 7. An affidavit that all bills and indebtedness connected with the Work have been paid.
 8. Waivers of lien from all subcontractors and suppliers, or a bond satisfactory to the Owner indemnifying Owner against all liens or other claims.
 9. Proof that taxes, fees and similar obligations have been paid.
 10. Additional changeover documentation which may be required by Owner's lender and Owner's property insurer.
 11. All Approved Submittals organized by Specification Sections.
 12. A final written statement from the Contractor certifying that all hazardous materials associated with the work performed or brought to the jobsite by construction personnel as required to execute the work has been removed and/or disposed of properly.
 - a. Provide a list of any hazardous materials that will be turned over to the Owner as Attic Stock.
 - b. Do not submit the same statement required during Substantial Completion.
- B. Complete all incomplete work recognized as an exception to Substantial Completion ("Punch-List" items).
- C. Remove remaining construction facilities and temporary controls.
- D. Re-clean, if necessary, to standards specified in in Section 01 74 00 "PROGRESS AND FINAL CLEANING".
 1. Remove surplus materials and rubbish.
- E. The Architect will re-inspect as part of Final Completion Inspection to determine whether it is complete.
- F. Submit Final Application for Payment to the Owner.
- G. The Architect's signature to the Final Application for Payment identifies successful Final Completion and closes out the Project.
 1. Upon successful Final Completion, the Architect will issue a Letter of Final Completion to both the Owner and the Contractor with a copy retained for the Architect's files.

Endicott Estate Roof Replacement
656 East Street
Dedham, MA 02026

Gorman Richardson Lewis Architects
GRLA Project #2023010.01

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

02 41 13
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to Demolition and removal of selected portions of buildings and structures down to sound substrate and as required for new Work. Refer to the Drawings for additional requirements.
1. Salvage of existing items to be reused. See Drawings.
 2. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated or reused, all existing removed materials, items, trash and debris shall become property of the Demolition Sub-Contractor and shall be completely removed from the site and legally disposed of at its expense.
 3. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.
 4. Scheduling and sequencing operations without interruption to utilities serving occupied areas. If interruption is required, obtain written permission from the utility company and the Owner. Provide temporary services as necessary to serve occupied and usable facilities when permanent utilities must be interrupted, or schedule interruption when the least amount of inconvenience will result.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. 06 10 00 ROUGH CARPENTRY
 2. 07 25 00 WEATHER RESISTIVE BARRIERS
 3. 07 31 00 ASPHALT SHINGLE ROOFING
 4. 07 46 00 EXTERIOR SIDING
 5. 07 56 30 FLUID APPLIED ROOFING RESTORATION
 6. 07 62 00 FLASHING AND SHEET METAL
 7. 07 90 00 SEALANTS

1.3 DEFINITIONS

- A. *“Remove”*: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. *“Remove and Salvage”*: Detach items from existing construction and deliver them to the Owner ready for reuse, at a location designated by the Owner. Protect from weather until accepted by Owner.
- C. *“Remove and Reinstall”*: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.
- D. *“Existing to Remain”*: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain property of the Owner as applicable.
- B. Carefully remove each item or object in a manner to prevent damage and deliver promptly to a location acceptable to the Owner.

1.5 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with early and late starting and finishing dates for each activity. Ensure Owner's on-site operations are uninterrupted if applicable.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of existing elevator and existing stairs:
 - a. Use of elevator and stairs are not permitted for the removal or installation of construction materials.
 - 5. Locations of proposed dust- and noise-control temporary partitions and means of egress, including for other occupants affected by selective demolition operations.
 - 6. Coordination of Owner's continuing occupancy during construction.
 - 7. Means of protection for items to remain and items in path of waste removal from building.

- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged, and turned over to the Owner.
- C. Pre-demolition Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations. Comply with Section 01 33 00 SUBMITTAL PROCEDURES. Submit before Work begins.
- D. Landfill Records: Provide trip tickets (receipts) indicating receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
 - 1. Comply with submittal requirements in Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT.

1.6 QUALITY ASSURANCE

- A. Examination of Existing Conditions: The Contractor and Demolition Sub-Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor and Demolition Sub-Contractor shall visit the site and examine the existing conditions as they find them and shall inform themselves of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.
- B. Demolition Sub-Contractor: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- C. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- D. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- E. Standards: Comply with ANSI A10.6 and NFPA 241.
- F. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.

3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

G. Cutting:

1. Cut surfaces so that there is minimal difference between existing and new surfaces when patched.
2. All cuts at the edge of demolished areas to be clean, straight and true.

H. Shoring:

1. This Demolition Sub-Contractor is responsible for the design and installation of all shoring
2. Shoring shall be designed by a professional structural engineer registered in the Commonwealth of Massachusetts with stamp and signature indicating same.

I. Demolition Sub-Contractor Qualifications:

1. Five (5) years documented experience successfully performing demolition of the type, scale and complexity indicated for this project.
2. Only licensed or specialized trade technicians shall demolish Fire Protection, Plumbing, Heating, Ventilating, Air Conditioning, Electrical services, systems and equipment.

J. Regulations:

1. Comply with Regulations of the
 - a. Massachusetts Building Code including all appendices
 - b. Requirements of the EPA
 - c. Requirements of the City/Town
2. Standards:
 1. ANSI A10.6
 2. NFPA 241

K. Protection:

1. Erect protection for pedestrians and vehicular traffic.
2. Provide temporary barricades to limit access to demolition areas.
3. Protect all existing construction to remain.
4. Protect all adjacent property from damage.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and

surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer registered in the Commonwealth of Massachusetts to survey the condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction video.
 - 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work.
 - 2. Make permanent record of measurements, materials, and construction details required to make exact reproduction.
- G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies and Owner.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide

temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
4. Prior to commencing cutting work in existing surfaces, take all precautionary measures to assure that mechanical and electrical services to the particular area have been made inactive. Coordinate with Fire Protection, Plumbing, HVAC, and Electrical Sub-contractors. Only licensed tradesmen of that particular trade shall disconnect and cap existing mechanical and electrical items that are to be removed, abandoned and/or relocated.
5. If, during the process of cutting work, existing utility lines are encountered which are not indicated on the Drawings, regardless of their condition, immediately report such items to the Architect. Do not proceed with work in such areas until instructions are issued by the Architect. Continue work in other areas.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Comply with requirements for access and protection specified in Section 01 50 00 - TEMPORARY FACILITIES and CONTROLS.
 2. Maintain adequate passage to and from all exits at all times. Before any work is done which significantly alters access or egress patterns, consult with the Architect and obtain approval of code required egress. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.
- B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 1. Strengthen or add new supports when required during progress of selective demolition.
 2. Remove temporary shoring, bracing and structural supports when no longer required.
 3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.

- C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).
 - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
- D. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

9. Dispose of demolished items and materials promptly. Comply with requirements in Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT.
- B. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to storage area designated by the Owner.
 5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- E. Items for Re-use and Preservation of Existing Surfaces to Remain:
1. The Contractor and Demolition Sub-Contractor shall inspect closely each item specifically designated to be relocated, reused, or turned over to the Owner prior to its removal, and immediately report damages and defects to the Architect and the Owner. The Contractor shall be responsible for any subsequent damage to the same other than latent defects not readily apparent from close inspection, and shall bear responsibility for its repair or same replacement as directed by the Architect, to the satisfaction of the Owner.
 2. Unless special surface preparation is specified under other Specification Sections, leave existing surfaces that are to remain in a condition suitable to receive new materials and/or finishes.

3.5 PROTECTION OF PUBLIC AND PROPERTY

- A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Owner's employees during all demolition and removal

operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.

- B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Architect, and to the satisfaction of the Owner.
- C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other cause and so as not to cause interference with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.
- D. Every precaution shall be taken to protect against movement or settlement of the building, of adjacent buildings, sidewalks, roads, streets, curbs and pavements. Provide and place at the Contractor's own expense, all necessary bracing and shoring in connection with demolition and removal work.
- E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing and adjacent building structures, both internal and external of the particular work area.
- F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress. Dust barriers shall prevent the dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.

3.6 DISCOVERY OF OTHER HAZARDOUS MATERIALS

- A. If hazardous materials, such as chemicals, asbestos-containing elements or materials not specifically identified in this specification section, lead paint-containing elements or materials not specifically identified in this specification section, or other hazardous materials are discovered during the course of the work, cease work in affected area only and immediately notify the Architect and the Owner of such discovery. Do not proceed with work in such areas until instructions are issued by the Architect. Continue work in other areas.
- B. If unmarked containers are discovered during the course of the work, cease work in the affected area only and immediately notify the Architect and the Owner of such discovery. Do not proceed with work in such areas until instructions are issued by the Architect. Take immediate precautions to prohibit endangering the containers integrity. Continue work in other areas.

3.7 CUTTING

- A. Perform all cutting of existing surfaces in a manner which will ensure a minimal difference between the cut area and new materials when patched. Use extreme care when cutting existing surfaces containing concealed utility lines which are indicated to remain and bear full responsibility for repairing or replacement of all such utilities that are accidentally damaged.
- B. Provide a flush saw cut edge where pavement, curb and concrete removals abut new construction work or existing surfaces to remain undisturbed.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Comply with requirements of Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT and the following:
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.9 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

END OF SECTION

06 10 00
ROUGH CARPENTRY

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 FILED SUB-BIDS

- A. All work included in this section shall be the responsibility of the Masonry Work Filed Sub-contractor. Refer to Section 06 10 01 ROUGH CARPENTRY FILED SUB-BID REQUIREMENTS for specific sub-trade requirements.

1.3 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Replacement of deteriorated plywood shall be performed on a unit price basis (refer to section 01 22 00 UNIT PRICES). Such plywood replacement shall be measured by the square foot of existing plywood replaced with new plywood and paid at the unit price to be included on the bid form.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. 07 31 00 ASPHALT SHINGLE ROOFING
 2. 07 46 00 EXTERIOR SIDING
 3. 07 62 00 FLASHING AND SHEET METAL
 4. 07 90 00 SEALANTS

1.4 PROJECT CONDITIONS

- A. Time delivery and installation of carpentry work to avoid delaying other trades whose work is dependent on or affected by the carpentry work. Keep materials dry during delivery.
- B. Store lumber and plywood in stacks with provisions for air circulation within stacks. Protect bottom of stacks against contact with damp or wet surfaces.
- C. Protect exposed materials against water and wind. Remove damaged or unsuitable material from the job site.

1.5 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Use experienced installers.
- B. Lumber Standards: American Softwood Lumber Standard PS 20-70 by the U.S. Department of Commerce.
- C. Plywood Standards: U.S. product Standard PSI-74/ANSI A 199.1 or latest APA Performance Standards for American Plywood Association.
- D. Factory Marking: Mark each piece of lumber or plywood to indicate type, grade, agency providing inspection service.
- E. Size and Shape: Dress lumber 4 sides (S4S) and work to shapes and patterns shown. Nominal sizes shown and specified refer to undressed lumber dimensions. Detailed dimensions show actual lumber size required.

PART 2 – PRODUCTS

2.1 DIMENSIONAL LUMBER AND PLYWOOD

- A. Construction Lumber: Standard Grade Pressure treated Douglas Fir, Western Larch, Western Hemlock (WWPA or WCLB) or No. 2 dimension Southern Pine (SPIB).
- B. Exterior Type Plywood: APA Rated sheathing, CDX Exposure 1 .
- C. Bucks, Nailers, Blocking, Etc.: No. 2 common grade of any WWPA or WCLA species or No. 2 Southern Pine (SPIB).
- D. Anchorage and Fastenings: Proper type, size material and finish for each application.
- E. Quality: Sound, seasoned, well manufactured materials of longest practical lengths and sizes to minimize joints. Free from warp which cannot be easily corrected by anchoring and attachment. Discard material with defects which would impair quality of work.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify measurements and dimensions shown before proceeding with carpentry work.
- B. Examine supporting structure and conditions under which carpentry work is to be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

- C. Correlate location of nailers, blocking and similar supports for attached work.
- D. Scribe and cope as required for accurate fit of carpentry work to other work.

3.2 PROTECTION

- A. Protect installed work from damage by other trades until acceptance of work.

3.3 INSTALLATION

- A. Provide all nailers, blocking and sleepers where shown on the drawings or required for attachment of other work. Minimum flashing height of eight (8) inches is required. Coordinate with location with other work involved; refer to shop drawings of such work.
- B. Attach to substrate securely as required to support applied loading. Countersink bolts and nuts flush with surfaces.
- C. Securely attach wood nailers to substrates in accordance with Factory Mutual Loss Prevention Data Sheet 1-49 and as required by recognized standards.
- D. Provide washers under bolt heads and nuts in contact with wood.
- E. Do not wax or lubricate fasteners that depend on friction for holding power.
- F. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish material.
- G. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required. Do not drive threaded friction type fasteners; turn into place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of work.

3.4 CLEAN UP

- A. As work progresses, and at the end of each day's work, remove scraps of wood, loose fasteners, and other debris; sweep clean; and leave the work area safe and free of debris such as screws and nails that may damage other Work in place.

END OF SECTION

07 31 00
ASPHALT SHINGLE ROOFING

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Granule surfaced asphalt shingle roofing.
 - a. 250 lb/sq., waterproof underlayment at eaves, ridge and penetrations and, water resistant underlayment on balance of roof deck, starter shingles, soffit and ridge ventilation.
 2. Associated metal flashings.
 3. See Section 02 41 13 SELECTIVE DEMOLITION for removal of existing roofing and underlayments. See Section 06 10 00 ROUGH CARPENTRY for repair/replacement of roof sheathing.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. 06 10 00 ROUGH CARPENTRY
 2. 07 46 00 EXTERIOR SIDING
 3. 07 56 30 FLUID APPLIED ROOFING RESTORATION
 4. 07 62 00 FLASHING AND SHEET METAL
 5. 07 90 00 SEALANTS

1.3 REFERENCES

- A. ASTM D 225 – Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules.
- B. ASTM D 1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials used as Steep Roofing Underlayment for Ice Dam Protection.
- C. ASTM D 3018 – Standard Specification for Class A Shingles Surfaced with Mineral Granules.
- D. ASTM D 3161 – Standard Test Method for Wind Resistance of Asphalt Shingles (Fan-Induced Method).

- E. ASTM D 3462 – Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
- F. ASTM D 4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- G. ASTM D 6757 – Standard Specification for Inorganic Underlayment for Use with Steep Slope Roofing Products.
- H. ASTM E 108 – Standard Test Methods for Fire Test of Roof Coverings.
- I. ASTM G 21 – Determining Resistance of Synthetic Polymers to Fungi.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 35 00 SUBMITTAL PROCEDURES.
- B. Product Data: Provide manufacturer's printed product information indicating material characteristics, performance criteria and product limitations.
- C. Manufacturer's Installation Instructions: Provide published instructions that indicate preparation required and installation procedures.
- D. Certificate of Compliance: Provide Certificate of Compliance from an independent laboratory indicating that the asphalt fiberglass shingles made in normal production meet or exceed the requirements of the following:
 - 1. ASTM E 108/UL 790 Class A Fire Resistance.
 - 2. ASTM D 3161/UL 997 Wind Resistance.
 - 3. ASTM D 3462.
- E. Shop Drawings: Indicate specially configured metal flashing, jointing methods and locations, fastening methods and locations and installation details as required by project conditions indicated.

1.5 QUALITY ASSURANCE

- A. Installer Minimum Qualifications: Installer shall be licensed or otherwise authorized by all federal, state and local authorities to install all products specified in this section. Installer shall perform work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Mock-Up:
 - 1. Provide shingle roof assembly for in-place mock-up for evaluation of surface preparation techniques and application workmanship.
 - a. Rework Mock-Up area as required to produce acceptable work.
- C. Pre-Installation Meeting:

1. Conduct a pre-installation meeting at the site prior to commencing work of this section:
 2. Require attendance of local manufacturer's Representative and other entities directly concerned with roof installation.
 3. Agenda will include:
 - a. Installation procedures and manufacturer's recommendations.
 - b. Safety Procedures.
 - c. Coordination with installation of other work.
 - d. Availability of roofing materials.
 - e. Preparation and approval of substrate and penetrations through roof.
 - f. Other items related to successful execution of work.
- D. Maintain one copy of manufacturers application instructions on the project site.
- E. Verify that manufacturer's label contains references to specified ASTM standards.
- F. Industry Reference Standards:
 1. National Roofing Contractors Association Roofing and Waterproofing Manual.
 2. Asphalt Roofing Manufacturer's Association Manual.
 3. Sheet Metal and Air Conditioning Contractors National Association, Inc. Architectural Sheet Metal Manual.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store Products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials and materials used with solvent based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Deliver shingles to site in manufacturer's unopened labeled bundles. Promptly verify quantities and conditions. Immediately remove damaged products from site.

1.7 PROJECT CONDITIONS

- A. Anticipate and observe environmental conditions (temperature, humidity and moisture) within limits recommended by manufacturer for optimum results.
- B. Do not install products under environment conditions outside manufacturer's absolute limits.
- C. Take special care when applying Shingle Underlayment and shingles when ambient or wind chill temperature is below 45 degrees F. Tack underlayment in place if it does not adhere immediately to the deck.

1.8 WARRANTY

- A. Manufacturer's Warranty: Furnish shingle manufacturer's warranty for the product listed below:
 - 1. Shingle Manufacturer's 40 year Warranty.
- B. Warranty Transferability Clause: Make available to Owner shingle manufacturer's standard option for transferring warranty to a new owner.
- C. Contractor Workmanship Warranty: Contractor's standard form in which the Contractor agrees to repair or replace any materials installed that do not comply with performance and other requirements specified in these documents within the specified guarantee period.
 - 1. Guarantee Period: Two (2) years from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. GAF Materials Corporation (Basis of Design)
 - 2. TAMKO Building Products, Inc.
 - 3. IKO Industries, Inc.
 - 4. CertainTeed Corporation

2.2 ASPHALT SHINGLES

- A. Asphalt Shingles:
 - 1. Timberline HD by GAF (Basis of Design)
 - 2. Heritage Premium by TAMKO
 - 3. Cambridge Series by IKO
 - 4. Landmark Pro by CertainTeed
- B. Basis of Design: Timberline HD by GAF
- C. Conforming to ASTM D 3018 Type I – Self-Sealing; UL Certification of ASTM D 3462, ASTM D 3161/UL997 Class F, 110 mph Wind Resistance; UL Class A Fire Resistance; glass fiber mat base; ceramically colored algae resistant granules across entire face of the shingle; two-piece laminated shingle.
- D. Shingle size and exposure: 13 1/4" x 38 3/4" with 5 5/8" Exposure.
- E. Weight: 250 pounds per square (100 square feet).
- F. Color: Slate

2.3 HIP AND RIDGE CAP SHINGLES

- A. Hip and Ridge Cap Shingles:

1. TimberTex Premium Ridge Cap Shingles (Basis of Design)
2. Heritage Vintage 12" x 12" Hip & Ridge by TAMKO
3. Hip & Ridge 12 by IKO
4. Cedar Crest Ridge Vent by CertainTeed

2.4 STARTER SHINGLES

- A. Starter Shingles:
1. Pro-Start Eave/Rake Starter Strip by GAF (Basis of Design)
 2. Shingle Starter by TAMKO
 3. Leading Edge Plus Starter Strips by IKO
 4. Swift Start by CertainTeed

2.5 SHEET MATERIALS

- A. Self-adhering high-temperature roofing underlayment. It is composed of a durable, non-slip, crosslaminated polymer film laminated to a high-temperature rubberized asphalt adhesive. A split release film protects the adhesive on the back side of the membrane and prevents the roll from sticking to itself during storage and handling.
1. R-Mer Seal Roof Deck Protection, by Garland. (Basis of Design)
 2. Weather Watch Leak Barrier by GAF
 3. Moisture Guard Ice & Rain Underlayment by TAMKO
 4. Gold Shield, ArmourGard, or StormShield Ice & Water Protector by IKO
 5. WinterGuard Granular by CertainTeed
- B. Synthetic Felt Water Resistant Underlayment: ASTM D 226 and ASTM D 4869 synthetic polymer-based scrim reinforced underlayment.
1. Shingle Mate Roof Deck Protection by GAF (Basis of Design)
 2. Tam-Shield Synthetic Underlayment by TAMKO
 3. RoofGard – Cool Grey by IKO
 4. Diamond Deck by CertainTeed

2.6 PRIMERS

- A. Emulsion-based primer used to improve the adhesion of self-adhering membranes on aged substrates. SA Primer is uniquely formulated for use on a variety of surfaces. Ideal for use on modified bitumen surfaces, as well as cinder block, concrete, OSB, plywood, DensGlass Gold®, Securock®, DensDeck® Prime and prepped metal surfaces. SA Primer Roof Deck Grabber, by Garland (Basis of Design).
1. Or approved equal. Primers shall be from a single source manufacturer and supplier.

2.7 ACCESSORIES

- A. Nails: Standard round wire type roofing nails, corrosion resistant; hot dipped zinc coated steel or stainless steel, minimum 3/8 inch head diameter; minimum 11 or 12 gage shank diameter; shank to be sufficient length to penetrate through the roof sheathing or 3/4 inch into solid wood, plywood or non-veneer wood decking.
 - 1. Galvanizing shall be per ASTM A153.
 - 2. Electrogalvanized items shall not be used.
- B. Asphalt Roofing Cement: ASTM D 4586, Type I or II.

2.8 VENTILATION

- A. Static Exhaust Vent: slant-back plastic roof vent/louver.
 - 1. IR65 by GAF Master Flow (Basis of Design)
 - 2. Static Vent by CertainTeed
 - 3. Approved Equal.
- B. Mechanical Exhaust Vent: 24-gauge steel goose neck with damper with painted finish.
 - 1. Model 634/636 or RVK1A by Broan Nutone.
 - a. Size to fit existing pipe diameter.
 - 2. GNVBL by GAF Master Flow
 - a. Size to fit existing pipe diameter.
 - 3. Approved Equal.

2.9 METAL FLASHINGS

- A. Drip Edge: Refer to Section 07 62 00 FLASHING AND SHEET METAL.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Inspect roof deck.
- B. Verify that roof penetrations and plumbing stacks are in place and secured to deck surfaces.
- C. Verify deck surfaces are dry and free of ridges, warps or voids.

3.2 ROOF DECK PREPARATION

- A. Follow shingle manufacturer's recommendations for acceptable roof deck material.
- B. Broom clean deck surfaces under eave protection and underlayment prior to their application.

3.3 DRIP EDGE INSTALLATION

- A. Refer to Section 07 62 00 FLASHING AND SHEET METAL.
 - 1. Place 8-inch drip-edge on the eaves and rakes tight to the fascia. Weather-lap joints 6 inches. Secure flange to roof decking with nails spaced 8 inches on center.

3.4 SELF-ADHERED WATERPROOF UNDERLAYMENT INSTALLATION

- A. General: Apply Waterproof Underlayment as protection in accordance with manufacturer's instructions.
 - 1. Clean the roof deck until it is free of dirt, dust, nails, and other materials. Provide a clean, dry and smooth deck surface to assure proper adhesion of the Waterproof Underlayment to the deck.
 - 2. Remove all remnants of roofing materials including the roofing felt and nails.
 - 3. Apply in any length. Align unrolled material with lower of roof and hold in place. Lift starting end of material approximately 1 foot, peel back and fold under at least 6 inches of both sheets of protective release film. Carefully return the exposed adhesive surface to the deck and press firmly in place.
 - 4. At air and or surface temperatures less than 45°F, tack Waterproof Underlayment in place with roofing nails. Reroll material from the other end until the peeled and folded back film is exposed.
 - 5. Minimum side and end overlaps: Six (6) inches.
 - 6. Application dimensions identified in this section are measured on the roof slope and are applicable after the Waterproof Underlayment has been overlapped.
- B. Eaves:
 - 1. Extend Waterproofing Underlayment as eave protection membrane 6'-0" minimum at roof eave and 3'-0" minimum up-slope past the interior face of exterior insulated walls below as shown on the Contract Drawings.
 - 2. At the eaves, when the Waterproof Underlayment does not overlap the gutter or fascia, install drip edge under the Waterproof Underlayment.
- C. Ridges:
 - 1. Extend Waterproof Underlayment as ridge protection membrane 1'-6" minimum down- slope from ridge.
 - 2. Coordinate with the installation of ridge vents, cut ridge vent opening prior to installation of ridge vent.
- D. At Walls:
 - 1. Extend Waterproof Underlayment as roof to wall protection membrane 8-inches minimum up walls and 2'-0" minimum onto roof.
- E. Penetrations:

1. For all penetrations, extend Waterproof Underlayment 3'-0" minimum on all sides.

3.5 SYNTHETIC FELT WATER RESISTANT UNDERLAYMENT INSTALLATION

- A. General: Apply Water Resistant Underlayment as roof weather protection in accordance with manufacturer's instructions.
 1. Clean the roof deck until it is free of dirt, dust, nails, and other materials. Provide a clean, dry and smooth deck surface.
 2. Standard-Slope Application (4:12 and Greater):
 - a. Starting at the lower edge of the roof, cover the entire deck by applying a single layer of Water-Resistant Underlayment parallel to the eaves, with printed side facing up.
 - b. Overlap all ends (vertical laps) at least 6" and "weather-lap" all sides (horizontal laps) at least 3".
 - c. Offset end laps from course to course at least 3 feet.
 - d. Apply flat and unwrinkled, carefully fastening as per this specification below.
 3. Fastening:
 - a. Do not use staples.
 - b. Fasten with 1 1/4" long nails with 3/8" diameter heads if new asphalt shingles will be installed in the same day.
 - c. Fasten with 1" diameter plastic cap nails if new asphalt shingles will not be installed immediately after underlayment installation.
 - d. Attach the underlayment by nailing a fastener through each diamond printed on the underlayment and tight to the surface. Proper fastener spacing is 15" On-Center (O.C.) vertically and 12" O.C. horizontally (parallel to eaves).
 - e. On vertical side/end laps install 8 fasteners equally spaced at 6" O.C. centered in the lap to hold the underlayment in place.
 4. Lap Sealing:
 - a. Where laps or joints require sealant or adhesive, use a high-quality asphalt roofing cement meeting ASTM D4586 Type II or cements/caulks based on butyl rubber or urethane.
 - b. It is particularly important to seal all lap seams in areas where the underlayment will be exposed to wind-driven rain.
 5. Exposure Limits:
 - a. Follow manufacturer's recommended exposure limits for underlayments.

3.6 ASPHALT SHINGLES INSTALLATION

- A. Install shingles in accordance with manufacturer's instructions for product type and application specified. Refer to Contract Drawings for additional shingle fastening requirements.
- B. Five-Course Diagonal Method (6" And 11"):

1. Apply underlayment as required.
 - a. For UL fire rating, apply flat and unwrinkled.
 - b. Snap chalk lines to assure shingles will be correctly aligned.

 - C. General:
 1. Expose all shingles 5 5/8".
 2. Do not align joints of shingles closer than 3 1/2".

 - D. Starter Course:
 1. For the first starter, cut 6" from one side of the starter shingle.
 2. Apply the remaining piece to the lower left corner of the roof.
 3. Provide 1/2" overhanging at the rakes and eaves.
 4. Use full length starter shingles for the rest of the course.

 - E. First Course:
 1. Apply a full shingle at the lower left corner of the roof.
 2. Install the lower edge and left edge flush with the edges of the starter course.

 - F. Second Through Fifth Courses:
 1. Cut 6" off the left end of the first shingle and save this piece for later use. Apply the 32 3/4" long piece over and above the first-course shingle. Leave the bottom 5 5/8" tab portion of the first-course shingle exposed.
 2. Cut 11" off the first shingle of the third course and save this for later. Install the 27 3/4" long piece over and above the second-course shingle.
 3. Apply the previously removed 11" long piece over and above the third-course shingle.
 4. Apply the previously removed 6" long piece from the second course over and above the fourth-course shingle.
 5. Install a full shingle against the right edge of each shingle in courses one through five.

 - G. Continuing Up the Roof:
 1. Beginning again with a full shingle, repeat the five-course pattern up the left rake.
 2. Fill-in courses across the roof in a stepped diagonal fashion using full shingles.
 3. Do not run courses straight across.
- 3.7 SHINGLE RIDGE CAP INSTALLATION
- A. Install in accordance with manufacturer's literature.
 - B. Provide hand sealing as needed to obtain manufacturer's 130 mph supplemental warranty.

3.8 PIPE PENETRATION FLASHING INSTALLATION

- A. Refer to Section 07 62 00 FLASHING AND SHEET METAL.
 - 1. Install in accordance with manufacturer's literature.
 - 2. For all penetrations, extend Waterproof Underlayment 3'-0" minimum on all sides.
 - 3. Provide hand sealing as needed to obtain manufacturer's 130 mph supplemental warranty.

3.9 EXHAUST VENT INSTALLATION

- A. Install in accordance with manufacturer's literature.
- B. For all penetrations, extend Waterproof Underlayment 3'-0" minimum on all sides.
- C. Provide hand sealing as needed to obtain manufacturer's 130 mph supplemental warranty.

3.10 FIELD QUALITY CONTROL

- A. Progress review of the work will be performed by the Architect.
- B. Final field inspection will be performed by the Architect in the company of the Roofing Manufacturer's Representative.

3.11 PROTECTION OF FINISHED WORK

- A. Protect finished work.
- B. Do not permit traffic over finished roof surface.

END OF SECTION

07 46 00
EXTERIOR SIDING

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Remove and install new wood siding as required to perform the roof replacement work at the dormers for installation of new flashing.
- B. Related Work for wood siding: The following items are not included in this Section and are specified under the designated Sections:
1. 02 41 00 SELECTIVE DEMOLITION
 2. 06 10 00 ROUGH CARPENTRY
 3. 07 31 00 ASPHALT SHINGLE ROOFING
 4. 07 56 30 FLUID APPLIED ROOFING RESTORATION
 5. 07 62 00 FLASHING AND SHEET METAL
 6. 07 90 00 SEALANTS

1.3 REFERENCES

- A. Siding
1. ASTM D5206; Standard Test Method for Wind Load Resistance.
 2. ASTM E 84; Standard Test Method for Surface Burning Characteristics of Building Materials.
 3. ASTM E 119; Standard Test Methods for Fire Tests of Building Construction and Materials.

1.4 DESIGN/PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Code compliance in accordance with the following:
1. IBC and IRC
 2. ICC Evaluation Service
 3. CCMC
 4. State of Massachusetts
- B. PVC Fire Resistance: Provide siding products that meet or exceed the following ratings:
1. Flame Spread Index < 25, smoke development rating <450, per ASTM E 84.
 2. Fire endurance classification of 1 hour, per ASTM E 119 in a wall assembly.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 35 00 SUBMITTAL PROCEDURES.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 12 inches long, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Provide installer with not less than three years of experience with products specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Refer to manufacturer's installation instructions for specific storage and handling requirements.

1.8 COORDINATION

- A. Coordinate installation of siding and accessories with interfacing and adjoining construction to provide a leak-proof, secure, and non-corrosive installation.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Protection:
 - 1. Protect substrates from environmental conditions that affect the performance of the weather barrier assembly.

1.10 WARRANTY

- A. Contractor Workmanship Warranty: Contractor's standard form in which the Contractor agrees to repair or replace any materials installed that do not comply with performance and other requirements specified in these documents within the specified guarantee period.
 - 1. Guarantee Period: Two (2) years from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. General: It is the intent of this project to perform select siding replacement as it affects the roof installation. New siding shall match the existing siding in color and profile as closely as possible.

2.2 MATERIALS

A. Wood Clapboard Siding and Components

1. Provide Rabbeted Bevel, wood clapboards as manufactured by Maibec (Levis, Quebec, Canada).
 - a. Species - Spruce-Fir (SPF) / Sound tight knot.
 - b. 4-1/4" Exposure.
 - c. Kiln-dried (KD) between 12% to 16% humidity.
 - d. Textured finish.
 - e. Color to match existing siding in the field. Provide sample to Owner and Architect for final approval.
 - f. Low-VOC stains.
2. Accessories
 - a. 1"x4" or 1"x3" furring strips kiln-dried, straight, without splits or nail holes to ensure a proper fastening base. Or composite such as Cor-A-Vent. Use bug screen at bottom of wall.
 - b. Use Maibec 2.5" hot-dipped zinc galvanized ring shank nail with textured head, factory-stained to match the siding color.
 - c. Use 2 1/2" coil nails for pneumatic nailers for siding. Make sure to check nail gun compatibility. Not color-matched.
 - d. Galvanized ventilated starter strip for horizontal siding.

2.3 ACCESSORIES

- A. J-Channel:
1. Standard width, 12 feet, 6 inches length.

2.4 FASTENERS

- A. Provide Stainless Steel corrosion-resistant nails as recommended by manufacturer of siding products.
1. Minimum head diameter of 5/16."
 2. Minimum fastener length: 1 1/2."

2.6 WEATHER BARRIER

- A. Provide self-adhered, water resistive, and vapor permeable sheet membrane weather barrier and accessory products are to be procured from a single manufacturer and from the same product line. Subject to compliance with the requirements of this Section.
 - 1. The Garland Company Inc.:
 - a. Air, Vapor and Water Barrier Membrane: Aero-Block SA.
 - b. Water-Based Primer: Garla-Prime WB.
 - c. Solvent-Based Primer: Garla-Prime.
 - d. Counterflashing for Masonry Through-Wall Flashings: Aero-Block SA.
 - e. Mastics, Adhesives and Tapes: As recommended by manufacturer.
 - f. Detail Sealants: Garla-Flex asphalt sealant, Tuff-Stuff polyurethane sealant or All-Sil silicone sealant
 - 2. Or approved equal.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared in accordance with the Manufacturer's installation instructions including temperature limitations.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.
- B. Do not begin installation until unacceptable conditions have been corrected.

3.3 WEATHER BARRIER GENERAL INSTALLATION

- A. Self-Adhering Sheet Air, Vapor and Water Barrier: Install membrane to provide continuity throughout the building envelope.
 - 1. Apply primer at rate of 0.5 gallons per 100 sq.ft. prior to membrane installation. Allow primer to dry completely before membrane application. Apply as many coats as necessary for proper adhesion.
 - 2. When membrane is properly positioned, press into place and roll membrane with roller immediately after placement.
 - 3. Apply membrane sheets to shed water naturally without interception by a sheet edge, unless that edge is sealed with permanently flexible termination mastic.
 - 4. Position subsequent sheets of membrane applied above so that membrane overlaps the membrane sheet below by a minimum of 3 inches. Roll into place with roller.
 - 5. Overlap horizontally adjacent pieces a minimum of 6 inches. Roll seams with

- roller.
6. Seal around all penetrations with asphalt mastic, membrane counterflashing or other procedure in accordance with manufacturer's recommendations.
 7. Connect air, vapor and water barrier in exterior wall assembly continuously to the air barrier of the roof, to concrete below-grade structures, to windows, curtain wall, storefront, louvers, exterior doors and other intersection conditions and perform sealing of penetrations, using accessory materials and in accordance with the manufacturer's recommendations.
 8. At changes in substrate plane, provide transition material (bead of sealant, mastic, membrane counterflashing or other material recommended by manufacturer) under membrane to eliminate all sharp 90 degree inside corners and to make a smooth transition from one plane to another.
 9. Provide mechanically fastened non-corrosive metal sheet to span gaps in substrate plane and to make a smooth transition from one plane to the other. Membrane shall be continuously supported by substrate.
 10. At through-wall flashings, provide an additional 6 inch wide strip of manufacturer's recommended membrane counterflashing to seal top of through-wall flashing to membrane. Seal exposed top edge of strip with bead of mastic or asphalt sealant.
 11. At deflection and control joints, provide backup for the membrane to accommodate anticipated movement.
 12. At expansion and seismic joints, provide transition to the joint assemblies.
 13. Apply a bead or trowel coat of mastic along membrane seams at reverse lapped seams, rough cuts, and as recommended by the manufacturer.
 14. At end of each working day, seal top edge of membrane to substrate with asphalt mastic.
 15. Do not allow materials to come in contact with chemically incompatible materials.
 16. Do not expose membrane to sunlight for longer than 90 days.
 17. Inspect installation prior to enclosing assembly and repair punctures, damaged areas and inadequately lapped seams with a patch of membrane lapped as recommended by manufacturer.

3.4 WOOD SIDING INSTALLATION

- A. Install products in accordance with the latest printed instructions of the manufacturer.
- B. Installer shall have required certifications from manufacturer.
- C. Install products with all components true and plumb.
- D. Siding Installation:
 1. Refer to manufacturer's installation guidelines.
 2. Refer to Installation Manual for latest installation recommendations.
 - a. Allow 1/4" to 3/8" gap between end of siding and fixed elements for thermal movement.

- E. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches.
- F. Install J-channel and flashing to accommodate successive courses of vertical siding.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 CLEANING

- A. At completion of work, remove debris caused by siding installation from project site.

END OF SECTION

07 56 30
FLUID APPLIED ROOFING RESTORATION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SECTION INCLUDES

- A. SBS Roof Restoration
- B. Accessories

1.3 REFERENCES

- A. ASTM D 1475 - Standard Test Method for Density of Liquid Coatings, Inks, and Related Products.
- B. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
- C. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
- D. ASTM D 4479 - Standard Specification for Asphalt Roof Coatings - Asbestos-Free.
- E. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces
- F. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- G. SRI - Solar Reflectance Index calculated according to ASTM E 1980.
- H. ANSI/SPRI ES-1 - Testing and Certification Listing of Shop Fabricated Edge Metal
- I. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

1.4 SYSTEM DESCRIPTION

- A. SBS Modified Bitumen Fluid Applied Roof Restoration with Polyurea:
Scope of Work.
 - 1. Contractor responsible for full removal and abatement of all existing ACM.
 - 2. Water test all drains and ensure proper function prior to beginning work. Notify owner of any deficiencies.

3. Replace wet insulation, base sheet, and cap sheet SBS membrane in kind as noted on drawings.
4. Cut open any blisters, splits, or damaged cap sheet. Clean and repair with 3 course of **Polyurea Coating** and **Polyester Soft Fabric**.
5. Existing mastic in good condition can be primed with **Water Based Acrylic Stain Blocker** and coated over. Failed mastic must be removed and replaced with new **asphaltic mastic**.
6. Pressure wash roofing membrane, allow to dry. Properly dispose of any debris.
7. Pipe Penetrations: All pipe penetrations to be flashed in with lead jacks, set in mastic.
8. Pitch Pockets: Remove all existing mastic. Install non-shrink grout on the bottom half and fill the top half with Pourable Sealer.
9. Install polyurea base coat – **Polyurea Base** – at 2.0 gallons per 100 square ft. over the entire roof surface and base flashings and fully embed polyester – **Polyester Soft** – into it while wet. Broom the polyester into place for full saturation. Install an additional coat of polyurea base – **Polyurea Base** – at 2.0 gallons per 100 square ft on top of the polyester immediately after the polyester is broomed in. Total of 4.0 gallons per 100 square feet of **Polyurea Base**.
10. Allow 24-36 hours for cure time.
11. Install polyurea top coat at rate of 2.0 gallons per 100 square ft. in cross-hatched fashion over entire roof. Coating must be back rolled.
12. Conduit: Replace all wood block supports with new rubber blocks.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
 4. Performance data.
- B. Verification Samples: For each product specified, two samples, minimum size 6 inches square, representing actual product, and color.
- C. Adhesion Test Results: An adhesion test shall be performed on the roof that is to be restored by the manufacturers rep with the owner present to verify results. The adhesion test involves applying specified coating, embedding polyester fabric then saturating the fabric with the coating once again and the coating shall then be allowed to cure. After the coating has cured, attach the polyester fabric to a hand held scale and pull away to observe the pull strength. Results must be 2 pounds per linear inch or greater for acceptable adhesion to the substrate. Failure to present adhesion test

results will result in an immediate rejection of the submittal.

- D. Manufacturer's Site Supervision Letter: Certify that site supervision shall be provided by roofing manufacturer representative on a daily basis during the duration of the project. Daily progress reports, complete with pictures and descriptions of that day's work, shall be submitted to the owner at the end of each day during the duration of the project. Failure to submit letter will result in an immediate rejection of the submittal.
- E. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer.
- G. Yearly Roof Inspections: Provide a letter stating yearly roof inspections be made at no additional cost to the owner, shall be provided for the life of the warranty, inspection reports shall be provided for owner's records. Any deficiencies in the roof coating shall be corrected at no additional cost to the owner (labor and material). Failure to submit letter will result in an immediate rejection of the submittal.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum ten years documented experience and a certified Pre-Approved Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.

- B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations, and other preparatory work.
 - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - 4. Review roofing system requirements, Drawings, Specifications, and other Contract Documents.
 - 5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 6. Review required inspection, testing, certifying procedures.
 - 7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
 - 8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50-degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner.
- F. Storage shall be between the range of above 50-degree F and below 80-degree F. Area of storage shall be constructed for flammable storage.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.
- C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
 - 1. Close air intakes into the building.
 - 2. Have a dry chemical fire extinguisher available at the jobsite.
 - 3. Post and enforce "No Smoking" signs.
- F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.
- G. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75-degrees F (24-degrees C) and 50 percent relative humidity or until fully cured.
- H. Take precautions to ensure that materials do not freeze.
- I. Minimum temperature for application is 40-degrees F (4-degrees C) and rising for solvent-based materials and 50 degrees F (10 degrees C) and rising for water based.

1.10 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
 - 1. Warranty Period: 10 years
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
 - 1. Warranty Period: 2 years from date of acceptance.

PART 2 - PRODUCTS

2.1 PRODUCT SYSTEMS DESCRIPTION

- A. It is the intent of this specification to install a long-term, quality roof system that meets or exceeds all current NRCA guidelines as stated in the most recent edition of the NRCA Roofing and Waterproofing Manual.
- B. When a performance standard is specified, it shall be indicative of a standard required.
- C. Any item or materials submitted to the performance specified must comply in all respects as to the quality and performance specified. The Architect shall be the sole judge as to whether or not an item submitted meets the specifications.

2.2 COATING MATERIALS

- A. Field Coating & Flashings:
 - 1. Coating: Multi-purpose, 100% solids, two-part, fast-cure, polyurea liquid waterproofing membrane having the following characteristics:
 - a. Elongation, ASTM D 412: 433%
 - b. Tensile Strength, ASTM D 412: 2300 psi
 - c. Tear Resistance, ASTM D 624: 449 lbs./in
 - d. Low Temperature Flexibility, ASTM D522: -60°F (-51.1°C)
 - e. Hardness, ASTM D2240 (Shore A): 80
 - f. Toughness: 193 ft.-lbf/ft²
 - g. Density @ 77° F (25° C, ASTM D 2939) 9.6 lb./gal (1.2 g/m³)
 - h. Flash Point: ASTM D 93, 110°F min. (43°C)
 - i. VOC: 0 g/l
 - j. Microbial Resistance: ASTM G21, No Microbial Growth

2.3 ROOF RESTORATION SYSTEM FOR SBS MODIFIED BITUMEN ROOFS

- A. Polyurea Roof Coating:
 - 1. Primer: **Water Based Acrylic Stain Blocker**
 - 2. Coating: **Two-Part, Fast-Cure, Polyurea.**
 - 3. Flashing: Repair or replace as needed.
 - 4. Field of Roof: Full coat across the entire roof as specified.
 - 5. Surfacing: None.

2.4 ACCESSORIES:

- A. Urethane Adhesive - Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
 - 1. Elongation, ASTM D 412: 300%
 - 2. Hardness, Shore A, ASTM C 920: 50
 - 3. Shear Strength, ASTM D 1002: 300 psi
- B. Pitch Pocket Sealer - Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
 - 1. Durometer, ASTM D 2240: 40-50 Shore

2. Elongation, ASTM D 412: 250%
 3. Tensile Strength, ASTM D 412: 200 @ 100 mil
- C. Primer: Water Based Acrylic Stain Blocker
- D. Base (Ply) Sheet:
1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - i. 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
 - ii. 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
 - b. Tear Strength, ASTM D 5147
 - i. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
 - ii. 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - i. 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
 - ii. 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)
- E. Thermoplastic/Modified Cap (Ply) Sheet:
1. 145 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced, rubber modified roofing membrane with fire retardant characteristics, and dual fiberglass reinforced scrim. ASTM D 6163, Type III Grade G
 - a. Tensile Strength, ASTM D 5147
 - i. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
 - ii. 50 mm/min. @ 23 +/- 2 deg. C MD 39.0 kN/m XD 39.0 kN/m
 - b. Tear Strength, ASTM D 5147
 - i. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
 - ii. (50 mm/min. @ 23 +/- 2 deg. C MD 1335 N XD 1335 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - i. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 6% XD 8%
 - ii. 50 mm/min. @ 23 +/- 2 deg. C MD 6% XD 8%
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -15 deg. F (-26 deg. C)
- F. Inter-Ply Adhesive:
1. Rubberized, polymer modified cold process asphalt roofing bitumen V.O.C. compliant ASTM D 3019. Performance Requirements:
 - a. Non-Volatile Content ASTM D 4479 70%
 - b. Density ASTM D1475 8.9 lbs./gal.
 - c. Viscosity Stormer ASTM D562 400-500 grams
 - d. Flash Point ASTM D 93 100 deg. F min. (37 deg. C)
 - e. Slope: up to 3:12

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.

3.2 ROOF PREPARATION AND REPAIR

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Repair all defects such as saturated insulation board, replace loose or brittle membrane or membrane flashings. Verify that existing conditions meet the following requirements:
 - 1. Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
 - 2. Application of roofing materials over a brittle roof membrane is not recommended.
- C. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.
- D. Clean and seal all parapet walls, gutters, and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints, and penetrations where water could enter the building envelope.
- E. Clean the entire roof surface by removing all dirt, algae, paint, oil, talc, rust, or foreign substance. Use a 10 percent solution of TSP (tri-sodium phosphate), Simple Green and warm water. Scrub heavily soiled areas with a brush. Rinse with fresh water to remove all TSP solution. Allow roof to dry thoroughly before continuing.
- F. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects (cracks, blisters, tears) must be repaired with similar materials.
- G. Pre-Treatment of Known Growth - General Surfaces: Once areas of moss, mold, algae and other fungal growths or vegetation have been removed and surfaces have also been thoroughly cleaned, apply a biocide wash at a maximum spread rate of 0.2 gallons/square (0.08 liters/m), to guard against subsequent infection. Allow to dry onto absorbent surfaces before continuing with the application. On non-absorbent surfaces, allow to react before thoroughly rinsing to remove all traces of the solution.

3.3 INSTALLATION

- A. General Installation Requirements:
 - 1. Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the manufacturer.
 - 2. Cooperate with manufacturer, inspection and test agencies engaged or required to

perform services in connection with installing the roof system.

3. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
4. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.
5. All primers must be top coated within 24 hours of application. Re-prime if more time passes after priming.
6. Keep roofing materials dry during application.
7. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
8. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

B. Mineral Modified Roof Restoration: Renovation work includes:

1. Surface preparation: Remove dirt, and debris.
2. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
3. Roof Repairs: Repair blisters, holes, cuts, cracks, splits or other surface defects. Loose or damaged modified bitumen laps must be resealed/repaired.
4. Coating Mixing Procedure:
 - a. Mix Part A liquid for one minute using an electric heavy duty power drill and Jiffy mixer blade.
Slowly pour contents of Part B jug, located inside the Part A pail, into the Part A container and mix the two components together for two minutes moving the Jiffy blade from top to bottom and along the sides to ensure the product is thoroughly mixed. Always mix entire kit contents together as packaged. Do not break down into smaller quantities.
5. Application of Polyurea Base:
 - a. Apply Polyurea Base about 40 inches wide to surface at a rate of 2.0 gallons per 100 SF over granule modified bitumen.
 - b. Use a notched squeegee to spread coating and roller apply with ¾" nap roller to obtain uniform coverage.
 - c. Do not apply coating too far ahead so coating does not dry.
 - d. Ensure roller is fully saturated with coating and back roll over the surface to fully saturate.
 - e. Immediately apply an additional coat of Polyurea Base at the rate of 2.0 gallons per 100 SF to fully saturate.
 - f. Allow to dry, but no more than 72 hours before applying top coat.
6. Application of Top Coat
 - a. Apply top coat of Polyurea at 2.0 gallon per 100 SF to clean and dry reinforced base coat application.
7. Liquid Flashings:
 - a. All flashings are coated in the same manner as the field prior to field

- application.
- b. Vertical liquid flashings shall run a minimum of 4" onto the horizontal surface.

3.4 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles, and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.5 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes, and the like to protect personnel, roofs and structures, vehicles, and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.6 FIELD QUALITY CONTROL

- A. Require attendance of roofing materials manufacturers' representatives at site daily during installation of the roofing system.
- B. Perform field inspection and testing as required by the specifications.
- C. Correct defects or irregularities discovered during field inspection.

3.7 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs, and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.
- D. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.8 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

07 60 00
BOX GUTTER AND MEMBRANE ASSEMBLY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide all labor, equipment, and materials fabricate and install the following:
1. Install gutter liner system in existing gutters.
- B. Related Sections:
1. 07 31 00 ASPHALT SHINGLE ROOFING
 2. 07 62 00 FLASHING AND SHEET METAL

1.3 SUBMITTALS

- A. COORDINATION OF SUBMITTALS
1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 2. Verify that each item and the submittal for it conform in ALL respects with the specified requirements.
 3. By affixing the Contractor's signature or approval stamp to each submittal, he/she certifies that this coordination has been performed.
- B. SUBSTITUTIONS
1. The Contract is based on the standards of quality established in the Contract Documents. Use of any materials or methods other than those specified will require the proper submittal information outlined in paragraph 1.3 of this section. These submittals must be received a minimum of fourteen (14) days prior to the bid opening and be pre-approved in written addenda before bids are accepted by the building owner.
 2. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved by addenda for this Work by the Owner prior to receipt of bids.
 3. Building owner reserves the right to final authority on acceptance or rejection of any substitute.
 4. Request for substitutions will be accepted from prime bidders only. Requests for substitutions from parties not bidding on the project as a primary contractor will not be considered.

C. SUBMITTAL DOCUMENTS

1. All proposed material substitutions must submit the following documentation with their submittals Fourteen (14) days prior to the bid due date.
2. A list of (5) jobs of similar size where the proposed alternate materials have been used.
3. Copy of roofing supplier's warranty which meets all requirements of the specified warranty.
4. Product samples of the smallest standard packaged size of any adhesive, coating, mastic, sealant, or ply sheet.
5. Individual product identification, including manufacturer's literature and MSDS sheets.
6. Letter from the material supplier signed by a corporate officer, on company stationery, confirming that all bidding documents have been approved, that the site has been inspected and meets the requirements for suitability, and that the specified warranty shall be provided upon satisfactory completion of the project.
7. In addition, any proposed substitute materials or methods must also be accompanied by the following documentation: A detailed analysis of the roof being bid on and a complete specification of the proposed substitute.

1.4 QUALITY ASSURANCE

A. Reference Standards

1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.

B. If required, fabricator/installer shall submit work experience and evidence of adequate financial Responsibility. The owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

C. Successful contractor must obtain all components of roof system from a single manufacturer including any roll good materials if required. Any secondary products that are required which cannot be supplied by the specified manufacturer must be recommended and approved in writing by primary manufacturer prior to bidding.

D. Manufacturer shall have in place a documented, standardized method for maintaining quality control such as ISO-9001 approval.

E. The manufacturer's representative shall conduct all required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections on a weekly basis.

1.5 MANUFACTURER'S INSPECTIONS

A. 3 days per every 5 working days that the installer is on site performing work.

B. Inspector to be a full time employee of the primary roofing components manufacturer.

- C. The reports are to include pictures of the days progress made by the installer and a detailed report as to the work performed that day.
- D. Roof manufacturer's inspector must have a minimum of 5 years' experience with said roofing manufacturer and be an employee of the manufacturer warranty the roof system.
- E. The roofing manufacturer will provide an annual inspection of the system with a details report outlining inspection at no cost to the owner. The report will notify the owner of any routine housekeeping such as cleaning of drains, damage, etc.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

1.7 JOB CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal roofing system.
- B. Protection
 - 1. Provide protection or avoid traffic on completed roof surfaces.
 - 2. Do not overload roof with stored materials.
 - 3. Support no roof-mounted equipment directly on the roofing system.
 - 4. Follow all Local and Federal OSHA Safety Standards at a minimum.
 - 5. **A full time safety monitor will be required for this project whose sole responsibility is to manage all safety related items. This person shall not perform any other function than monitoring safety protocols on site. Safety monitor to be wearing clothes that designate him/herself as such.**
- C. Ascertain that the work of other trades which penetrates the roof is to be made water-tight by the time the roof is in place, or an approved time prior to installation of roofing.

1.8 WARRANTIES

- A. Manufacturer's Warranty
 - 1. Roofing manufacturer of the PVB membrane shall provide a written 20-year limited product warranty.

- B. Contractor's Warranty
 - 1. The Contractor shall provide the Owner with a written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of (2) two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Cleveland OH.
- B. Alternate Manufacturers
 - 1. Bidders including materials other than basis of design manufacturer shall follow all submittal protocols as specified above for substitutions of materials.

2.2 MATERIALS

- A. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate in Flashing Adhesive.
 - 1. Gutter liner membrane must be a PVB (Polyvinylbutyral) waterproofing membrane with a nominal thickness of 110 mils. The membrane must have an aluminum scrim for reinforcement giving it the strength and rigidity for the application as a gutter lining membrane.
 - 2. Basis of Design: GreenWeld PVB Membrane by The Garland Co. / Viking Products Group, Inc., Cleveland Ohio.
 - 3. Or Equals must be submitted to owner 14 days prior to bid date, see Submittals section for additional information on all information required to submit.
 - 4. Performance Criteria:
 - i. Weight: 0.85 lbs per sq. ft.
 - ii. Nominal Thickness: 110 mils
(ASTM D751)
 - iii. Thickness Over Reinforcement: Approx. 40 mils
 - iv. Reinforcement: Aluminum
 - v. Reflectance, initial: 0.21
(ASTM E 1918)
 - vi. Compound Stability: Passed 225°F
(ASTM D 5147)
 - vii. ASH content, polymer only: 3.18%
(test: heat to 1200°F for 5 hours)
 - viii. Breaking Strength, (lbf): MD – 83 (XD – 170)
(ASTM D751, proc. B)
 - ix. Elongation at Break, strip, min., %: MD – 152 (XD – 117)
(ASTM D751, proc. B - strip)
 - x. Tearing Strength, min. lbf: MD – 46 (XD – 43)

- (ASTM D 751)
xi. Low Temperature Flexibility (°F) -60°F Pass
(ASTM D 2136)

- B. Flashing Adhesive: Green-Lock SA - single component, polyether structural adhesive. Or equal as recommended by approved equal membrane manufacturer and that meets the following performance criteria:
1. Hardness Shore A (ASTM C 661) 50-55 ± 3
 2. Shear Strength (ASTM D 1002) 300+ psi
 3. Tack-Free Time (ASTM C 679) 35 minutes
 4. Slump (sag) (ASTM C 697) 0 slump
 5. Shrinkage: No measurable shrinkage after 14 days
 6. Low Temperature Flex: Pass ¼ in. mandrel -20°F (-28.8°C)
 7. Service Temperature -40°F to 200°F (-40°C to 93°C)
 8. Specific Gravity 1.62 (13.5/gal)
 9. Viscosity @ 70°F (20°C) Brookfield RVF, TF spindle, 4 RPM, 800,000+ cPs

2.3 ACCESSORIES

- A. Poly-Faced Fiberglass batt insulation. To match existing thickness (to be field verified). Sourced to match existing insulation type by other manufacturer than roofing manufacturer.
- B. Foam Closure for existing roof panels. Sourced to match existing roof panel.
- C. Urethane Sealant Hybrid - One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
- D. Or equal as recommended by approved equal membrane manufacturer and that meets the following performance criteria:
1. Tensile Strength, ASTM D 412: 250 psi
 2. Elongation, ASTM D 412: 450%
 3. Hardness, Shore A ASTM C 920: 35
 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- E. Butyl Tape – Rmer Lite II Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal between metal components.
- F. Or equal as recommended by approved equal membrane manufacturer.
- G. Rust Inhibiting Primer: Rust-Go Primer - fast drying alkyd primer specifically designed as a rust inhibitive primer for existing metal roofs with non-lifting properties.
- H. Or equal as recommended by approved equal membrane manufacturer and that meets

thefollowing performance criteria:

1. Flash Point, 40°F (4.4°C) min
 2. Solids by Weight 69.9% ± 2.0%
 3. Solids by Volume 52.5% ± 2.0%
 4. Viscosity @ 77°F (25°C) 70 ± 5 KU
 5. Dry Time @ 77°F (25°C) To Touch: 30 – 60 min. Tack Free: 24 hrs
 6. Weight/Gallon 12.14 lbs.
- I. Aluminum Roof Paint: Garla-Brite - non-fibered, asphalt-based aluminum roof paint. Or equal as recommended by approved equal membrane manufacturer and that meets the following performance criteria:
1. Flash Point (ASTM D 93) 103°F (39°C) min
 2. Density @77°F (25°C) (ASTM D 1475) 8.51 lbs./gal. (1.02 g/cm³)
 3. Typical Drying Time @ 50° RH, 77°F (25°C) Overnight
 4. Service Temperature -20°F to 230°F (-29°C to 110°C)
 5. Non-Volatile (ASTM D 2824) 45% min
 6. Wet Film Thickness @ 1 gal. (3.8 l) 16 mils (406.4 microns)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect contact areas of dissimilar metals with heavy asphalt or other approved coating, specifically made to stop electrolytic action.

3.2 GENERAL

- A. Install work watertight, without waves, warps, buckles, fastening stress, or distortion, allowing for expansion and contraction.
- B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, Factory Mutual I-90 wind uplift specifications and/or manufacturer's recommendations whichever is of the highest standard.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.

3.3 INSPECTION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, cant strips and reglets are in place, and nailing strips located.
- B. Verify membrane termination and base flashings are in place, sealed, and secure.

- C. Beginning of installation means acceptance of existing conditions.
- D. Field measure site conditions prior to fabricating work.

3.4 FLASHING MEMBRANE INSTALLATION

- A. Prepare surface of existing gutter assembly for the installation of the gutter liner assembly as outlined in the drawings and in the manufacturer's installation instructions.
- B. Install flashing membrane continuously in the entire gutter assembly.
- C. Heat weld the PVB membrane seams together using hot air welding gun and a flat angled tip set at manufacturer's recommended heat settings. Basis of Design Manufacturer recommends using a Leister heat gun or equal tool. Use a weighted hand-roller while heatwelding the seams.
- D. No open flame should be used with this product to weld the seams.
- E. Install in gutter to avoid creating back water laps, installing top membrane at the higher side of the gutter, heat welding the lower membrane to the top and sealing with approved sealant up the sides of the gutter and at top.
- F. Roll or brush membrane into adhesive to insure full contact to the gutter. Form membranewith roller and putty knife to conform to all angles of the gutter.
- G. Set the PVB membrane in beads of approved sealant/adhesive at 12" O.C. to all surfaces.
- H. Seams of membrane shall be heat welded and seal all seams or edges of the product with approved sealant.
- I. The membrane shall run continuously over all surfaces of the top side of the gutter specifically under the existing trimmed roof panel; to be sandwich between new panel line, sealants, and fastener. Membrane shall terminate flush with the edge of the new gutter flange and shall not be exposed or visible from the underside.

END OF SECTION

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FLASHING AND SHEET METAL

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide all labor, equipment, and materials fabricate and install the following.
1. Edge strip and flashing.
 2. Fascia and trim.
 3. Counterflashings for roof accessories.
 4. Base flashing coverings.
 5. Fascia and edge metal.
 6. Other components.
 7. Flashing around base of chimneys.
 8. Gutter and Downspouts
- B. Drawing and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- C. Related Sections:
1. 02 41 13 - SELECTIVE DEMOLITION
 2. 06 10 00 - ROUGH CARPENTRY
 3. 07 31 00 - ASPHALT SHINGLE ROOFING
 4. 07 46 00 - EXTERIOR SIDING
 5. 07 56 30 - FLUID APPLIED ROOFING RESTORATION
 6. 07 90 00 - SEALANTS

1.3 REFERENCES

- A. ASTM A-446 Specification for steel sheet
- B. ASTM B-209 Specification for aluminum sheet
- C. ASTM B-221 Specification for aluminum extruded shape
- D. FS QQ-L-201 Specification for Lead Sheet
- E. ASTM A792 Steel Sheet, Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process
- F. ASTM B32 Solder Metal

G.	ASTM B209	Aluminum and Alloy Sheet and Plate
H.	ASTM B486	Paste Solder
I.	ASTM D226	Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
J.	ASTM D486	Asphalt Roof Cement, Asbestos-free
K.	FS O-F-506	Flux, Soldering, Paste and Liquid
L.	FM	Loss Prevention Data Sheet
M.	NRCA	National Roofing Contractors Association - Roofing Manual
N.	SMACNA	Architectural Sheet Metal Manual

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's specification data sheets for each product.
- B. Provide approval letters from metal manufacturer for use of their metal within this particular roofing system type.
- C. Submit two samples, 12 x 12 inch in size illustrating typical external corner, internal corner, valley, junction to vertical dissimilar surface, material and finish.
- D. Shop Drawings
 - 1. For manufactured and shop fabricated gravel stops, fascia, scuppers, and all other sheet metal fabrications.
 - 2. Shop drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations and installation details.
 - 3. Indicate type, gauge and finish of metal.
- E. Certification
 - 1. Submit roof manufacturer's certification that pre-fabricated perimeter system furnished is acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
 - 3. Submit certification that metal and fastening system furnished is Tested and Approved by Factory Mutual for 1-90 Wind Up-Lift Requirements.
- F. Manufacturer's Product Data
 - 1. Metal material characteristics and installation recommendations.
 - 2. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.

1.5 QUALITY CONTROL

- A. Reference Standards
 - 1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.

2. Factory Mutual Loss Prevention Data Sheet windstorm resistance 1-90.

B. Contractor's Warranty

1. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

1.6 QUALITY ASSURANCE

- A. Engage an experienced metal roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years' experience.
- B. Successful contractor is required to maintain a full-time supervisor/foreman who is on the job-site at all times during installation of the new roof perimeter flashing. Foreman must have a minimum of five (5) years' experience with the installation of similar system to that specified.
- C. Successful contractor must obtain all components of roof system from a single manufacturer including any roll good materials, if required. Any secondary products that are required, which cannot be supplied by the specified manufacturer, must be recommended and approved in writing by the primary manufacturer prior to bidding.
- D. If required, fabricator/installer shall submit work experience and evidence of adequate financial responsibility. The owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials, which may cause discoloration or staining.

1.8 JOB CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

1.9 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:
 - 1. Completed metal edge flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

PART 2 - PRODUCTS

2.1 APPROVED EQUIVALENT

- A. Contractor must submit any product that is not specified a minimum ten days before the bid date to Architect in order for product to be considered for approval. The Architect will notify Contractor, in writing, of decision to accept or reject request.

2.2 MATERIALS

- A. Pre-Manufactured Edge Metal: Flash-less Snap-On Fascia Cover and Splice Plate.
 - 1. Aluminum, ASTM B209, .040" nom.
- B. Pre-Manufactured Edge Metal: Flash-less Snap-On Fascia Extruded Base Anchor and Components.
 - 1. Base Anchor: 6005A-T61 extruded aluminum.
 - 2. Compression Seal for top of anchor: TPE thermoplastic elastomer.
 - 2. Sealant for Flange: Single-component high performance 100% solids, interior and exterior polyether joint sealant.
- C. Masonry wall flashings, reglet and step flashings shall consist of 20 ounce tin-zinc coated copper flashing, such as Freedom Gray as manufactured by Revere Copper Products or approved equal.
- D. Sheet metal flashing should be compatible with adjacent sheet metal flashing and preformed metal paneling that is designated to remain. Confirm compatibility prior to ordering materials.
- E. All accessories, including but not limited to nails, screws and clip strips shall be copper, brass, or stainless steel and completely compatible with the surrounding metal to prevent galvanic reaction.

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FLASHING AND SHEET METAL

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- F. Rivets shall be 3/16" diameter copper, or stainless steel as required by the metal being secured.
- G. Nails for flashing securement at wood substrates shall be No. 12 Stubbs gauge, large head, threaded shank, copper or galvanized steel nails minimum 1" long.
- H. Gutter and Downspouts
 - 1. Gutters and downspouts shall consist of a metal scupper system fabricated to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 2. Gutters:
 - a. Material: Aluminum
 - b. Thickness: 0.032 inch minimum
 - c. Sizing Guide for Gutters: 5" W, K-Style
 - 3. Downspouts:
 - a. Material: Aluminum
 - b. Thickness: 0.032 inch minimum
 - c. Sizing guide for Downspouts: plain rectangular 3"x4"
 - d. Downspout straps shall be 1/16" x 1" minimum and of the same material as the downspout. Coordinate downspout attachment with wood siding.
 - e. Coordinate downspout outlets with new concrete splash blocks.
 - 4. Gutter and Downspout Accessories:
 - a. Finish shall consist of pre-finished fluoropolymer coated aluminum. Color shall be selected by Owner from manufacturer's standard color chart to match existing.
 - b. Provide fully welded miters, end caps, hangers, outlets, expansion joints, fasteners and other accessories for a complete installation.
 - c. Brackets shall be heavy-duty, non-penetrating externally mounted.
 - d. Internal straps shall be heavy plate aluminum.
 - e. Aluminum or galvanized steel wire ball downspout strainer to match gutter outlet diameter.
 - f. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
 - g. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

2.3 RELATED MATERIALS

- A. Metal Primer: Zinc chromate type.
- B. Plastic Cement: ASTM D 4586.

- C. Sealant: Single-component high performance 100% solids, interior and exterior polyether joint sealant.
- D. Lead: Meets Federal Specification QQ-L-201, Grade B, four pounds per square foot.
- E. Fasteners:
 - 1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
 - 2. Fastening shall conform to Factory Mutual 1-90 requirements or as stated on section details, whichever is more stringent.
- F. Gutter stiffener bars:
 - 1. Shall be aluminum unless otherwise recommended by membrane manufacturers. Confirm compatibility with existing gutter to remain.
 - 2. Material shall be .125" x 1" (minimum) aluminum conforming to ASTM B-221, mill finish.

PART 3 – EXECUTION

3.1 PROTECTION

- A. Dissimilar metals shall not be allowed to come in contact with each other. Isolate any dissimilar metals, masonry or concrete, from metals using bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive actions.

3.2 GENERAL

- A. Fascia and copings shall be secured to wood nailers at the bottom edge with a continuous cleat.
- B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, Factory Mutual I-75 wind uplift specifications and/or manufacturer's recommendations whichever is of the highest standard.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
- D. Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using continuous cleats, clips and fasteners as required by the system. No exposed face fastening shall be accepted.

3.3 INSPECTION

- A. Verify curbs are solidly set and nailing strips located.

- B. Beginning of installation means acceptance of existing conditions.
- C. Field measure site conditions prior to fabricating work.
- D. Edge metal installation shall not disrupt other trades. Verify that substrate is dry, clean and free of foreign matter.

3.4 MANUFACTURED SHEET METAL SYSTEMS

- A. Installing Contractor shall be responsible for determining if the edge metal systems are in general conformance with roof manufacturer's recommendations.
- B. Furnish and install manufactured edge metal systems in strict accordance with manufacturer's printed instructions.
- C. Provide all factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc.

3.5 SHOP FABRICATED SHEET METAL

- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
- B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- C. Hem exposed edges.
- D. Angle bottom edges of exposed vertical surfaces to form drip.
- E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.
- F. Joints for gravel stop fascia system, cap flashing, and surface-mount counterflashing shall be formed with a 1/4" opening between sections. The opening shall be covered by a cover plate or backed by an internal drainage plate formed to the profile of fascia piece. The cover plate shall be embedded in mastic, fastened through the opening between the sections and loose locked to the drip edges.
- G. Install sheet metal to comply with Architectural Sheet Metal manual, Sheet Metal and Air Conditioning Contractor's National Associations, Inc.

3.6 PREFORMED ALUMINUM DRIP EDGE INSTALLATION

- A. Minimum 0.032" F-style drip edge, brake-formed to provide a minimum 1¼" inch flange with 3/8" drip at lower edge by minimum 6" roof deck flange. Furnish in 8' or 10' lengths. Do not install drip edge in pieces shorter than 24" lengths.

3.7 PREFORMED PIPE PENETRATION FLASHINGS INSTALLATION

- A. Vent Pipe Flashings
 1. Install new vent pipe flashings in accordance with manufacturer's written instructions.
 2. Use provided fasteners consistent with manufacturer's instructions, suitable for the substrate to which it is being installed.
 3. Protect installed products until completion of project.
- B. Hot Pipe Flashings
 1. Install new hot pipe flashings in accordance with manufacturer's written instructions.
 2. Use provided fasteners consistent with manufacturer's instructions, suitable for the substrate to which it is being installed.
 3. Protect installed products until completion of project.

3.8 STEP FLASHINGS

- A. Sheet metal step flashings shall be 10" wide and 12" long with 3" head lap or as required to match sizing of existing slate. Secure flanges to roof deck and strip in with an additional layer of the modified bitumen roof underlayment.

3.9 COUNTERFLASHING

- A. Install sheet metal counterflashings where indicated at roof to wall terminations, unit curbs, etc.
- B. All fasteners shall be concealed. Secure bottom edges of skirt flashings and counterflashings with clips spaced at 8" on center.

3.10 GUTTERS AND DOWNSPOUTS

- A. Install full unbroken lengths.
- B. Field fabricate gutters from specified gage.
- C. Install gutters to conform with provisions for expansion per SMACNA requirements.
- D. Install downspout straps at maximum 10 foot intervals.
- E. Attach downspout straps no greater than 5 feet away from end limits of downspouts.
- F. Where downspouts discharge to grade, elevate downspout discharge 4" above finished grade and new concrete splash blocks.

3.11 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

07 90 00
SEALANTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Joint sealants and fillers.
- B. This Section includes joint sealants for the applications specified with the products in this Section and as indicated on Drawings.
- C. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. 02 41 13 SELECTIVE DEMOLITION
 2. 06 10 00 ROUGH CARPENTRY
 3. 07 46 00 EXTERIOR SIDING
 4. 07 31 00 ASPHALT SHINGLE ROOFING
 5. 07 56 30 FLUID APPLIED ROOFING RESTORATION
 6. 07 62 00 FLASHING AND SHEET METAL

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Qualification Data: For Installer.

- D. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.
- E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Field Test Report Log: For each elastomeric sealant application.
- G. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. For exterior masonry and window perimeter sealants, submit two samples of each finish color to manufacturer for testing. Obtain test certificate prior to proceeding with installation.
 - 2. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
 - 4. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
- D. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:
 - 1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
 - 2. Conduct field tests for each application indicated below:
 - a. Each type of elastomeric sealant and joint substrate indicated.

- b. Each type of non-elastomeric sealant and joint substrate indicated.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193.
 - i. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side.
 - ii. Repeat procedure for opposite side.
4. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
5. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

E. Preinstallation Conference:

1. Convene at least one week prior to commencing Work of this section and other Building Envelope sections.
2. Ensure all contractors responsible for creating a continuous plane of water tightness are present.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40°F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.

- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

- B. Colors of Exposed Joint Sealants: To be selected by Owner from the manufacturer's standard color charts.

2.2 JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

- B. Stain-Test-Response Characteristics: Elastomeric sealants shall be non-staining to porous substrates. Provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

- C. Building Envelope Sealant:
 - 1. Moisture cure, medium modulus polymer modified sealing compound; having the following typical physical properties:
 - a. Basis of design: Henry® 925 BES Sealant

- b. Dow 790 and 795
 - c. Meadows, W.R.
 - d. Tremco Inc
 - e. Color: Varies
 - f. Elongation: 450 – 550%.
2. Extent of Use: Exterior joints in contact with membrane flashings

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26°F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealant and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean the porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include concrete, masonry and unglazed surfaces of ceramic tile.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following metal, glass, porcelain enamel and glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction

operations or other causes so sealants are without deterioration or damage at time of Substantial Completion.

- B. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION

09 90 00
PAINTING & COATINGS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Field painting of wood siding at dormer locations to match existing. .
- B. Related Work: the following related work or materials shall be provided under the designated Sections and coordinated by the Contractor:
1. 02 41 13 SELECTIVE DEMOLITION
 2. 07 31 00 ASPHALT SHINGLE ROOFING
 3. 07 46 00 EXTERIOR SIDING
 4. 07 90 00 SEALANTS

1.3 REFERENCES

- A. Paint Quality Institute www.paintquality.com
- B. Master Painters Institute www.mpi.net
- C. SSPC-SP 1 - Solvent Cleaning.
- D. SSPC-SP 2 - Hand Tool Cleaning.
- E. SSPC-SP 3 - Power Tool Cleaning.

1.4 DEFINITIONS AND EXTENT

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
 3. Semi-gloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
 4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

- B. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- C. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.5 SUBMITTALS

- A. Product Data: For each paint system indicated. Include block fillers and primers.
 - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
- B. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
 - 2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
 - 3. Submit two eight inch by 12 inch Samples for each type of finish coating for Architect's review of color and texture only.
- C. Qualification Data: For Applicator.
- D. Work for review/acceptance. Any item which does not match with the original profile may be subject to removal at no additional cost to the Owner.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain fillers and primers for each coating system from the same manufacturer as the finish coats.

1.7 TEST AREAS

- A. Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each type of coating and substrate.
 - a. After finishes are accepted, Architect will use the surface to evaluate coating systems of a similar nature.
 - 3. Final approval of colors will be from benchmark samples.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
 - 1. Product name or title of material.
 - 2. Product description (generic classification or binder type).
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Contents by volume, for pigment and vehicle constituents.
 - 5. Thinning instructions.
 - 6. Application instructions.
 - 7. Color name and number.
 - 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45°F. Maintain storage containers in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.9 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90°F.
- B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95°F.
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5°F above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.10 WARRANTIES

- A. Two (2) year warranty against defective materials or workmanship, including non-compliance with applicable specification requirements and industry standards.
- B. The warranty shall include the following: Starting date for all warranty periods to be the date of substantial completion of the project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Subject to compliance with requirements, products identified below form the basis of design. These products and other products with matching performance specifications and characteristics may be incorporated into the Work.
 - 1. Acceptable Manufacturers:
 - a. Benjamin Moore ARBORCOAT EXTERIOR STAIN SOLID (Basis of Design)
 - i. 640 – 1X (gallon)
 - ii. Y3 1X 20 2500
 - iii. S1 0X 8 0000
 - iv. R3 0X 3 7500
 - b. Sherwin Williams
 - c. ICI Dulux

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. VOC Content for Interior Paints and Coatings: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L.
2. Non-flat Paints and Coatings: 150 g/L.
3. Dry-Fog Coatings: 400 g/L.
4. Primers, Sealers, and Undercoaters: 200 g/L.
5. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
6. Pretreatment Wash Primers: 420 g/L.
7. Floor Coatings: 100 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
 1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
 2. Refer to manufacturer's surface preparation and application instructions for specific requirements.

- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and re-prime.

- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 - 3. Use only thinners approved by paint manufacturer and only within recommended limits.

- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 3. Provide finish coats that are compatible with primers used.
 - 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 - 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners,

- crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- F. Mesh: As required by manufacturer's surface preparation and application instructions cut and lay in mesh on all surfaces where mesh is required. Contractor to take care in maintaining the existing profiles of the subsurface material. As required caulk to make transition at inside corners and joints or to fill cracks in items.
- G. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- H. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
1. Provide satin finish for final coats.
- I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:
 - 1. The Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Testing agency will perform appropriate tests for the following characteristics as required by the Architect.
 - 3. The Architect may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 PAINT SCHEDULE

- A. Schedule: Provide products and number of coats specified. Use of manufacturer's proprietary product names to designate colors, materials, generic class, standard of quality and performance criteria and is not intended to imply that products named are required to be used to the exclusion of equivalent performing products of other manufacturers.

END OF SECTION

"ATTACHMENT A"

[Wage Rates]



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

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: Town of Dedham
Contract Number: **City/Town:** DEDHAM
Description of Work: Remove existing roof assembly down to structural deck and install new asphalt shingle roof system and related work.
Job Location: 656 East Street, Dedham, MA 02026

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 annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- 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.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.05	\$13.41	\$16.01	\$0.00	\$66.47
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.12	\$13.41	\$16.01	\$0.00	\$66.54
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.24	\$13.41	\$16.01	\$0.00	\$66.66
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
	06/01/2024	\$47.06	\$9.40	\$17.82	\$0.00	\$74.28
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$75.75
	06/01/2025	\$50.03	\$9.40	\$17.82	\$0.00	\$77.25
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2020	\$38.10	\$12.80	\$9.45	\$0.00	\$60.35
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
	06/01/2024	\$47.06	\$9.40	\$17.82	\$0.00	\$74.28
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$75.75
	06/01/2025	\$50.03	\$9.40	\$17.82	\$0.00	\$77.25
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2023	\$47.37	\$7.07	\$20.31	\$0.00	\$74.75
	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$30.79	\$7.07	\$13.22	\$0.00	\$51.08
2	65	\$30.79	\$7.07	\$13.22	\$0.00	\$51.08
3	70	\$33.16	\$7.07	\$14.23	\$0.00	\$54.46
4	75	\$35.53	\$7.07	\$15.24	\$0.00	\$57.84
5	80	\$37.90	\$7.07	\$16.25	\$0.00	\$61.22
6	85	\$40.26	\$7.07	\$17.28	\$0.00	\$64.61
7	90	\$42.63	\$7.07	\$18.28	\$0.00	\$67.98
8	95	\$45.00	\$7.07	\$19.32	\$0.00	\$71.39

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2023	\$58.21	\$11.49	\$21.65	\$0.00	\$91.35
BRICKLAYERS LOCAL 3 (FOXBORO)	08/01/2023	\$60.26	\$11.49	\$21.65	\$0.00	\$93.40
	02/01/2024	\$61.51	\$11.49	\$21.65	\$0.00	\$94.65
	08/01/2024	\$63.61	\$11.49	\$21.65	\$0.00	\$96.75
	02/01/2025	\$64.91	\$11.49	\$21.65	\$0.00	\$98.05
	08/01/2025	\$67.06	\$11.49	\$21.65	\$0.00	\$100.20
	02/01/2026	\$68.41	\$11.49	\$21.65	\$0.00	\$101.55
	08/01/2026	\$70.61	\$11.49	\$21.65	\$0.00	\$103.75
	02/01/2027	\$72.01	\$11.49	\$21.65	\$0.00	\$105.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Foxboro

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.11	\$11.49	\$21.65	\$0.00	\$62.25
2	60	\$34.93	\$11.49	\$21.65	\$0.00	\$68.07
3	70	\$40.75	\$11.49	\$21.65	\$0.00	\$73.89
4	80	\$46.57	\$11.49	\$21.65	\$0.00	\$79.71
5	90	\$52.39	\$11.49	\$21.65	\$0.00	\$85.53

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.13	\$11.49	\$21.65	\$0.00	\$63.27
2	60	\$36.16	\$11.49	\$21.65	\$0.00	\$69.30
3	70	\$42.18	\$11.49	\$21.65	\$0.00	\$75.32
4	80	\$48.21	\$11.49	\$21.65	\$0.00	\$81.35
5	90	\$54.23	\$11.49	\$21.65	\$0.00	\$87.37

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	06/01/2023	\$44.73	\$9.40	\$17.97	\$0.00	\$72.10
	12/01/2023	\$45.98	\$9.40	\$17.97	\$0.00	\$73.35
	06/01/2024	\$47.46	\$9.40	\$17.97	\$0.00	\$74.83
	12/01/2024	\$48.93	\$9.40	\$17.97	\$0.00	\$76.30
	06/01/2025	\$50.43	\$9.40	\$17.97	\$0.00	\$77.80
	12/01/2025	\$51.93	\$9.40	\$17.97	\$0.00	\$79.30
	06/01/2026	\$53.48	\$9.40	\$17.97	\$0.00	\$80.85
	12/01/2026	\$54.98	\$9.40	\$17.97	\$0.00	\$82.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	03/01/2023	\$54.96	\$9.33	\$19.97	\$0.00	\$84.26

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.48	\$9.33	\$1.73	\$0.00	\$38.54
2	60	\$32.98	\$9.33	\$1.73	\$0.00	\$44.04
3	70	\$38.47	\$9.33	\$14.78	\$0.00	\$62.58
4	75	\$41.22	\$9.33	\$14.78	\$0.00	\$65.33
5	80	\$43.97	\$9.33	\$16.51	\$0.00	\$69.81
6	80	\$43.97	\$9.33	\$16.51	\$0.00	\$69.81
7	90	\$49.46	\$9.33	\$18.24	\$0.00	\$77.03
8	90	\$49.46	\$9.33	\$18.24	\$0.00	\$77.03

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$35.03/ 3&4 \$42.20/ 5&6 \$63.53/ 7&8 \$70.74

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	04/01/2023	\$28.84	\$6.69	\$6.47	\$0.00	\$42.00
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All Aspects of New Wood Frame Work

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$14.42	\$6.69	\$0.00	\$0.00	\$21.11
2	50	\$14.42	\$6.69	\$0.00	\$0.00	\$21.11
3	55	\$15.86	\$6.69	\$2.00	\$0.00	\$24.55
4	55	\$15.86	\$6.69	\$2.00	\$0.00	\$24.55
5	70	\$20.19	\$6.69	\$6.47	\$0.00	\$33.35
6	70	\$20.19	\$6.69	\$6.47	\$0.00	\$33.35
7	80	\$23.07	\$6.69	\$6.47	\$0.00	\$36.23
8	80	\$23.07	\$6.69	\$6.47	\$0.00	\$36.23

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$20.09/ 3&4 \$24.95/ 5&6 \$33.04/ 7&8 \$35.91

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	01/01/2023	\$49.45	\$12.75	\$22.74	\$0.87	\$85.81
BRICKLAYERS LOCAL 3 (FOXBORO)	07/01/2023	\$50.59	\$12.75	\$22.74	\$0.87	\$86.95
	01/01/2024	\$51.73	\$12.75	\$22.74	\$0.87	\$88.09

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Foxboro

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.73	\$12.75	\$15.49	\$0.00	\$52.97
2	60	\$29.67	\$12.75	\$17.99	\$0.87	\$61.28
3	65	\$32.14	\$12.75	\$18.99	\$0.87	\$64.75
4	70	\$34.62	\$12.75	\$19.99	\$0.87	\$68.23
5	75	\$37.09	\$12.75	\$20.99	\$0.87	\$71.70
6	80	\$39.56	\$12.75	\$21.99	\$0.87	\$75.17
7	90	\$44.51	\$12.75	\$22.99	\$0.87	\$81.12

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.30	\$12.75	\$15.49	\$0.00	\$53.54
2	60	\$30.35	\$12.75	\$17.99	\$0.87	\$61.96
3	65	\$32.88	\$12.75	\$18.99	\$0.87	\$65.49
4	70	\$35.41	\$12.75	\$19.99	\$0.87	\$69.02
5	75	\$37.94	\$12.75	\$20.99	\$0.87	\$72.55
6	80	\$40.47	\$12.75	\$21.99	\$0.87	\$76.08
7	90	\$45.53	\$12.75	\$22.99	\$0.87	\$82.14

Notes:
Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 1	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	06/01/2023	\$55.95	\$14.25	\$16.05	\$0.00	\$86.25
	12/01/2023	\$57.23	\$14.25	\$16.05	\$0.00	\$87.53
	06/01/2024	\$58.55	\$14.25	\$16.05	\$0.00	\$88.85
	12/01/2024	\$60.03	\$14.25	\$16.05	\$0.00	\$90.33
	06/01/2025	\$61.36	\$14.25	\$16.05	\$0.00	\$91.66
	12/01/2025	\$62.83	\$14.25	\$16.05	\$0.00	\$93.13
	06/01/2026	\$64.16	\$14.25	\$16.05	\$0.00	\$94.46
	12/01/2026	\$65.64	\$14.25	\$16.05	\$0.00	\$95.94
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 1	01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
	01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
	07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
	01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$8.65	\$0.00	\$0.00	\$36.68
2	55	\$30.83	\$8.65	\$6.27	\$0.00	\$45.75
3	60	\$33.64	\$8.65	\$6.84	\$0.00	\$49.13
4	65	\$36.44	\$8.65	\$7.41	\$0.00	\$52.50
5	70	\$39.24	\$8.65	\$19.63	\$0.00	\$67.52
6	75	\$42.05	\$8.65	\$20.20	\$0.00	\$70.90
7	80	\$44.85	\$8.65	\$20.77	\$0.00	\$74.27
8	90	\$50.45	\$8.65	\$21.91	\$0.00	\$81.01

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$8.65	\$0.00	\$0.00	\$37.28
2	55	\$31.49	\$8.65	\$6.27	\$0.00	\$46.41
3	60	\$34.36	\$8.65	\$6.84	\$0.00	\$49.85
4	65	\$37.22	\$8.65	\$7.41	\$0.00	\$53.28
5	70	\$40.08	\$8.65	\$19.63	\$0.00	\$68.36
6	75	\$42.95	\$8.65	\$20.20	\$0.00	\$71.80
7	80	\$45.81	\$8.65	\$20.77	\$0.00	\$75.23
8	90	\$51.53	\$8.65	\$21.91	\$0.00	\$82.09

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 1	06/01/2023	\$43.73	\$9.40	\$17.82	\$0.00	\$70.95
	12/01/2023	\$44.98	\$9.40	\$17.82	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 1	06/01/2023	\$44.73	\$9.40	\$17.82	\$0.00	\$71.95
	12/01/2023	\$45.98	\$9.40	\$17.82	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 1	06/01/2023	\$44.48	\$9.40	\$17.82	\$0.00	\$71.70
	12/01/2023	\$45.73	\$9.40	\$17.82	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 1	06/01/2023	\$44.73	\$9.40	\$17.82	\$0.00	\$71.95
	12/01/2023	\$45.98	\$9.40	\$17.82	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$44.48	\$9.40	\$17.82	\$0.00	\$71.70
	12/01/2023	\$45.73	\$9.40	\$17.82	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.73	\$9.40	\$17.82	\$0.00	\$70.95
	12/01/2023	\$44.98	\$9.40	\$17.82	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
2	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
3	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
4	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
5	50	\$29.62	\$13.00	\$16.63	\$0.00	\$59.25
6	55	\$32.58	\$13.00	\$17.13	\$0.00	\$62.71
7	60	\$35.54	\$13.00	\$17.63	\$0.00	\$66.17
8	65	\$38.50	\$13.00	\$18.13	\$0.00	\$69.63
9	70	\$41.46	\$13.00	\$18.62	\$0.00	\$73.08
10	75	\$44.42	\$13.00	\$19.13	\$0.00	\$76.55

Notes:
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
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Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2023	\$49.91	\$14.25	\$16.05	\$0.00	\$80.21
	11/01/2023	\$51.15	\$14.25	\$16.05	\$0.00	\$81.45
	05/01/2024	\$52.39	\$14.25	\$16.05	\$0.00	\$82.69
	11/01/2024	\$53.68	\$14.25	\$16.05	\$0.00	\$83.98
	05/01/2025	\$55.12	\$14.25	\$16.05	\$0.00	\$85.42
	11/01/2025	\$56.41	\$14.25	\$16.05	\$0.00	\$86.71
	05/01/2026	\$57.85	\$14.25	\$16.05	\$0.00	\$88.15
	11/01/2026	\$59.14	\$14.25	\$16.05	\$0.00	\$89.44
	05/01/2027	\$60.57	\$14.25	\$16.05	\$0.00	\$90.87
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2023	\$51.47	\$14.25	\$16.05	\$0.00	\$81.77
	11/01/2023	\$52.72	\$14.25	\$16.05	\$0.00	\$83.02
	05/01/2024	\$53.97	\$14.25	\$16.05	\$0.00	\$84.27
	11/01/2024	\$55.27	\$14.25	\$16.05	\$0.00	\$85.57
	05/01/2025	\$56.72	\$14.25	\$16.05	\$0.00	\$87.02
	11/01/2025	\$58.02	\$14.25	\$16.05	\$0.00	\$88.32
	05/01/2026	\$59.47	\$14.25	\$16.05	\$0.00	\$89.77
	11/01/2026	\$60.77	\$14.25	\$16.05	\$0.00	\$91.07
	05/01/2027	\$62.22	\$14.25	\$16.05	\$0.00	\$92.52
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2023	\$25.05	\$14.25	\$16.05	\$0.00	\$55.35
	11/01/2023	\$25.78	\$14.25	\$16.05	\$0.00	\$56.08
	05/01/2024	\$26.51	\$14.25	\$16.05	\$0.00	\$56.81
	11/01/2024	\$27.27	\$14.25	\$16.05	\$0.00	\$57.57
	05/01/2025	\$28.12	\$14.25	\$16.05	\$0.00	\$58.42
	11/01/2025	\$28.88	\$14.25	\$16.05	\$0.00	\$59.18
	05/01/2026	\$29.73	\$14.25	\$16.05	\$0.00	\$60.03
	11/01/2026	\$30.49	\$14.25	\$16.05	\$0.00	\$60.79
	05/01/2027	\$31.34	\$14.25	\$16.05	\$0.00	\$61.64
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$44.56	\$14.25	\$16.05	\$0.00	\$74.86
	12/01/2023	\$45.57	\$14.25	\$16.05	\$0.00	\$75.87
	06/01/2024	\$46.63	\$14.25	\$16.05	\$0.00	\$76.93
	12/01/2024	\$47.81	\$14.25	\$16.05	\$0.00	\$78.11
	06/01/2025	\$48.87	\$14.25	\$16.05	\$0.00	\$79.17
	12/01/2025	\$50.04	\$14.25	\$16.05	\$0.00	\$80.34
	06/01/2026	\$51.10	\$14.25	\$16.05	\$0.00	\$81.40
	12/01/2026	\$52.28	\$14.25	\$16.05	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$25.98	\$9.40	\$17.82	\$0.00	\$53.20
	12/01/2023	\$25.98	\$9.40	\$17.82	\$0.00	\$53.20
	06/01/2024	\$27.01	\$9.40	\$17.82	\$0.00	\$54.23
	12/01/2024	\$27.01	\$9.40	\$17.82	\$0.00	\$54.23
	06/01/2025	\$28.09	\$9.40	\$17.82	\$0.00	\$55.31
	12/01/2025	\$28.09	\$9.40	\$17.82	\$0.00	\$55.31
	06/01/2026	\$29.21	\$9.40	\$17.82	\$0.00	\$56.43
	12/01/2026	\$29.21	\$9.40	\$17.82	\$0.00	\$56.43

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

FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2022	\$51.77	\$9.33	\$20.27	\$0.00	\$81.37
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Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.89	\$9.33	\$1.79	\$0.00	\$37.01
2	55	\$28.47	\$9.33	\$1.79	\$0.00	\$39.59
3	60	\$31.06	\$9.33	\$14.90	\$0.00	\$55.29
4	65	\$33.65	\$9.33	\$14.90	\$0.00	\$57.88
5	70	\$36.24	\$9.33	\$16.69	\$0.00	\$62.26
6	75	\$38.83	\$9.33	\$16.69	\$0.00	\$64.85
7	80	\$41.42	\$9.33	\$18.48	\$0.00	\$69.23
8	85	\$44.00	\$9.33	\$18.48	\$0.00	\$71.81

Notes: Steps are 750 hrs.
 % After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$32.94/ 3&4 \$39.66/ 5&6 \$60.32/ 7&8 \$67.10

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$83.05
	07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$84.25
	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$85.45
	07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$86.65
	01/01/2025	\$56.15	\$8.65	\$23.05	\$0.00	\$87.85

Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33
2	55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16
3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30
4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44
5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23
6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36
7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50
8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93
2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82
3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02
4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22
5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07
6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26
7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46
8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.18	\$14.25	\$0.00	\$0.00	\$44.43
2	60	\$32.93	\$14.25	\$16.05	\$0.00	\$63.23
3	65	\$35.67	\$14.25	\$16.05	\$0.00	\$65.97
4	70	\$38.42	\$14.25	\$16.05	\$0.00	\$68.72
5	75	\$41.16	\$14.25	\$16.05	\$0.00	\$71.46
6	80	\$43.90	\$14.25	\$16.05	\$0.00	\$74.20
7	85	\$46.65	\$14.25	\$16.05	\$0.00	\$76.95
8	90	\$49.39	\$14.25	\$16.05	\$0.00	\$79.69

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.87	\$14.25	\$0.00	\$0.00	\$45.12
2	60	\$33.68	\$14.25	\$16.05	\$0.00	\$63.98
3	65	\$36.48	\$14.25	\$16.05	\$0.00	\$66.78
4	70	\$39.29	\$14.25	\$16.05	\$0.00	\$69.59
5	75	\$42.10	\$14.25	\$16.05	\$0.00	\$72.40
6	80	\$44.90	\$14.25	\$16.05	\$0.00	\$75.20
7	85	\$47.71	\$14.25	\$16.05	\$0.00	\$78.01
8	90	\$50.52	\$14.25	\$16.05	\$0.00	\$80.82

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.50	\$20.80	\$0.00	\$96.73
	09/01/2023	\$65.18	\$12.50	\$20.80	\$0.00	\$98.48
	03/01/2024	\$66.98	\$12.50	\$20.80	\$0.00	\$100.28
	09/01/2024	\$68.78	\$12.50	\$20.80	\$0.00	\$102.08
	03/01/2025	\$70.58	\$12.50	\$20.80	\$0.00	\$103.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
	09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
	03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
	09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
	03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
	06/01/2024	\$47.06	\$9.40	\$17.82	\$0.00	\$74.28
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$75.75
	06/01/2025	\$50.03	\$9.40	\$17.82	\$0.00	\$77.25
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2022	\$53.85	\$13.80	\$17.14	\$0.00	\$84.79

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.93	\$13.80	\$12.42	\$0.00	\$53.15
2	60	\$32.31	\$13.80	\$13.36	\$0.00	\$59.47
3	70	\$37.70	\$13.80	\$14.31	\$0.00	\$65.81
4	80	\$43.08	\$13.80	\$15.25	\$0.00	\$72.13

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2023	\$52.72	\$8.35	\$26.70	\$0.00	\$87.77
	03/16/2024	\$53.97	\$8.35	\$26.70	\$0.00	\$89.02

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 03/16/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$31.63	\$8.35	\$26.70	\$0.00	\$66.68
2	70	\$36.90	\$8.35	\$26.70	\$0.00	\$71.95
3	75	\$39.54	\$8.35	\$26.70	\$0.00	\$74.59
4	80	\$42.18	\$8.35	\$26.70	\$0.00	\$77.23
5	85	\$44.81	\$8.35	\$26.70	\$0.00	\$79.86
6	90	\$47.45	\$8.35	\$26.70	\$0.00	\$82.50

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.38	\$8.35	\$26.70	\$0.00	\$67.43
2	70	\$37.78	\$8.35	\$26.70	\$0.00	\$72.83
3	75	\$40.48	\$8.35	\$26.70	\$0.00	\$75.53
4	80	\$43.18	\$8.35	\$26.70	\$0.00	\$78.23
5	85	\$45.87	\$8.35	\$26.70	\$0.00	\$80.92
6	90	\$48.57	\$8.35	\$26.70	\$0.00	\$83.62

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
LABORER LABORERS - ZONE 1	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.15	\$9.40	\$17.82	\$0.00	\$53.37
2	70	\$30.51	\$9.40	\$17.82	\$0.00	\$57.73
3	80	\$34.86	\$9.40	\$17.82	\$0.00	\$62.08
4	90	\$39.22	\$9.40	\$17.82	\$0.00	\$66.44

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.90	\$9.40	\$17.82	\$0.00	\$54.12
2	70	\$31.38	\$9.40	\$17.82	\$0.00	\$58.60
3	80	\$35.86	\$9.40	\$17.82	\$0.00	\$63.08
4	90	\$40.35	\$9.40	\$17.82	\$0.00	\$67.57

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05
	06/01/2024	\$46.31	\$9.40	\$17.82	\$0.00	\$73.53
	12/01/2024	\$47.78	\$9.40	\$17.82	\$0.00	\$75.00
	06/01/2025	\$49.28	\$9.40	\$17.82	\$0.00	\$76.50
	12/01/2025	\$50.78	\$9.40	\$17.82	\$0.00	\$78.00
	06/01/2026	\$52.33	\$9.40	\$17.82	\$0.00	\$79.55
	12/01/2026	\$53.83	\$9.40	\$17.82	\$0.00	\$81.05

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.15	\$9.40	\$17.82	\$0.00	\$53.37
2	70	\$30.51	\$9.40	\$17.82	\$0.00	\$57.73
3	80	\$34.86	\$9.40	\$17.82	\$0.00	\$62.08
4	90	\$39.22	\$9.40	\$17.82	\$0.00	\$66.44

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.90	\$9.40	\$17.82	\$0.00	\$54.12
2	70	\$31.38	\$9.40	\$17.82	\$0.00	\$58.60
3	80	\$35.86	\$9.40	\$17.82	\$0.00	\$63.08
4	90	\$40.35	\$9.40	\$17.82	\$0.00	\$67.57

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 1	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
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For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 1	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 1	06/01/2023	\$43.73	\$9.40	\$17.82	\$0.00	\$70.95
	12/01/2023	\$44.98	\$9.40	\$17.82	\$0.00	\$72.20

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 1	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	06/01/2024	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30

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

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 1	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 1	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05

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"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2023	\$46.25	\$11.49	\$20.37	\$0.00	\$78.11
	08/01/2023	\$47.89	\$11.49	\$20.37	\$0.00	\$79.75
	02/01/2024	\$48.89	\$11.49	\$20.37	\$0.00	\$80.75
	08/01/2024	\$50.57	\$11.49	\$20.37	\$0.00	\$82.43
	02/01/2025	\$51.61	\$11.49	\$20.37	\$0.00	\$83.47
	08/01/2025	\$53.33	\$11.49	\$20.37	\$0.00	\$85.19
	02/01/2026	\$54.41	\$11.49	\$20.37	\$0.00	\$86.27
	08/01/2026	\$56.17	\$11.49	\$20.37	\$0.00	\$88.03
	02/01/2027	\$57.29	\$11.49	\$20.37	\$0.00	\$89.15

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.13	\$11.49	\$20.37	\$0.00	\$54.99
2	60	\$27.75	\$11.49	\$20.37	\$0.00	\$59.61
3	70	\$32.38	\$11.49	\$20.37	\$0.00	\$64.24
4	80	\$37.00	\$11.49	\$20.37	\$0.00	\$68.86
5	90	\$41.63	\$11.49	\$20.37	\$0.00	\$73.49

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$20.37	\$0.00	\$55.81
2	60	\$28.73	\$11.49	\$20.37	\$0.00	\$60.59
3	70	\$33.52	\$11.49	\$20.37	\$0.00	\$65.38
4	80	\$38.31	\$11.49	\$20.37	\$0.00	\$70.17
5	90	\$43.10	\$11.49	\$20.37	\$0.00	\$74.96

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2023	\$60.37	\$11.49	\$22.31	\$0.00	\$94.17
	08/01/2023	\$62.42	\$11.49	\$22.31	\$0.00	\$96.22
	02/01/2024	\$63.67	\$11.49	\$22.31	\$0.00	\$97.47
	08/01/2024	\$65.77	\$11.49	\$22.31	\$0.00	\$99.57
	02/01/2025	\$67.07	\$11.49	\$22.31	\$0.00	\$100.87
	08/01/2025	\$69.22	\$11.49	\$22.31	\$0.00	\$103.02
	02/01/2026	\$70.57	\$11.49	\$22.31	\$0.00	\$104.37
	08/01/2026	\$72.77	\$11.49	\$22.31	\$0.00	\$106.57
	02/01/2027	\$74.17	\$11.49	\$22.31	\$0.00	\$107.97

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.19	\$11.49	\$22.31	\$0.00	\$63.99
2	60	\$36.22	\$11.49	\$22.31	\$0.00	\$70.02
3	70	\$42.26	\$11.49	\$22.31	\$0.00	\$76.06
4	80	\$48.30	\$11.49	\$22.31	\$0.00	\$82.10
5	90	\$54.33	\$11.49	\$22.31	\$0.00	\$88.13

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$22.31	\$0.00	\$65.01
2	60	\$37.45	\$11.49	\$22.31	\$0.00	\$71.25
3	70	\$43.69	\$11.49	\$22.31	\$0.00	\$77.49
4	80	\$49.94	\$11.49	\$22.31	\$0.00	\$83.74
5	90	\$56.18	\$11.49	\$22.31	\$0.00	\$89.98

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	01/02/2023	\$47.27	\$8.58	\$21.57	\$0.00	\$77.42
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Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/02/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.00	\$8.58	\$5.72	\$0.00	\$40.30
2	65	\$30.73	\$8.58	\$17.93	\$0.00	\$57.24
3	75	\$35.45	\$8.58	\$18.98	\$0.00	\$63.01
4	85	\$40.18	\$8.58	\$20.01	\$0.00	\$68.77

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$24.94	\$14.25	\$16.05	\$0.00	\$55.24
	12/01/2023	\$25.51	\$14.25	\$16.05	\$0.00	\$55.81
	06/01/2024	\$26.11	\$14.25	\$16.05	\$0.00	\$56.41
	12/01/2024	\$26.77	\$14.25	\$16.05	\$0.00	\$57.07
	06/01/2025	\$27.37	\$14.25	\$16.05	\$0.00	\$57.67
	12/01/2025	\$28.03	\$14.25	\$16.05	\$0.00	\$58.33
	06/01/2026	\$28.62	\$14.25	\$16.05	\$0.00	\$58.92
	12/01/2026	\$29.29	\$14.25	\$16.05	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$30.27	\$14.25	\$16.05	\$0.00	\$60.57
	12/01/2023	\$30.96	\$14.25	\$16.05	\$0.00	\$61.26
	06/01/2024	\$31.68	\$14.25	\$16.05	\$0.00	\$61.98
	12/01/2024	\$32.48	\$14.25	\$16.05	\$0.00	\$62.78
	06/01/2025	\$33.20	\$14.25	\$16.05	\$0.00	\$63.50
	12/01/2025	\$34.00	\$14.25	\$16.05	\$0.00	\$64.30
	06/01/2026	\$34.72	\$14.25	\$16.05	\$0.00	\$65.02
	12/01/2026	\$35.52	\$14.25	\$16.05	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
	01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
	07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
	01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$8.65	\$0.00	\$0.00	\$36.68
2	55	\$30.83	\$8.65	\$6.27	\$0.00	\$45.75
3	60	\$33.64	\$8.65	\$6.84	\$0.00	\$49.13
4	65	\$36.44	\$8.65	\$7.41	\$0.00	\$52.50
5	70	\$39.24	\$8.65	\$19.63	\$0.00	\$67.52
6	75	\$42.05	\$8.65	\$20.20	\$0.00	\$70.90
7	80	\$44.85	\$8.65	\$20.77	\$0.00	\$74.27
8	90	\$50.45	\$8.65	\$21.91	\$0.00	\$81.01

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$8.65	\$0.00	\$0.00	\$37.28
2	55	\$31.49	\$8.65	\$6.27	\$0.00	\$46.41
3	60	\$34.36	\$8.65	\$6.84	\$0.00	\$49.85
4	65	\$37.22	\$8.65	\$7.41	\$0.00	\$53.28
5	70	\$40.08	\$8.65	\$19.63	\$0.00	\$68.36
6	75	\$42.95	\$8.65	\$20.20	\$0.00	\$71.80
7	80	\$45.81	\$8.65	\$20.77	\$0.00	\$75.23
8	90	\$51.53	\$8.65	\$21.91	\$0.00	\$82.09

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2023	\$52.75	\$8.65	\$23.05	\$0.00	\$84.45
	07/01/2023	\$53.95	\$8.65	\$23.05	\$0.00	\$85.65
	01/01/2024	\$55.15	\$8.65	\$23.05	\$0.00	\$86.85
	07/01/2024	\$56.35	\$8.65	\$23.05	\$0.00	\$88.05
	01/01/2025	\$57.55	\$8.65	\$23.05	\$0.00	\$89.25

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.38	\$8.65	\$0.00	\$0.00	\$35.03
2	55	\$29.01	\$8.65	\$6.27	\$0.00	\$43.93
3	60	\$31.65	\$8.65	\$6.84	\$0.00	\$47.14
4	65	\$34.29	\$8.65	\$7.41	\$0.00	\$50.35
5	70	\$36.93	\$8.65	\$19.63	\$0.00	\$65.21
6	75	\$39.56	\$8.65	\$20.20	\$0.00	\$68.41
7	80	\$42.20	\$8.65	\$20.77	\$0.00	\$71.62
8	90	\$47.48	\$8.65	\$21.91	\$0.00	\$78.04

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.98	\$8.65	\$0.00	\$0.00	\$35.63
2	55	\$29.67	\$8.65	\$6.27	\$0.00	\$44.59
3	60	\$32.37	\$8.65	\$6.84	\$0.00	\$47.86
4	65	\$35.07	\$8.65	\$7.41	\$0.00	\$51.13
5	70	\$37.77	\$8.65	\$19.63	\$0.00	\$66.05
6	75	\$40.46	\$8.65	\$20.20	\$0.00	\$69.31
7	80	\$43.16	\$8.65	\$20.77	\$0.00	\$72.58
8	90	\$48.56	\$8.65	\$21.91	\$0.00	\$79.12

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2023	\$50.81	\$8.65	\$23.05	\$0.00	\$82.51
	07/01/2023	\$52.01	\$8.65	\$23.05	\$0.00	\$83.71
	01/01/2024	\$53.21	\$8.65	\$23.05	\$0.00	\$84.91
	01/01/2025	\$55.61	\$8.65	\$23.05	\$0.00	\$87.31
	07/01/2025	\$54.41	\$8.65	\$23.05	\$0.00	\$86.11

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.41	\$8.65	\$0.00	\$0.00	\$34.06
2	55	\$27.95	\$8.65	\$6.27	\$0.00	\$42.87
3	60	\$30.49	\$8.65	\$6.84	\$0.00	\$45.98
4	65	\$33.03	\$8.65	\$7.41	\$0.00	\$49.09
5	70	\$35.57	\$8.65	\$19.63	\$0.00	\$63.85
6	75	\$38.11	\$8.65	\$20.20	\$0.00	\$66.96
7	80	\$40.65	\$8.65	\$20.77	\$0.00	\$70.07
8	90	\$45.73	\$8.65	\$21.91	\$0.00	\$76.29

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.01	\$8.65	\$0.00	\$0.00	\$34.66
2	55	\$28.61	\$8.65	\$6.27	\$0.00	\$43.53
3	60	\$31.21	\$8.65	\$6.84	\$0.00	\$46.70
4	65	\$33.81	\$8.65	\$7.41	\$0.00	\$49.87
5	70	\$36.41	\$8.65	\$19.63	\$0.00	\$64.69
6	75	\$39.01	\$8.65	\$20.20	\$0.00	\$67.86
7	80	\$41.61	\$8.65	\$20.77	\$0.00	\$71.03
8	90	\$46.81	\$8.65	\$21.91	\$0.00	\$77.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$83.05
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$84.25
	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$85.45
	07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$86.65
	01/01/2025	\$56.15	\$8.65	\$23.05	\$0.00	\$87.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33
2	55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16
3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30
4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44
5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23
6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36
7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50
8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93
2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82
3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02
4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22
5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07
6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26
7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46
8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2023	\$49.41	\$8.65	\$23.05	\$0.00	\$81.11
PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$50.61	\$8.65	\$23.05	\$0.00	\$82.31
	01/01/2024	\$51.81	\$8.65	\$23.05	\$0.00	\$83.51
	07/01/2024	\$53.01	\$8.65	\$23.05	\$0.00	\$84.71
	01/01/2025	\$54.21	\$8.65	\$23.05	\$0.00	\$85.91

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.71	\$8.65	\$0.00	\$0.00	\$33.36
2	55	\$27.18	\$8.65	\$6.27	\$0.00	\$42.10
3	60	\$29.65	\$8.65	\$6.84	\$0.00	\$45.14
4	65	\$32.12	\$8.65	\$7.41	\$0.00	\$48.18
5	70	\$34.59	\$8.65	\$19.63	\$0.00	\$62.87
6	75	\$37.06	\$8.65	\$20.20	\$0.00	\$65.91
7	80	\$39.53	\$8.65	\$20.77	\$0.00	\$68.95
8	90	\$44.47	\$8.65	\$21.91	\$0.00	\$75.03

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.31	\$8.65	\$0.00	\$0.00	\$33.96
2	55	\$27.84	\$8.65	\$6.27	\$0.00	\$42.76
3	60	\$30.37	\$8.65	\$6.84	\$0.00	\$45.86
4	65	\$32.90	\$8.65	\$7.41	\$0.00	\$48.96
5	70	\$35.43	\$8.65	\$19.63	\$0.00	\$63.71
6	75	\$37.96	\$8.65	\$20.20	\$0.00	\$66.81
7	80	\$40.49	\$8.65	\$20.77	\$0.00	\$69.91
8	90	\$45.55	\$8.65	\$21.91	\$0.00	\$76.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05
	06/01/2024	\$46.31	\$9.40	\$17.82	\$0.00	\$73.53
	12/01/2024	\$47.78	\$9.40	\$17.82	\$0.00	\$75.00
	06/01/2025	\$49.28	\$9.40	\$17.82	\$0.00	\$76.50
	12/01/2025	\$50.78	\$9.40	\$17.82	\$0.00	\$78.00
	06/01/2026	\$52.33	\$9.40	\$17.82	\$0.00	\$79.55
	12/01/2026	\$53.83	\$9.40	\$17.82	\$0.00	\$81.05

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

PANEL & PICKUP TRUCKS DRIVER	12/01/2021	\$36.88	\$13.41	\$16.01	\$0.00	\$66.30
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER LOCAL 56 (ZONE 1)						
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER LOCAL 56 (ZONE 1)						

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06
2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96
3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87
4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32
5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68
8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68

Notes:
 % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER PIPEFITTERS LOCAL 537	03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
	09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
	03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
	09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
	03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.37	\$12.25	\$8.55	\$0.00	\$46.17
2	45	\$28.54	\$12.25	\$20.80	\$0.00	\$61.59
3	60	\$38.06	\$12.25	\$20.80	\$0.00	\$71.11
4	70	\$44.40	\$12.25	\$20.80	\$0.00	\$77.45
5	80	\$50.74	\$12.25	\$20.80	\$0.00	\$83.79

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.07	\$12.25	\$8.55	\$0.00	\$46.87
2	45	\$29.33	\$12.25	\$20.80	\$0.00	\$62.38
3	60	\$39.11	\$12.25	\$20.80	\$0.00	\$72.16
4	70	\$45.63	\$12.25	\$20.80	\$0.00	\$78.68
5	80	\$52.14	\$12.25	\$20.80	\$0.00	\$85.19

Notes:
 ** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30	
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	02/26/2023	\$64.69	\$14.07	\$18.86	\$0.00	\$97.62
	09/03/2023	\$66.44	\$14.07	\$18.86	\$0.00	\$99.37
	03/03/2024	\$68.24	\$14.07	\$18.86	\$0.00	\$101.17
	09/01/2024	\$70.04	\$14.07	\$18.86	\$0.00	\$102.97
	03/02/2025	\$71.84	\$14.07	\$18.86	\$0.00	\$104.77

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 02/26/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.64	\$14.07	\$6.80	\$0.00	\$43.51
2	40	\$25.88	\$14.07	\$7.72	\$0.00	\$47.67
3	55	\$35.58	\$14.07	\$10.51	\$0.00	\$60.16
4	65	\$42.05	\$14.07	\$12.36	\$0.00	\$68.48
5	75	\$48.52	\$14.07	\$14.22	\$0.00	\$76.81

Effective Date - 09/03/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.25	\$14.07	\$6.80	\$0.00	\$44.12
2	40	\$26.58	\$14.07	\$7.72	\$0.00	\$48.37
3	55	\$36.54	\$14.07	\$10.51	\$0.00	\$61.12
4	65	\$43.19	\$14.07	\$12.36	\$0.00	\$69.62
5	75	\$49.83	\$14.07	\$14.22	\$0.00	\$78.12

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$69.00, Step5 with lic\$76.87

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.00	\$20.80	\$0.00	\$96.23
	09/01/2023	\$65.18	\$12.00	\$20.80	\$0.00	\$97.98
	03/01/2024	\$66.98	\$12.00	\$20.80	\$0.00	\$99.78
	09/01/2024	\$68.78	\$12.00	\$20.80	\$0.00	\$101.58
	03/01/2025	\$70.58	\$12.00	\$20.80	\$0.00	\$103.38

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	06/01/2023	\$44.58	\$9.40	\$17.82	\$0.00	\$71.80
	12/01/2023	\$45.83	\$9.40	\$17.82	\$0.00	\$73.05
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$44.58	\$9.40	\$17.82	\$0.00	\$71.80
	12/01/2023	\$45.83	\$9.40	\$17.82	\$0.00	\$73.05
	06/01/2024	\$47.31	\$9.40	\$17.82	\$0.00	\$74.53
	12/01/2024	\$48.78	\$9.40	\$17.82	\$0.00	\$76.00
	06/01/2025	\$50.28	\$9.40	\$17.82	\$0.00	\$77.50
	12/01/2025	\$51.78	\$9.40	\$17.82	\$0.00	\$79.00
	06/01/2026	\$53.33	\$9.40	\$17.82	\$0.00	\$80.55
	12/01/2026	\$54.83	\$9.40	\$17.82	\$0.00	\$82.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Rosenfeld (Walpole)</i>	05/01/2023	\$29.40	\$12.46	\$8.00	\$0.00	\$49.86
	01/01/2024	\$29.40	\$12.96	\$8.00	\$0.00	\$50.36
	05/01/2024	\$30.15	\$13.96	\$8.00	\$0.00	\$52.11
	01/01/2025	\$30.15	\$13.46	\$8.00	\$0.00	\$51.61
	05/01/2025	\$30.90	\$13.46	\$8.25	\$0.00	\$52.61
	01/01/2026	\$30.90	\$13.96	\$8.25	\$0.00	\$53.11
	05/01/2026	\$31.90	\$13.96	\$8.25	\$0.00	\$54.11
	01/01/2027	\$31.90	\$14.46	\$8.25	\$0.00	\$54.61
	05/01/2027	\$32.90	\$14.46	\$8.25	\$0.00	\$55.61
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2023	\$48.53	\$12.78	\$20.20	\$0.00	\$81.51
	08/01/2023	\$50.03	\$12.78	\$20.20	\$0.00	\$83.01
	02/01/2024	\$51.28	\$12.78	\$20.20	\$0.00	\$84.26
	08/01/2024	\$52.78	\$12.78	\$20.20	\$0.00	\$85.76
	02/01/2025	\$54.03	\$12.78	\$20.20	\$0.00	\$87.01
	08/01/2025	\$55.53	\$12.78	\$20.20	\$0.00	\$88.51
	02/01/2026	\$56.78	\$12.78	\$20.20	\$0.00	\$89.76

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.27	\$12.78	\$5.59	\$0.00	\$42.64
2	60	\$29.12	\$12.78	\$20.20	\$0.00	\$62.10
3	65	\$31.54	\$12.78	\$20.20	\$0.00	\$64.52
4	75	\$36.40	\$12.78	\$20.20	\$0.00	\$69.38
5	85	\$41.25	\$12.78	\$20.20	\$0.00	\$74.23

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$5.59	\$0.00	\$43.39
2	60	\$30.02	\$12.78	\$20.20	\$0.00	\$63.00
3	65	\$32.52	\$12.78	\$20.20	\$0.00	\$65.50
4	75	\$37.52	\$12.78	\$20.20	\$0.00	\$70.50
5	85	\$42.53	\$12.78	\$20.20	\$0.00	\$75.51

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE	02/01/2023	\$48.78	\$12.78	\$20.20	\$0.00	\$81.76
ROOFERS LOCAL 33	08/01/2023	\$50.28	\$12.78	\$20.20	\$0.00	\$83.26
	02/01/2024	\$51.53	\$12.78	\$20.20	\$0.00	\$84.51
	08/01/2024	\$53.03	\$12.78	\$20.20	\$0.00	\$86.01
	02/01/2025	\$54.28	\$12.78	\$20.20	\$0.00	\$87.26
	08/01/2025	\$55.78	\$12.78	\$20.20	\$0.00	\$88.76
	02/01/2026	\$57.03	\$12.78	\$20.20	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
SHEETMETAL WORKERS LOCAL 17 - A	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47
2	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47
3	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55
4	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55
5	52	\$28.76	\$14.11	\$12.88	\$1.65	\$57.40
6	52	\$28.76	\$14.11	\$13.13	\$1.65	\$57.65
7	60	\$33.19	\$14.11	\$14.54	\$1.83	\$63.67
8	65	\$35.95	\$14.11	\$15.52	\$1.94	\$67.52
9	75	\$41.48	\$14.11	\$17.48	\$2.16	\$75.23
10	85	\$47.01	\$14.11	\$18.94	\$2.36	\$82.42

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18
2	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18
3	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38
4	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38
5	52	\$29.65	\$14.11	\$12.88	\$1.70	\$58.34
6	52	\$29.65	\$14.11	\$13.13	\$1.70	\$58.59
7	60	\$34.21	\$14.11	\$14.54	\$1.89	\$64.75
8	65	\$37.06	\$14.11	\$15.52	\$2.00	\$68.69
9	75	\$42.76	\$14.11	\$17.48	\$2.23	\$76.58
10	85	\$48.46	\$14.11	\$18.94	\$2.45	\$83.96

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.63	\$13.41	\$16.01	\$0.00	\$67.05
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2023	\$66.20	\$10.90	\$23.20	\$0.00	\$100.30
	10/01/2023	\$67.95	\$10.90	\$23.20	\$0.00	\$102.05
	03/01/2024	\$69.75	\$10.90	\$23.20	\$0.00	\$103.85
	10/01/2024	\$71.55	\$10.90	\$23.20	\$0.00	\$105.65
	03/01/2025	\$73.35	\$10.90	\$23.20	\$0.00	\$107.45

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.17	\$10.90	\$9.70	\$0.00	\$43.77
2	40	\$26.48	\$10.90	\$9.70	\$0.00	\$47.08
3	45	\$29.79	\$10.90	\$9.70	\$0.00	\$50.39
4	50	\$33.10	\$10.90	\$9.70	\$0.00	\$53.70
5	55	\$36.41	\$10.90	\$9.70	\$0.00	\$57.01
6	60	\$39.72	\$10.90	\$11.20	\$0.00	\$61.82
7	65	\$43.03	\$10.90	\$11.20	\$0.00	\$65.13
8	70	\$46.34	\$10.90	\$11.20	\$0.00	\$68.44
9	75	\$49.65	\$10.90	\$11.20	\$0.00	\$71.75
10	80	\$52.96	\$10.90	\$11.20	\$0.00	\$75.06

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.78	\$10.90	\$9.70	\$0.00	\$44.38
2	40	\$27.18	\$10.90	\$9.70	\$0.00	\$47.78
3	45	\$30.58	\$10.90	\$9.70	\$0.00	\$51.18
4	50	\$33.98	\$10.90	\$9.70	\$0.00	\$54.58
5	55	\$37.37	\$10.90	\$9.70	\$0.00	\$57.97
6	60	\$40.77	\$10.90	\$11.20	\$0.00	\$62.87
7	65	\$44.17	\$10.90	\$11.20	\$0.00	\$66.27
8	70	\$47.57	\$10.90	\$11.20	\$0.00	\$69.67
9	75	\$50.96	\$10.90	\$11.20	\$0.00	\$73.06
10	80	\$54.36	\$10.90	\$11.20	\$0.00	\$76.46

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$47.38	\$13.00	\$19.63	\$0.00	\$80.01
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Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.32	\$13.00	\$0.65	\$0.00	\$34.97
2	45	\$21.32	\$13.00	\$0.65	\$0.00	\$34.97
3	50	\$23.69	\$13.00	\$15.20	\$0.00	\$51.89
4	50	\$23.69	\$13.00	\$15.20	\$0.00	\$51.89
5	55	\$26.06	\$13.00	\$15.58	\$0.00	\$54.64
6	60	\$28.43	\$13.00	\$15.96	\$0.00	\$57.39
7	65	\$30.80	\$13.00	\$16.34	\$0.00	\$60.14
8	70	\$33.17	\$13.00	\$16.73	\$0.00	\$62.90
9	75	\$35.54	\$13.00	\$17.11	\$0.00	\$65.65
10	80	\$37.90	\$13.00	\$17.48	\$0.00	\$68.38

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2023	\$59.29	\$11.49	\$22.34	\$0.00	\$93.12
	08/01/2023	\$61.34	\$11.49	\$22.34	\$0.00	\$95.17
	02/01/2024	\$62.59	\$11.49	\$22.34	\$0.00	\$96.42
	08/01/2024	\$64.69	\$11.49	\$22.34	\$0.00	\$98.52
	02/01/2025	\$65.99	\$11.49	\$22.34	\$0.00	\$99.82
	08/01/2025	\$68.14	\$11.49	\$22.34	\$0.00	\$101.97
	02/01/2026	\$69.49	\$11.49	\$22.34	\$0.00	\$103.32
	08/01/2026	\$71.69	\$11.49	\$22.34	\$0.00	\$105.52
	02/01/2027	\$73.09	\$11.49	\$22.34	\$0.00	\$106.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.65	\$11.49	\$22.34	\$0.00	\$63.48
2	60	\$35.57	\$11.49	\$22.34	\$0.00	\$69.40
3	70	\$41.50	\$11.49	\$22.34	\$0.00	\$75.33
4	80	\$47.43	\$11.49	\$22.34	\$0.00	\$81.26
5	90	\$53.36	\$11.49	\$22.34	\$0.00	\$87.19

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$22.34	\$0.00	\$64.50
2	60	\$36.80	\$11.49	\$22.34	\$0.00	\$70.63
3	70	\$42.94	\$11.49	\$22.34	\$0.00	\$76.77
4	80	\$49.07	\$11.49	\$22.34	\$0.00	\$82.90
5	90	\$55.21	\$11.49	\$22.34	\$0.00	\$89.04

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$47.58	\$9.40	\$17.97	\$0.00	\$74.95
	12/01/2023	\$48.83	\$9.40	\$17.97	\$0.00	\$76.20
	06/01/2024	\$50.31	\$9.40	\$17.97	\$0.00	\$77.68
	12/01/2024	\$51.78	\$9.40	\$17.97	\$0.00	\$79.15
	06/01/2025	\$53.28	\$9.40	\$17.97	\$0.00	\$80.65
	12/01/2025	\$54.78	\$9.40	\$17.97	\$0.00	\$82.15
	06/01/2026	\$56.33	\$9.40	\$17.97	\$0.00	\$83.70
	12/01/2026	\$57.83	\$9.40	\$17.97	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$43.70	\$9.40	\$17.97	\$0.00	\$71.07
	12/01/2023	\$44.95	\$9.40	\$17.97	\$0.00	\$72.32
	06/01/2024	\$46.43	\$9.40	\$17.97	\$0.00	\$73.80
	12/01/2024	\$47.90	\$9.40	\$17.97	\$0.00	\$75.27
	06/01/2025	\$49.40	\$9.40	\$17.97	\$0.00	\$76.77
	12/01/2025	\$50.90	\$9.40	\$17.97	\$0.00	\$78.27
	06/01/2026	\$52.45	\$9.40	\$17.97	\$0.00	\$79.82
	12/01/2026	\$53.95	\$9.40	\$17.97	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.92	\$13.41	\$16.01	\$0.00	\$67.34
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2023	\$55.81	\$9.40	\$18.42	\$0.00	\$83.63
	12/01/2023	\$57.06	\$9.40	\$18.42	\$0.00	\$84.88
	06/01/2024	\$58.54	\$9.40	\$18.42	\$0.00	\$86.36
	12/01/2024	\$60.01	\$9.40	\$18.42	\$0.00	\$87.83
	06/01/2025	\$61.51	\$9.40	\$18.42	\$0.00	\$89.33
	12/01/2025	\$63.01	\$9.40	\$18.42	\$0.00	\$90.83
	06/01/2026	\$64.56	\$9.40	\$18.42	\$0.00	\$92.38
	12/01/2026	\$66.06	\$9.40	\$18.42	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2023	\$57.81	\$9.40	\$18.42	\$0.00	\$85.63
	12/01/2023	\$59.06	\$9.40	\$18.42	\$0.00	\$86.88
	06/01/2024	\$60.54	\$9.40	\$18.42	\$0.00	\$88.36
	12/01/2024	\$62.01	\$9.40	\$18.42	\$0.00	\$89.83
	06/01/2025	\$63.51	\$9.40	\$18.42	\$0.00	\$91.33
	12/01/2025	\$65.01	\$9.40	\$18.42	\$0.00	\$92.83
	06/01/2026	\$66.56	\$9.40	\$18.42	\$0.00	\$94.38
	12/01/2026	\$68.06	\$9.40	\$18.42	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2023	\$47.88	\$9.40	\$18.42	\$0.00	\$75.70
	12/01/2023	\$49.13	\$9.40	\$18.42	\$0.00	\$76.95
	06/01/2024	\$50.61	\$9.40	\$18.42	\$0.00	\$78.43
	12/01/2024	\$52.08	\$9.40	\$18.42	\$0.00	\$79.90
	06/01/2025	\$53.58	\$9.40	\$18.42	\$0.00	\$81.40
	12/01/2025	\$55.08	\$9.40	\$18.42	\$0.00	\$82.90
	06/01/2026	\$56.63	\$9.40	\$18.42	\$0.00	\$84.45
	12/01/2026	\$58.13	\$9.40	\$18.42	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2023	\$49.88	\$9.40	\$18.42	\$0.00	\$77.70
	12/01/2023	\$51.13	\$9.40	\$18.42	\$0.00	\$78.95
	06/01/2024	\$52.61	\$9.40	\$18.42	\$0.00	\$80.43
	12/01/2024	\$54.08	\$9.40	\$18.42	\$0.00	\$81.90
	06/01/2025	\$55.58	\$9.40	\$18.42	\$0.00	\$83.40
	12/01/2025	\$57.08	\$9.40	\$18.42	\$0.00	\$84.90
	06/01/2026	\$58.63	\$9.40	\$18.42	\$0.00	\$86.45
	12/01/2026	\$60.13	\$9.40	\$18.42	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	02/26/2023	\$64.69	\$14.07	\$18.86	\$0.00	\$97.62
	09/03/2023	\$66.44	\$14.07	\$18.86	\$0.00	\$99.37
	03/03/2024	\$68.24	\$14.07	\$18.86	\$0.00	\$101.17
	09/01/2024	\$70.04	\$14.07	\$18.86	\$0.00	\$102.97
	03/02/2025	\$71.84	\$14.07	\$18.86	\$0.00	\$104.77
	For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"					

Additional Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentices ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

**ENDICOTT ESTATE
ROOF REPLACEMENT**

656 EAST STREET
DEDHAM, MA 02026

TOWN OF DEDHAM

450 WASHINGTON STREET
DEDHAM, MA 02026

G | R | L | A

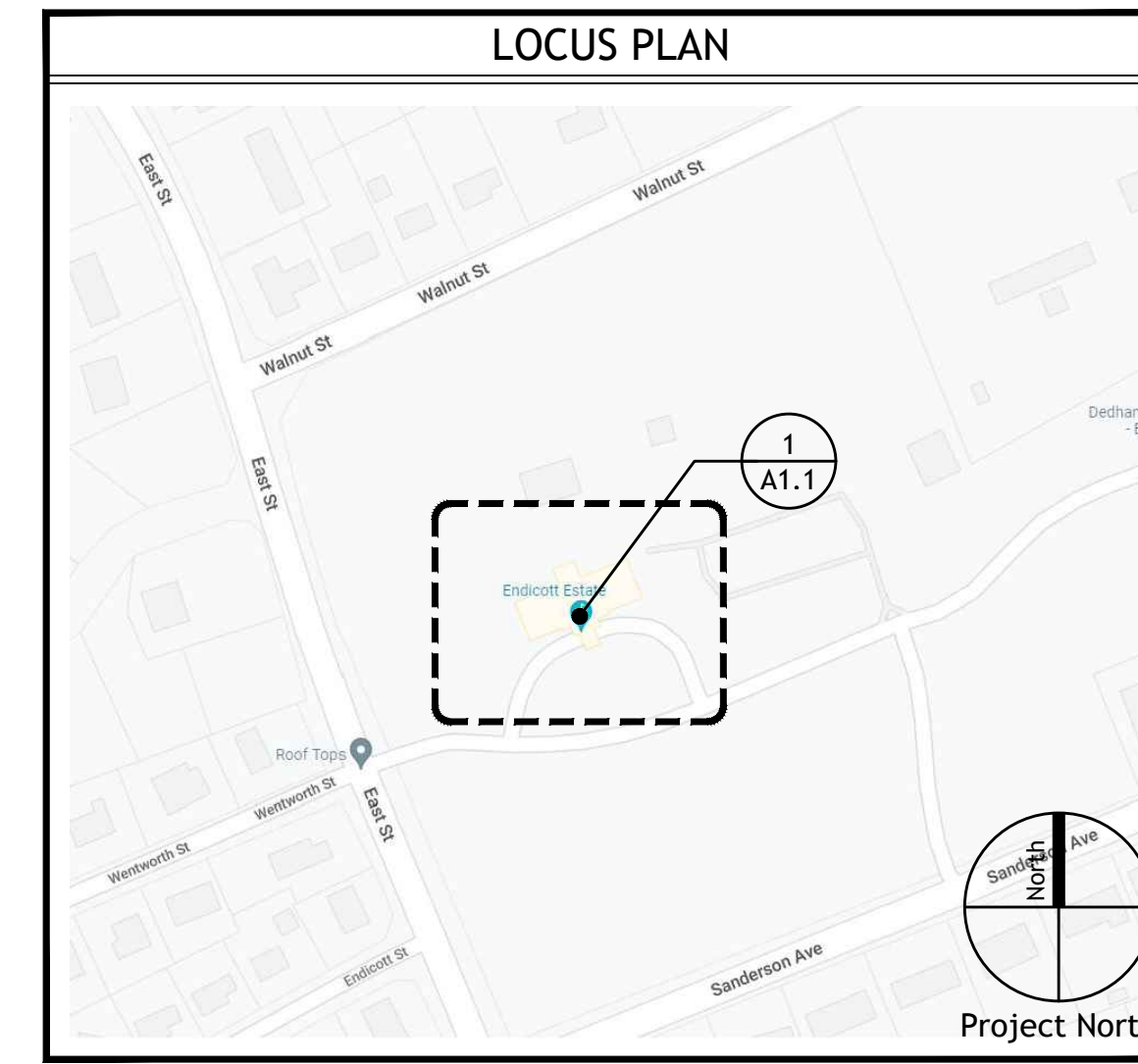
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239 South Street Hopkinton, MA 01748
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- GENERAL NOTES**
1. THE INFORMATION SHOWN IN THESE DRAWINGS HAS BEEN COMPILED FROM VARIOUS SOURCES; ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION MAY VARY. THE BUILDING ENVELOPE CONSULTANT TAKES NO LIABILITY OR RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION HEREIN.
 2. ALL PLANS, ELEVATIONS, SECTIONS, AND DETAILS ILLUSTRATE DESIGN INTENT; GAPS SHOWN IN DETAILS ARE FOR CLARITY PURPOSES ONLY. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL CONSTRUCT DETAILS NOT DEPICTED IN A MANNER CONSISTENT WITH THE DETAIL DRAWINGS.
 3. ANY CHANGES TO THE SCOPE OF WORK AS DESCRIBED IN THIS DOCUMENT PACKAGE MUST BE APPROVED IN WRITING BY THE OWNER AND THE BUILDING ENVELOPE CONSULTANT PRIOR TO PERFORMING WORK.
 4. THE CONTRACTOR SHALL VISUALLY INSPECT THE SITE TO DETERMINE THE CONDITION OF ANY EXISTING CONSTRUCTION AND FAMILIARIZE HIMSELF WITH THE PROPOSED WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE PREPARATION OF ALL AREAS AND SURFACES AND FOR THE INSTALLATION OF ALL MATERIALS, UTILITIES, SYSTEMS, ETC., AS INDICATED IN THIS DOCUMENT PACKAGE, OR AS SPECIFIED OR REQUIRED.
 5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL CONFORM TO THE APPLICABLE LAWS, CODES STANDARDS AND ORDINANCES WITHIN THE LOCAL JURISDICTION OF THE INSTALLATION. COPIES OF THE PERMITS AND APPROVALS SHALL BE PROVIDED TO THE OWNER AND THE BUILDING ENVELOPE CONSULTANT.
 6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A WORK SCHEDULE AND PHASING PLAN FOR REVIEW AND APPROVAL BY THE OWNER AND THE BUILDING ENVELOPE CONSULTANT. THE CONTRACTOR SHALL COORDINATE THE PHASING OF WORK WITH THE OCCUPANCY AND USE OF THE SITE BY THE OWNER.
 7. THE CONTRACTOR SHALL ESTABLISH AND PROVIDE A COMPREHENSIVE SITE ACCESS PLAN TO THE OWNER AND THE BUILDING ENVELOPE CONSULTANT THAT INCLUDES PROPOSED STAGING, LAYDOWN LOCATIONS, VEHICLE PARKING LOCATIONS, THE REMOVAL OF DEMOLITION ITEMS AND DEBRIS, RECEIVING AND STORAGE OF MATERIALS, SITE SECURITY, AND ANY OTHER LOCATIONS REQUIRED FOR ACCESS FOR THE OWNERS REVIEW THAT WILL MINIMIZE DISRUPTIONS TO THE BUILDING AND SURROUNDINGS.
 8. THE CONTRACTOR SHALL PROVIDE CHAIN LINK FENCE AROUND STAGING/LAYDOWN LOCATIONS TO PREVENT UNAUTHORIZED ACCESS. IF APPLICABLE, THE CONTRACTOR SHALL CONFIRM WITH THE OWNER ALL ROUTES FOR VEHICLES AND PERSONNEL THROUGH ALL INTERIOR AND EXTERIOR AREAS OF THE PROPERTY.
 9. EMERGENCY VEHICLE AND PEDESTRIAN ENTRANCEWAYS AND ROUTES SHALL REMAIN OPEN AT ALL TIMES. THE CONTRACTOR SHALL ALSO MAINTAIN ANY ADDITIONAL OPEN ROUTES WITHIN THE WORK AREA AS REQUESTED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION, INCLUDING TEMPORARY BARRICADES AND SIGNAGE, AT ALL BUILDING ENTRANCE WAYS AND THROUGH WORK AREAS IN ACCORDANCE WITH OSHA, LOCAL, STATE, AND FEDERAL GUIDELINES TO PREVENT PEDESTRIANS FROM ACCESSING WORK AREAS.
 10. ALL NECESSARY OVERHEAD PROTECTION SHALL EXTEND A MINIMUM OF 8'-0" BEYOND THE BUILDINGS ENTRANCES.
 11. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE PROTECTION OF LANDSCAPE, WALKWAYS, DECKING, FENCING, ETC. TO PREVENT DAMAGE FROM THE WORK OR ACCESS TO THE WORK.
 12. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE PROTECTION OF OCCUPANTS INTERIOR FURNISHINGS AND BELONGINGS FROM DUST AND DEBRIS DUE TO THE WORK.
 13. ANY DAMAGE CAUSED BY THE CONTRACTOR'S PROJECT WORK ACTIVITY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OR HER OWN COST AND TO THE SATISFACTION OF THE OWNER AND THE BUILDING ENVELOPE CONSULTANT.
 14. CONTRACTOR PARKING ON SITE IS LIMITED; THE CONTRACTOR SHALL COORDINATE PARKING WITH THE OWNER.
 15. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN A CLEAN WORK ENVIRONMENT AND AT THE END OF EACH WORKDAY, CLEAN THE AREA OF DIRT, TRASH, MATERIALS, TOOLS, EQUIPMENT, ETC.
 16. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND THE BUILDING ENVELOPE CONSULTANT TO IDENTIFY ITEMS TO BE DEMOLISHED, SALVAGED, REMOVED, OR REMAIN IN PLACE. THE CONTRACTOR SHALL CAREFULLY STORE REMOVED AND SALVAGED ITEMS, AND SHALL FULLY PROTECT ITEMS TO REMAIN IN PLACE PRIOR TO COMMENCEMENT OF PROJECT WORK ACTIVITY. THE CONTRACTOR SHALL DISPOSE OF ALL DEMOLITION DEBRIS IN A LEGAL MANNER.
 17. ALL DETERIORATED AND/OR UNSUITABLE CONDITIONS SHALL BE BROUGHT TO THE OWNERS, AND BUILDING ENVELOPE CONSULTANTS, ATTENTION BY THE CONTRACTOR PRIOR TO PERFORMING WORK.
 18. THE CONTRACTOR SHALL PROVIDE ALL ACCESS TO THE WORK AREAS FROM THE BUILDING EXTERIOR. COORDINATE ANY INTERIOR ACCESS WITH THE OWNER IN ADVANCE, 72 HOURS MINIMUM.
 19. THE BUILDING WILL REMAIN OCCUPIED DURING CONSTRUCTION. PROVIDE THE OWNER 72 HOURS ADVANCED NOTICE OF ALL ANTICIPATED WORK LOCATIONS TO ALLOW FOR COORDINATION OF OCCUPANCY CONTROL AND RELOCATION IF NECESSARY.
 20. THE CONTRACTOR SHALL COORDINATE THE DISCONNECTION AND RECONNECTION OF ANY SITE/BUILDING UTILITIES WITH THE OWNER PRIOR TO PERFORMING THE WORK.
 21. THE CONTRACTOR IS RESPONSIBLE FOR, AND SHALL PROVIDE, ADEQUATE SHORING AND BRACING FOR ALL WORK DURING CONSTRUCTION, AS WELL AS ASSOCIATED DESIGN SIGNING AND STAMPED BY A QUALIFIED AND LICENSED PROFESSIONAL ENGINEER BASED ON THE CONTRACTOR'S PROPOSED MEANS AND METHODS OF WORK.
 22. HAZARDOUS MATERIAL TESTING HAS NOT BEEN PERFORMED. IF THE CONTRACTOR ENCOUNTERS A SUSPECTED HAZARDOUS MATERIAL, THE CONTRACTOR SHALL STOP WORK, NOT DISTURB THE MATERIAL, AND INFORM THE OWNER AND THE BUILDING ENVELOPE CONSULTANT IMMEDIATELY. THE CONTRACTOR SHALL HAVE THE SUSPECTED HAZARDOUS MATERIAL TESTED. IF FOUND HAZARDOUS, THE CONTRACTOR SHALL SAFELY, LEGALLY, AND PROPERLY ABATE AND DISPOSE OF ANY AND ALL MATERIAL ENCOUNTERED DURING PROJECT WORK ACTIVITY.

LEGEND

	PLAN / DETAIL MARKER
	PLAN / DETAIL TITLE SCALE: #" = 1'-0"
	EXTERIOR ELEVATION MARKER
	EXTERIOR ELEVATION TITLE SCALE: #" = 1'-0"
	BREAKLINE
	ALTITUDE / ELEVATION MARKER
	CENTERLINE MARKER
	BUILDING ENTRANCE



1 SITE PLAN
SCALE: NOT TO SCALE

REVISIONS

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Proj. No.: 2023010.01
Scale: NOT TO SCALE
Drawn By: EM
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File Name: _G1-0.dwg

TITLE

SHEET

G1.0

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2023010.01 - TOWN OF DEDHAM - ENDICOTT ESTATE ROOF REPLACEMENT - BID DOCUMENTS - JUNE 14, 2023

**ENDICOTT ESTATE
ROOF REPLACEMENT**

656 EAST STREET
DEDHAM, MA 02026

TOWN OF DEDHAM

450 WASHINGTON STREET
DEDHAM, MA 02026

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Gorman Richardson Lewis Architects
239 South Street Hopkinton, MA 01748
www.grlarchitects.com

BID STRUCTURE

ROOF AREA A:

- REMOVE AND DISPOSE OF EXISTING ROOF ASSEMBLY AND ALL ASSOCIATE COMPONENTS DOWN TO STRUCTURAL DECK, INCLUDING BUT NOT LIMITED TO ASPHALT SHINGLES, UNDERLAYMENTS, AND ALL ASSOCIATED SHEET METAL FLASHINGS.
- INSTALL NEW ASPHALT SHINGLE ROOF ASSEMBLY AND ALL ASSOCIATED COMPONENTS, INCLUDING BUT NOT LIMITED TO ASPHALT SHINGLES, SELF-ADHERED & SYNTHETIC FELT UNDERLAYMENTS, AND ALL ASSOCIATED SHEET METAL FLASHINGS.
- REMOVE AND REPLACE EXISTING WOOD SIDING AT DORMER LOCATIONS TO MATCH EXISTING FOR THE INSTALLATION OF NEW SHEET METAL FLASHINGS. PAINT NEW WOOD SIDING IN THE FIELD TO MATCH EXISTING.

ALTERNATES:

ALTERNATE 01: INSTALL LIQUITEC FLUID APPLIED OVER EXISTING MODIFIED ROOF SYSTEM AT ROOF SECTIONS B, C, D AND E.

ALTERNATE 02: REMOVE AND REPLACE EXISTING ALUMINIUM GUTTERS AND DOWNSPOUTS AT ROOF SECTIONS B, C, D AND E.

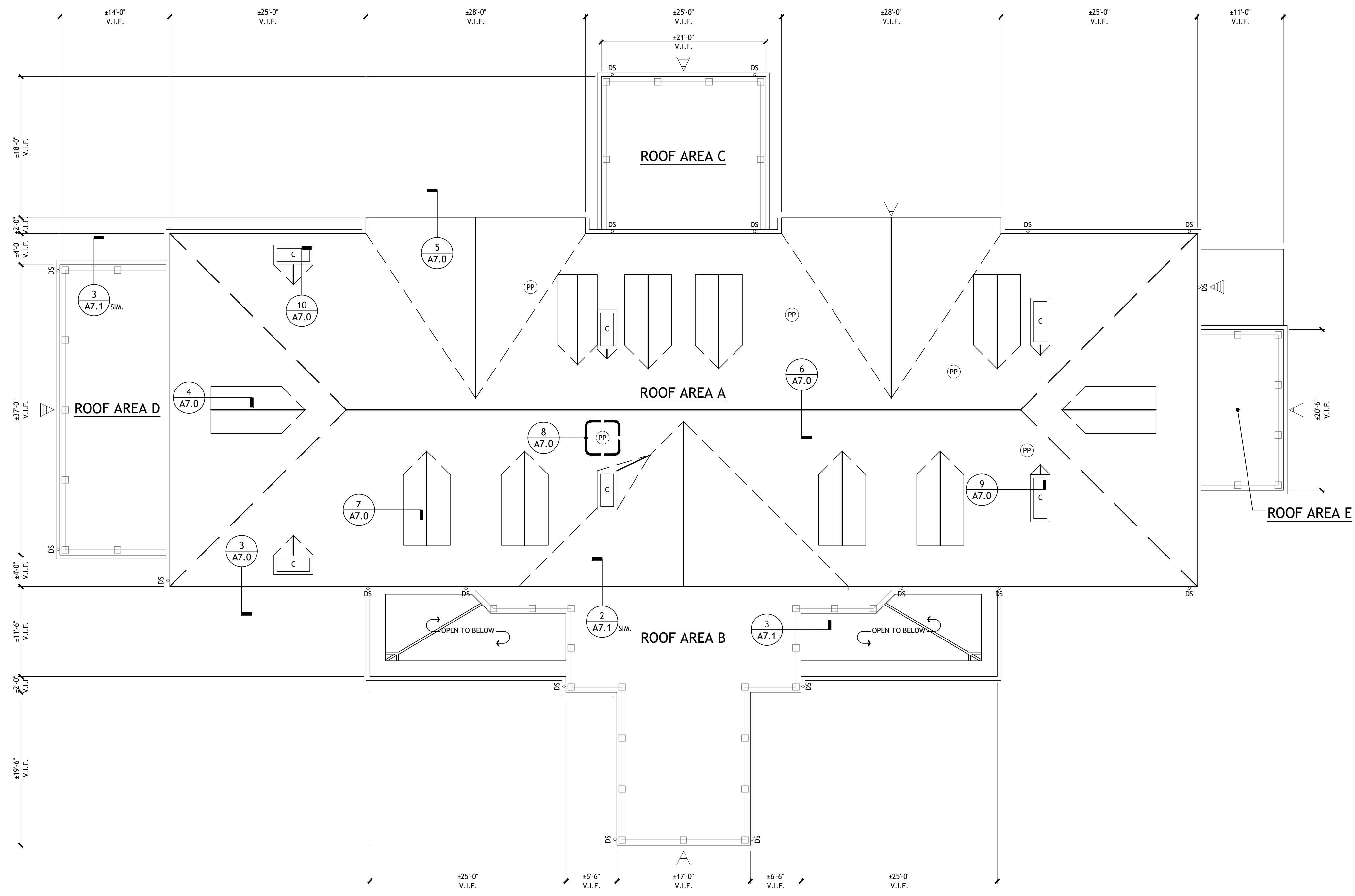
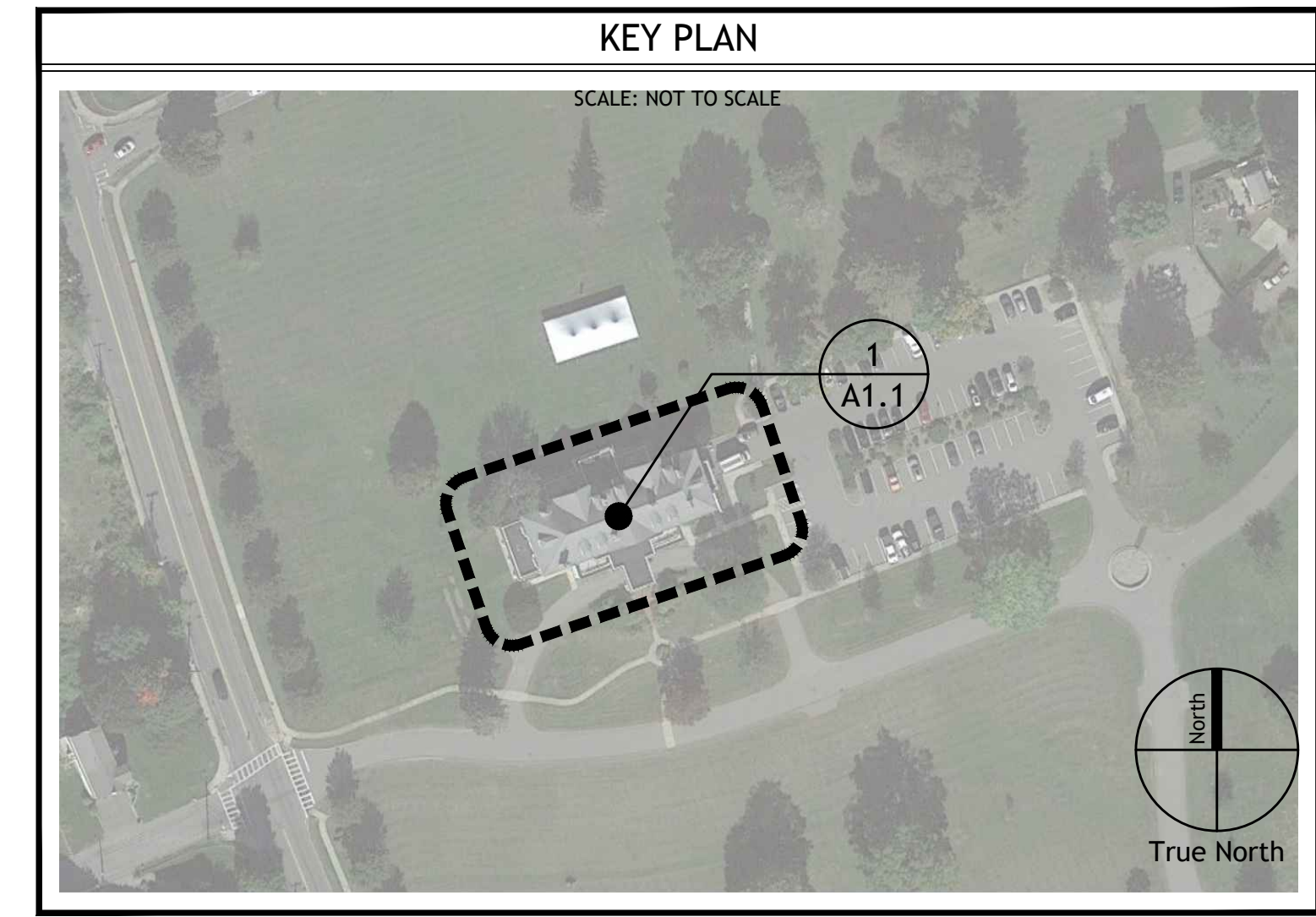
ALTERNATE 03: REMOVE AND REPLACE EXISTING DOWNSPOUT SYSTEMS AT ROOF SECTION A. EXISTING WOOD GUTTERS TO REMAIN AT ROOF SECTION A. FLUID APPLIED COATING TO BE PROVIDED AT ALL WOOD GUTTER LOCATIONS.

GENERAL NOTES

- SEE G1.0 FOR ADDITIONAL GENERAL NOTES.
- THE BASELINE FOR THESE ROOF PLANS HAS BEEN COMPILED FROM FROM VARIOUS SOURCES; ALL DIMENSIONS SHOWN ARE APPROXIMATE; CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD.
- THE NUMBER AND LOCATIONS OF ALL ROOF PENETRATIONS, EQUIPMENT, AND CONDUITS ARE BASED OFF OF LIMITED FIELD OBSERVATIONS; THE ACTUAL AMOUNT AND LOCATIONS OF PENETRATIONS MAY VARY; CONTRACTOR TO VERIFY THE AMOUNT AND LOCATIONS OF PENETRATIONS IN THE FIELD.
- HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHOULD NOT BE USED AS A MEANS OF QUANTIFYING.
- FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL ON THE ROOF PLAN HAS NOT BEEN INDICATED. INSTALLATION DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.

LEGEND

—	ROOF EDGE		CHIMNEY; EXISTING TO REMAIN
—	ROOF RIDGE		BUILDING ENTRANCE (BELOW); PROVIDE OVERHEAD PROTECTION
- - -	ROOF VALLEY		DETAIL TAG
—	ROOF HIP		
—	GUTTER; REMOVE AND REPLACE		
DS	DOWNSPOUT; REMOVE AND REPLACE		
—	RAILING; EXISTING TO REMAIN		
□	PITCH POCKET; EXISTING TO REMAIN		
PP	PIPE PENETRATION; EXISTING TO REMAIN		



1 ROOF PLAN
SCALE: 1/8" = 1'-0"

PROJECT: ENDICOTT ESTATE ROOF REPLACEMENT
CLIENT: TOWN OF DEDHAM
FIRM: G | R | L | A
KEY PLAN: KEY PLAN
REVISIONS: [REVISIONS TABLE]
COPYRIGHT: COPYRIGHT 2023
SEAL / ORIENTATION: [SEAL AND ORIENTATION]
TITLE: ROOF PLAN
SHEET: A1.0

REVISIONS

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DATE

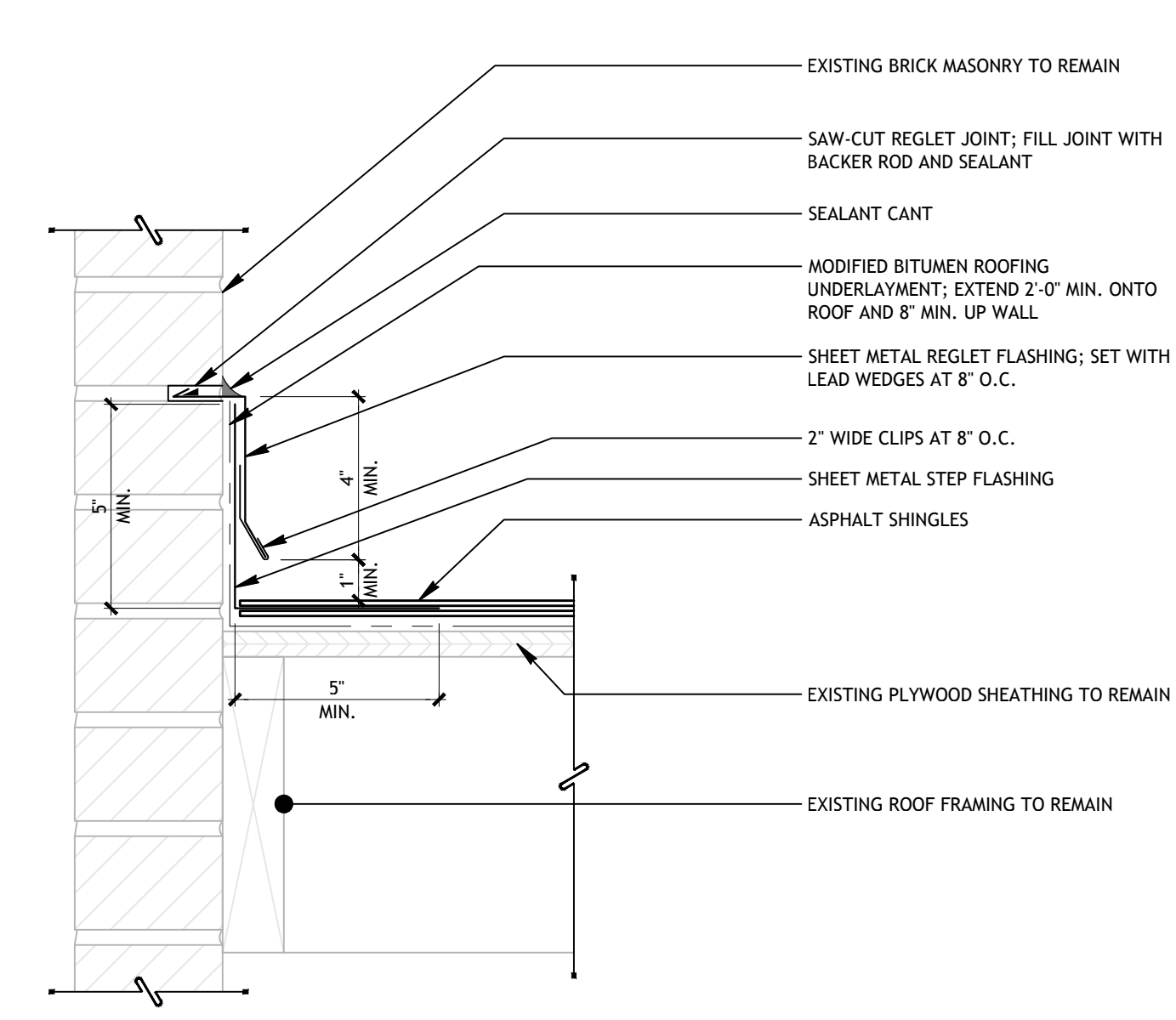
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Proj. No.: 2023010.01
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Checked By: CP
File Name: A1-0.dwg

A1.0

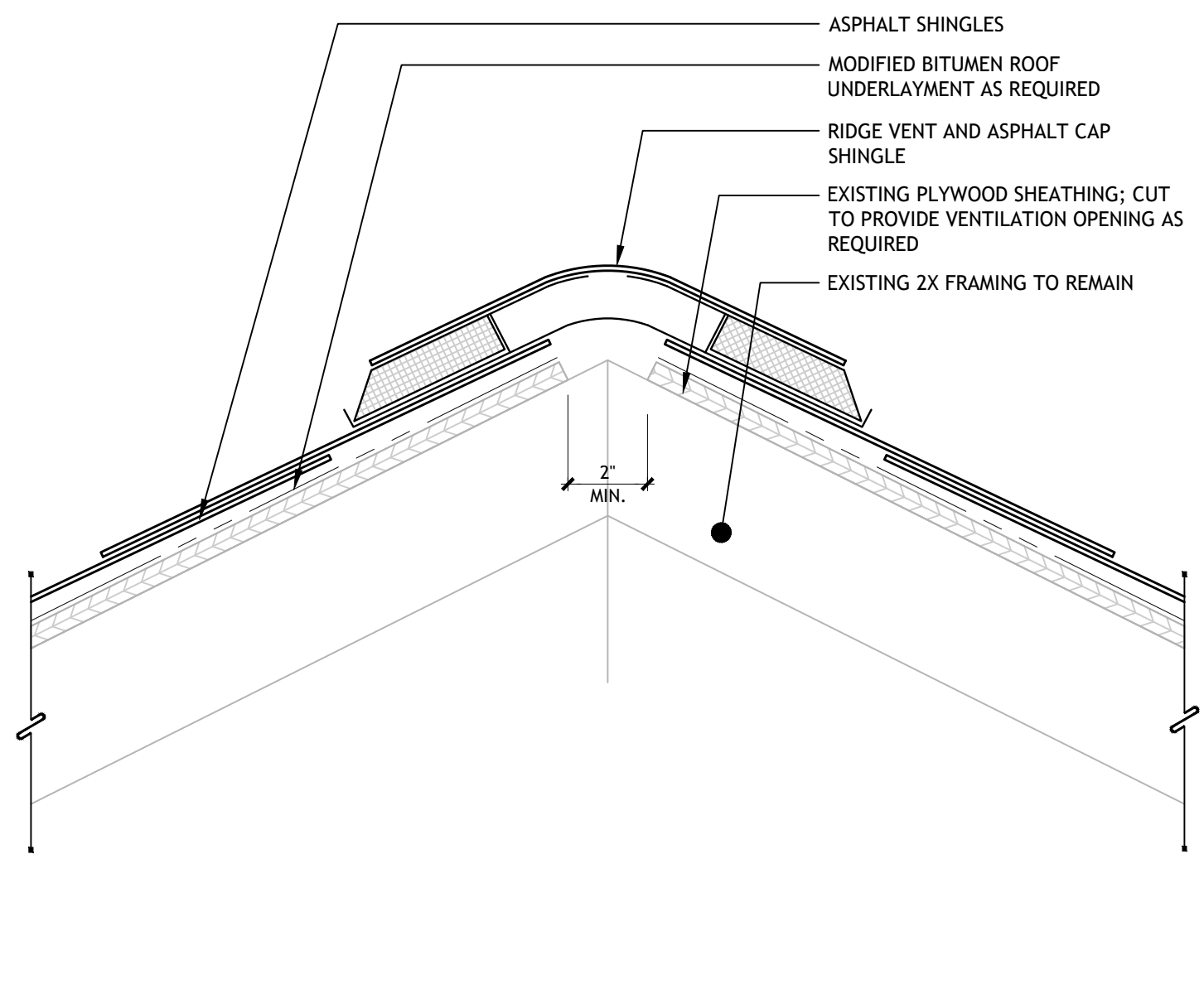
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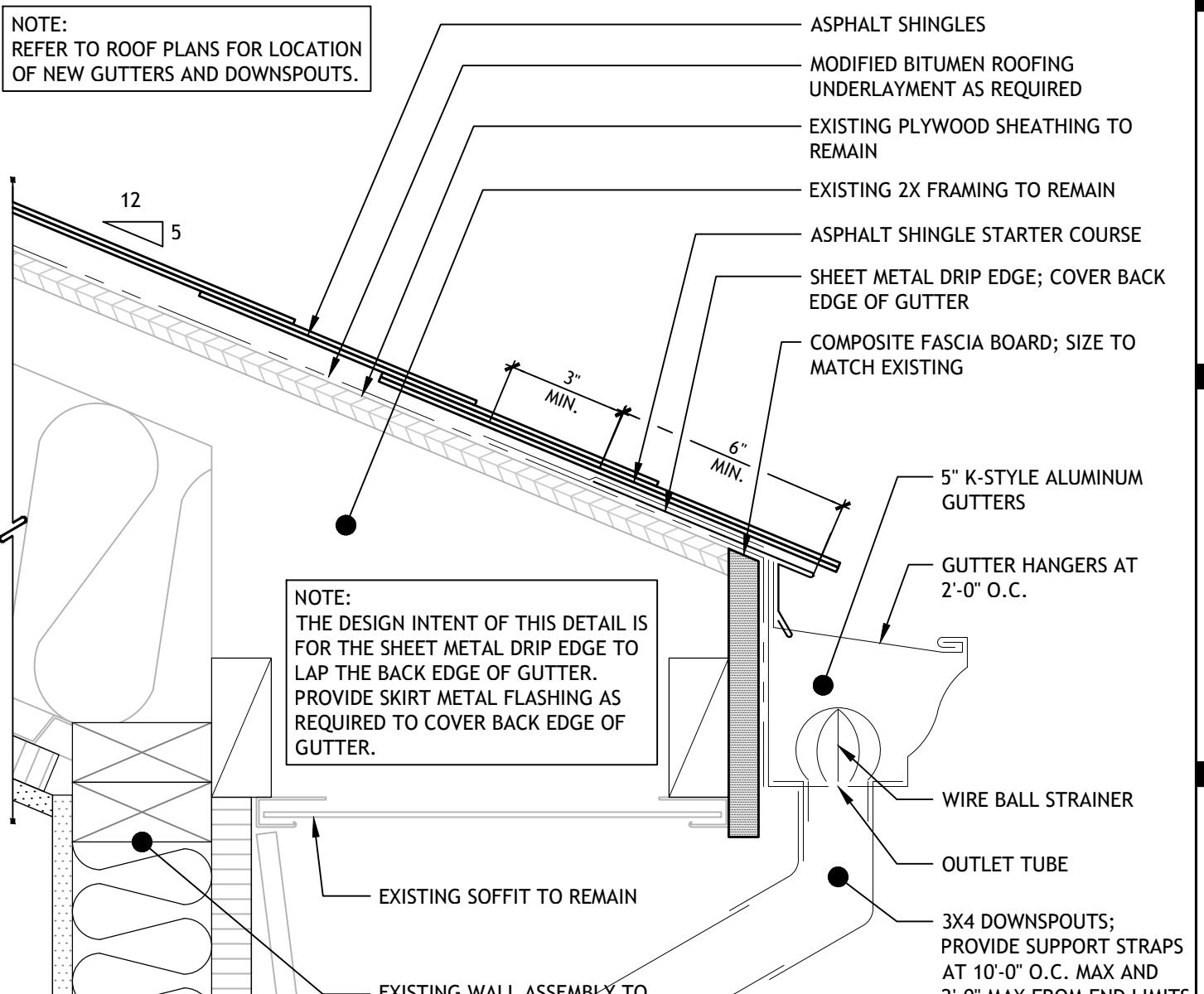
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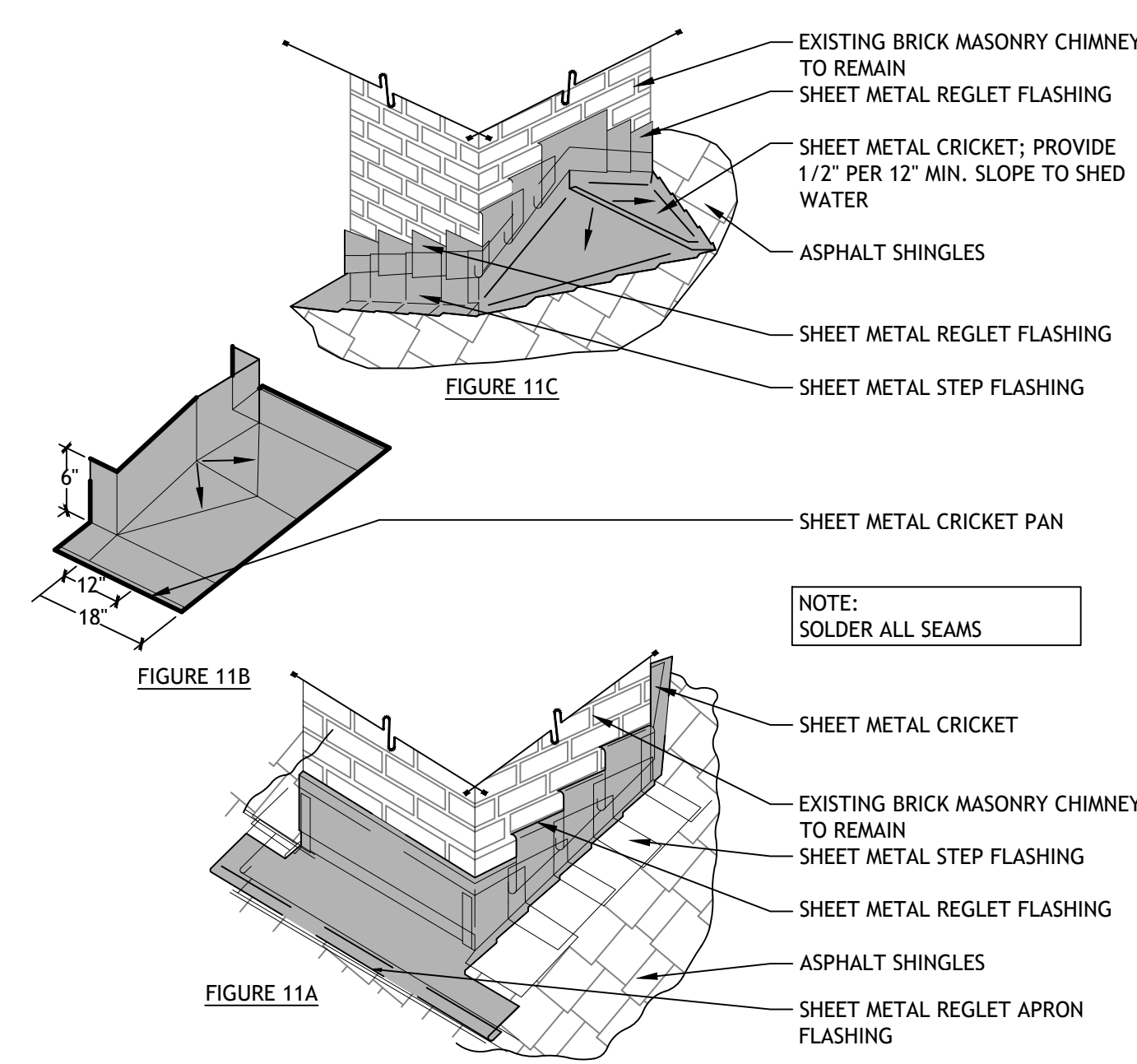
9 STEP FLASHING DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



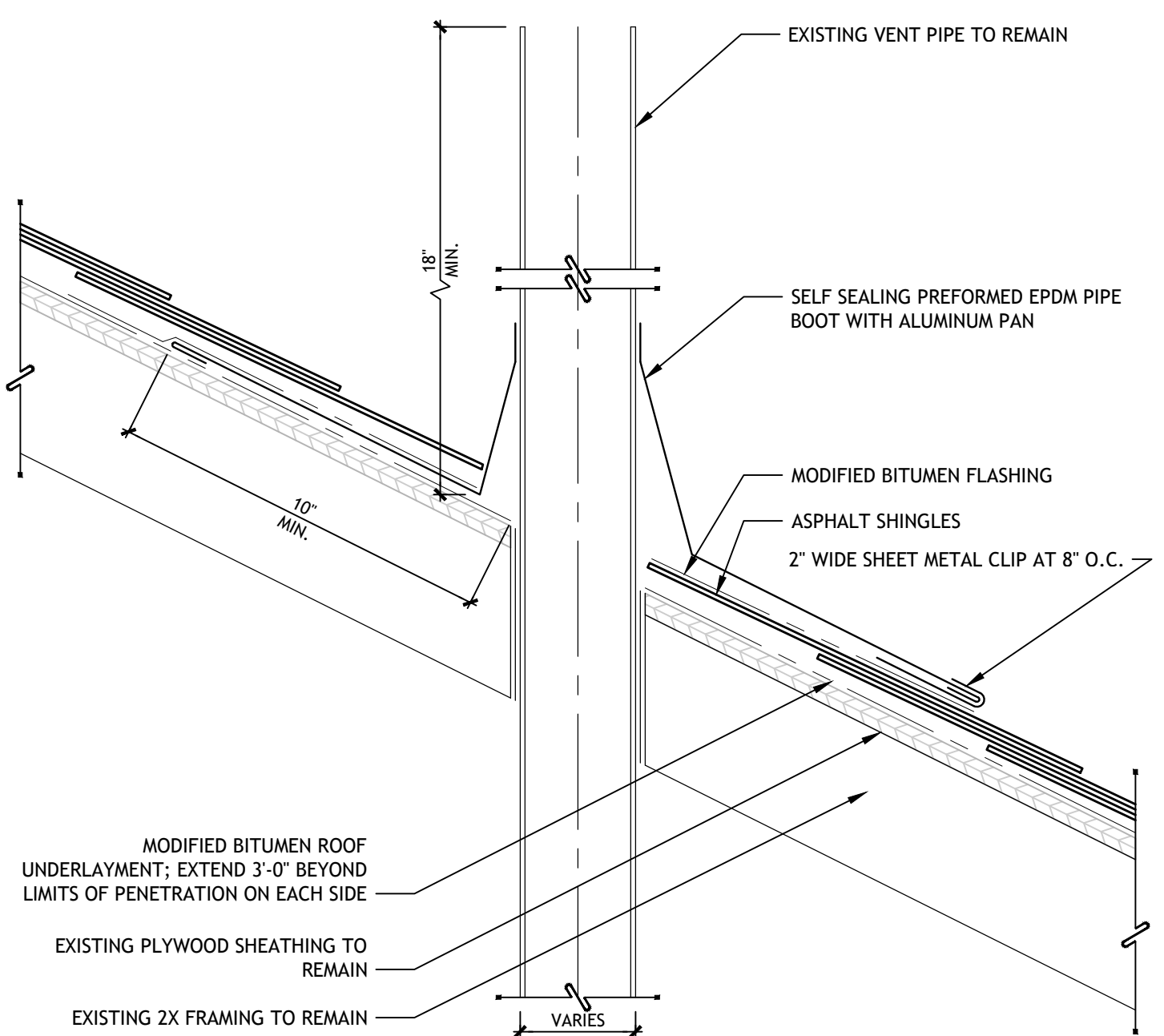
6 RIDGE DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



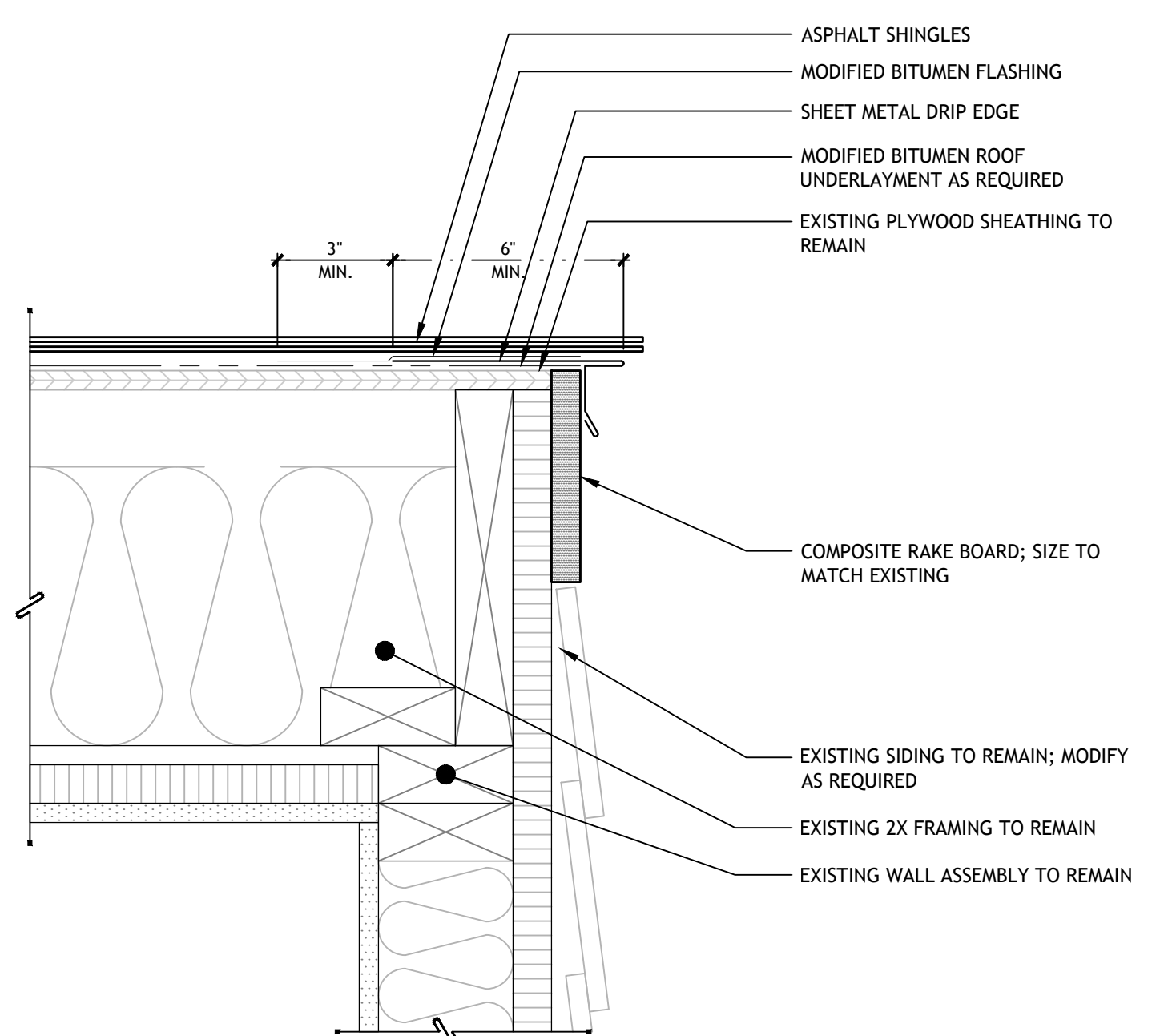
3 ROOF EAVE WITH GUTTER DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



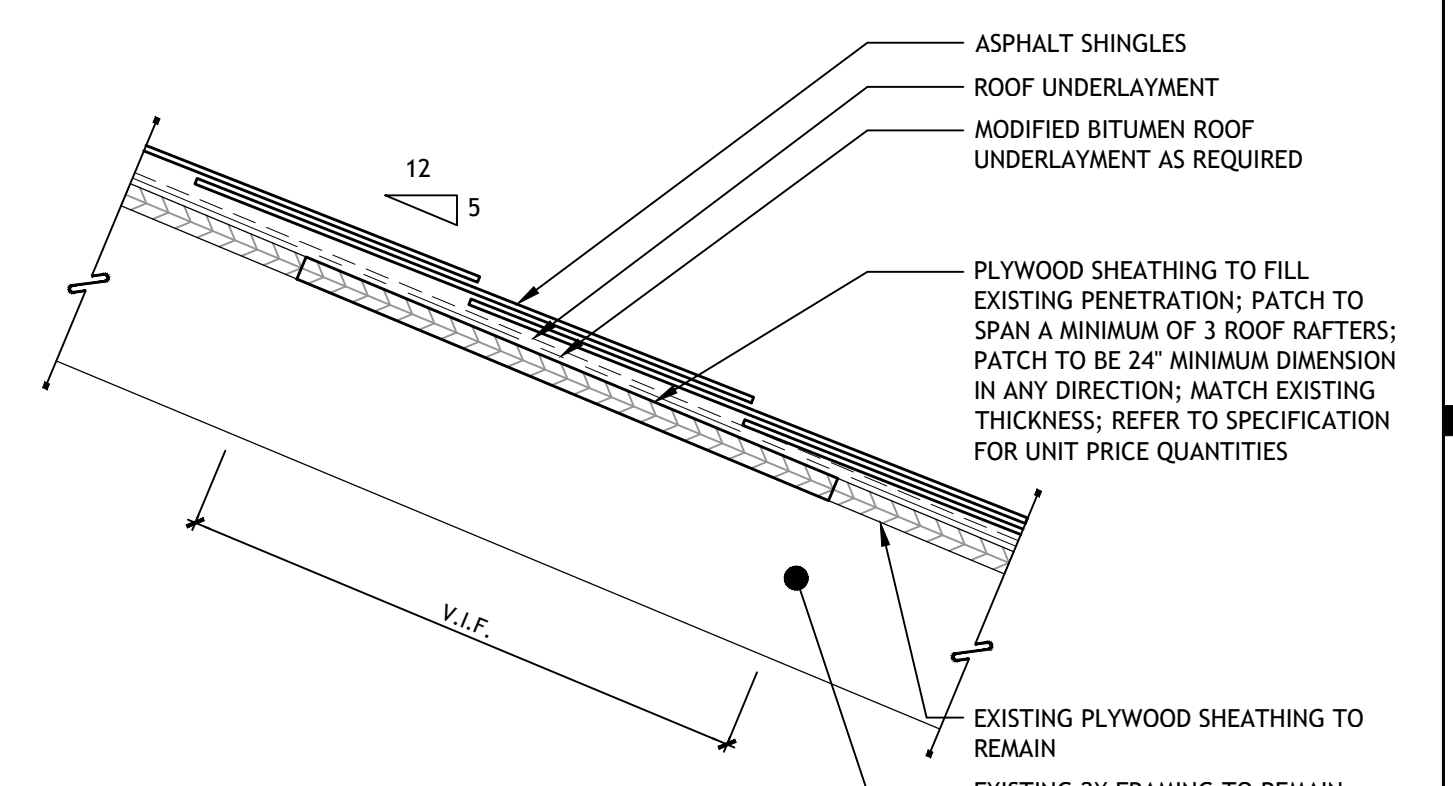
11 CHIMNEY FLASHING ISOMETRIC DETAIL
SCALE: NTS
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



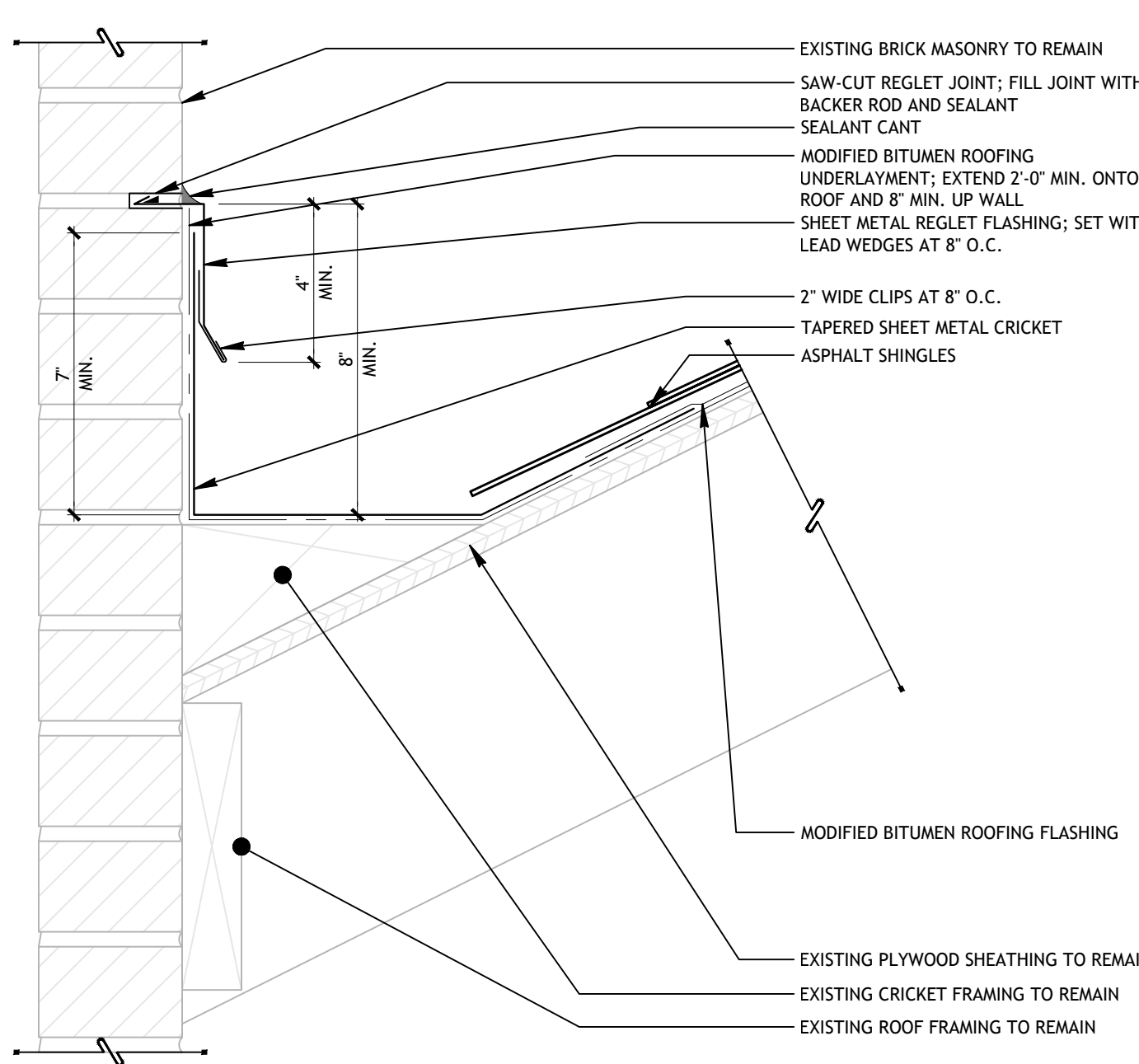
8 VENT PIPE PENETRATION DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



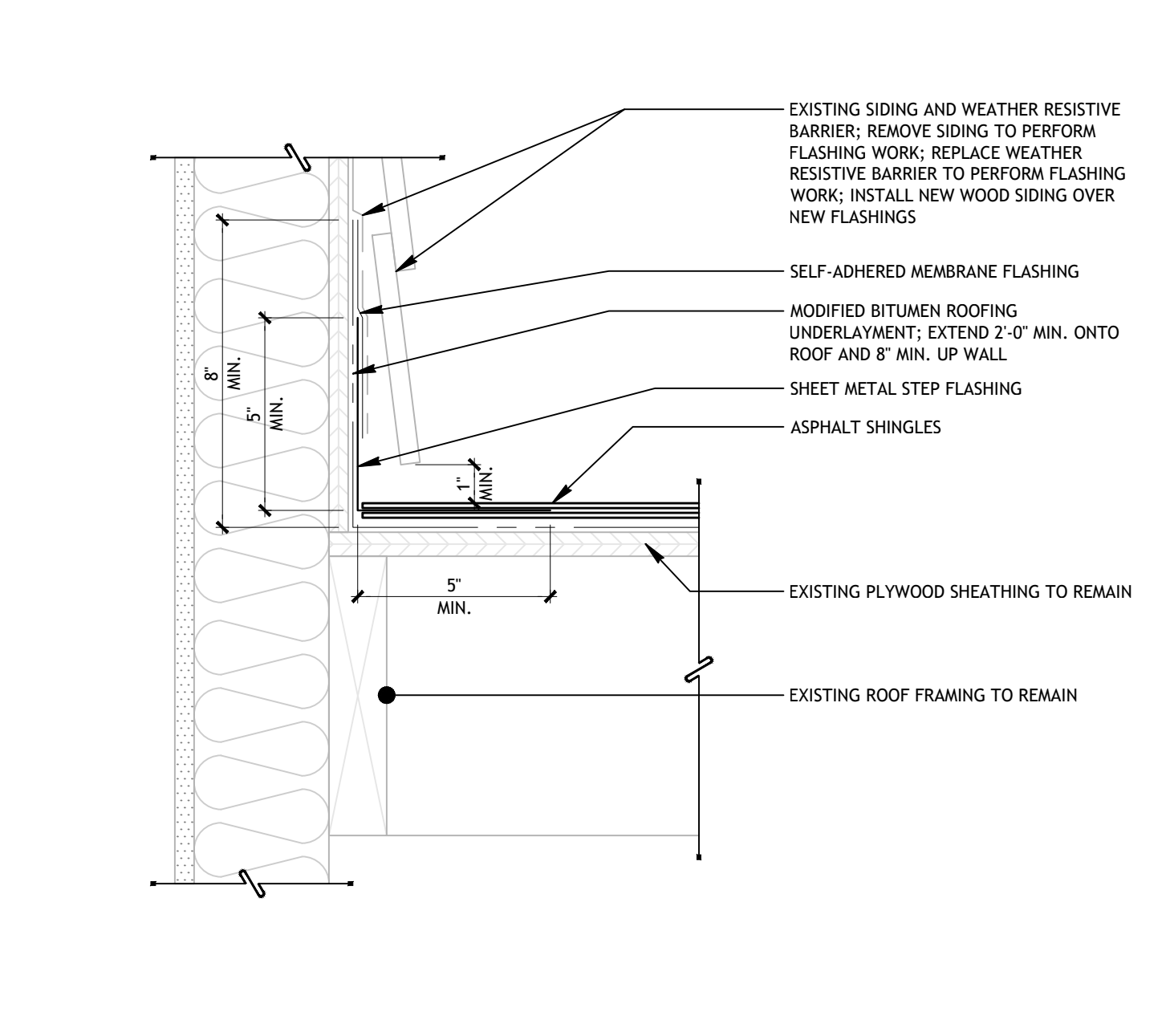
5 RAKE DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



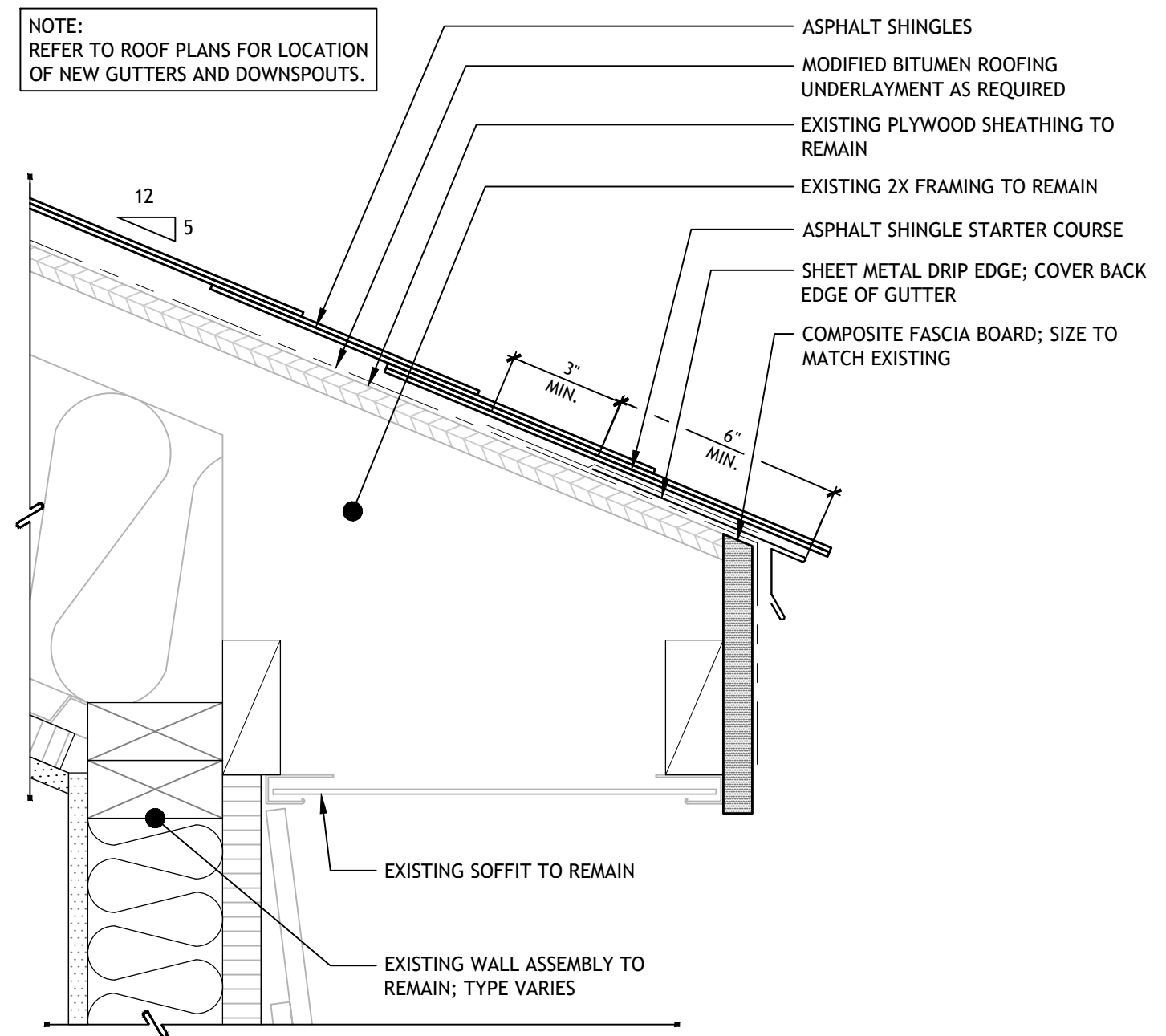
2 ROOF SHEATHING REPAIR DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



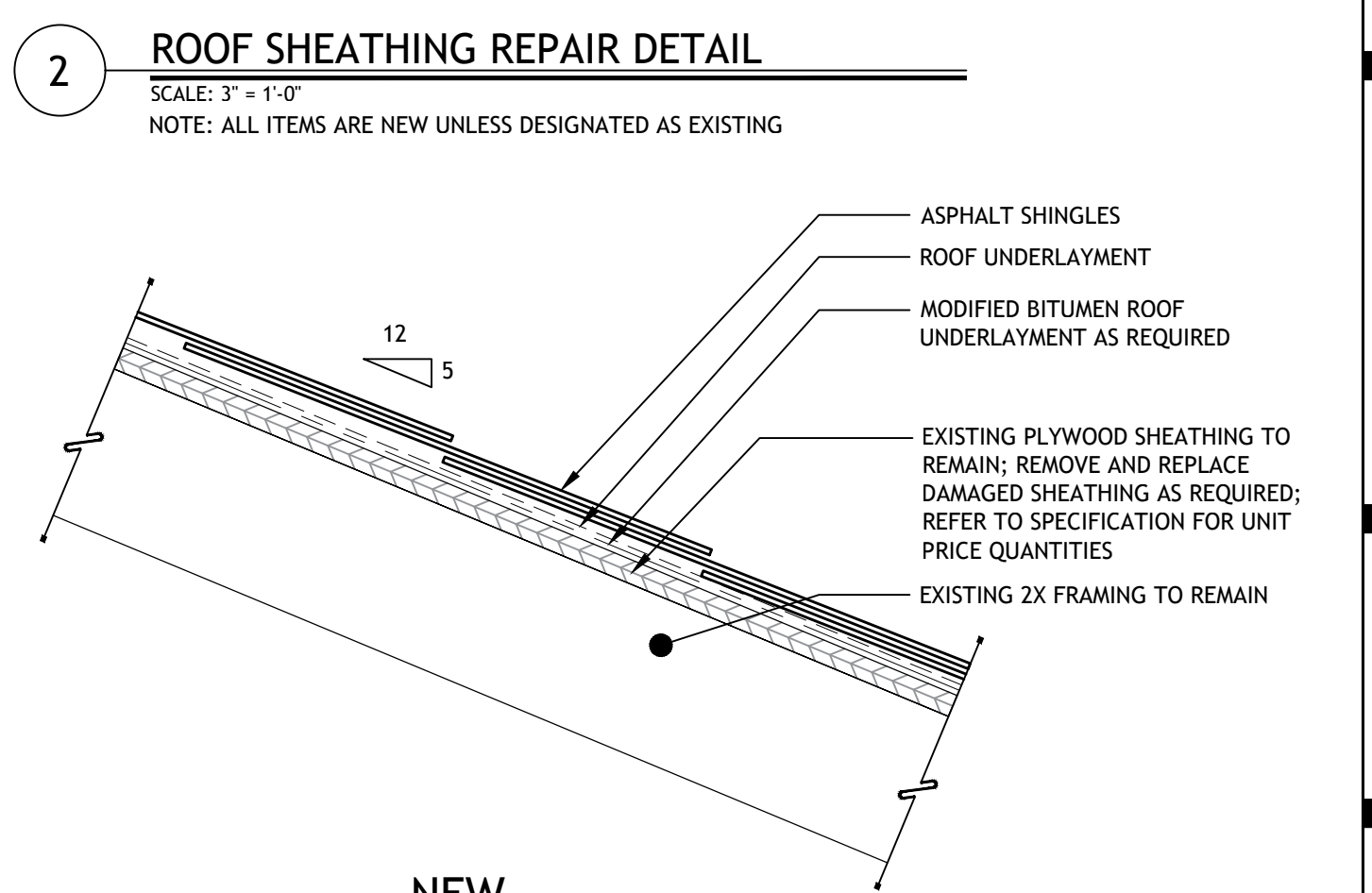
10 ROOF CRICKET DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



7 STEP FLASHING DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



4 DORMER ROOF DETAIL
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING



1 ROOF CROSS SECTION
SCALE: 3" = 1'-0"
NOTE: ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING

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ASPHALT SHINGLE
ROOF DETAILS

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ENDICOTT ESTATE
ROOF REPLACEMENT

PROJECT
656 EAST STREET
DEDHAM, MA 02026

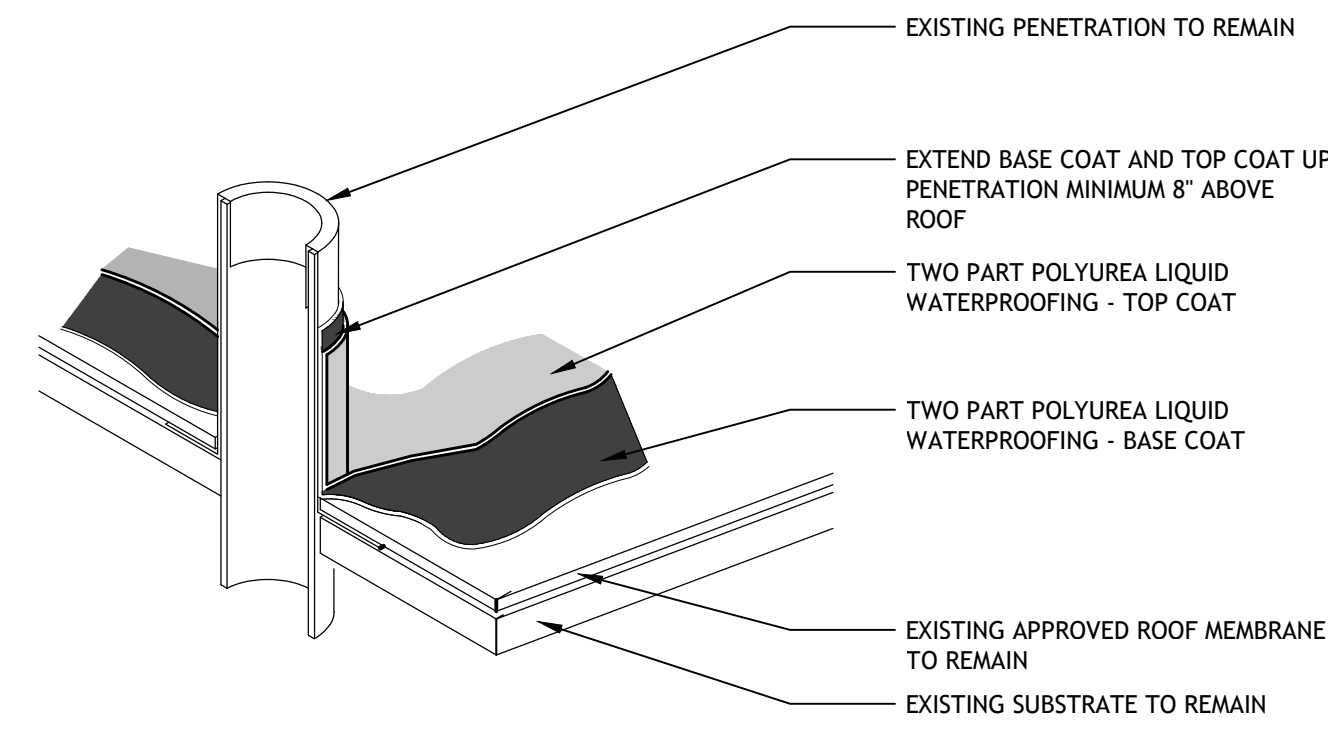
CLIENT
TOWN OF DEDHAM

450 WASHINGTON STREET
DEDHAM, MA 02026

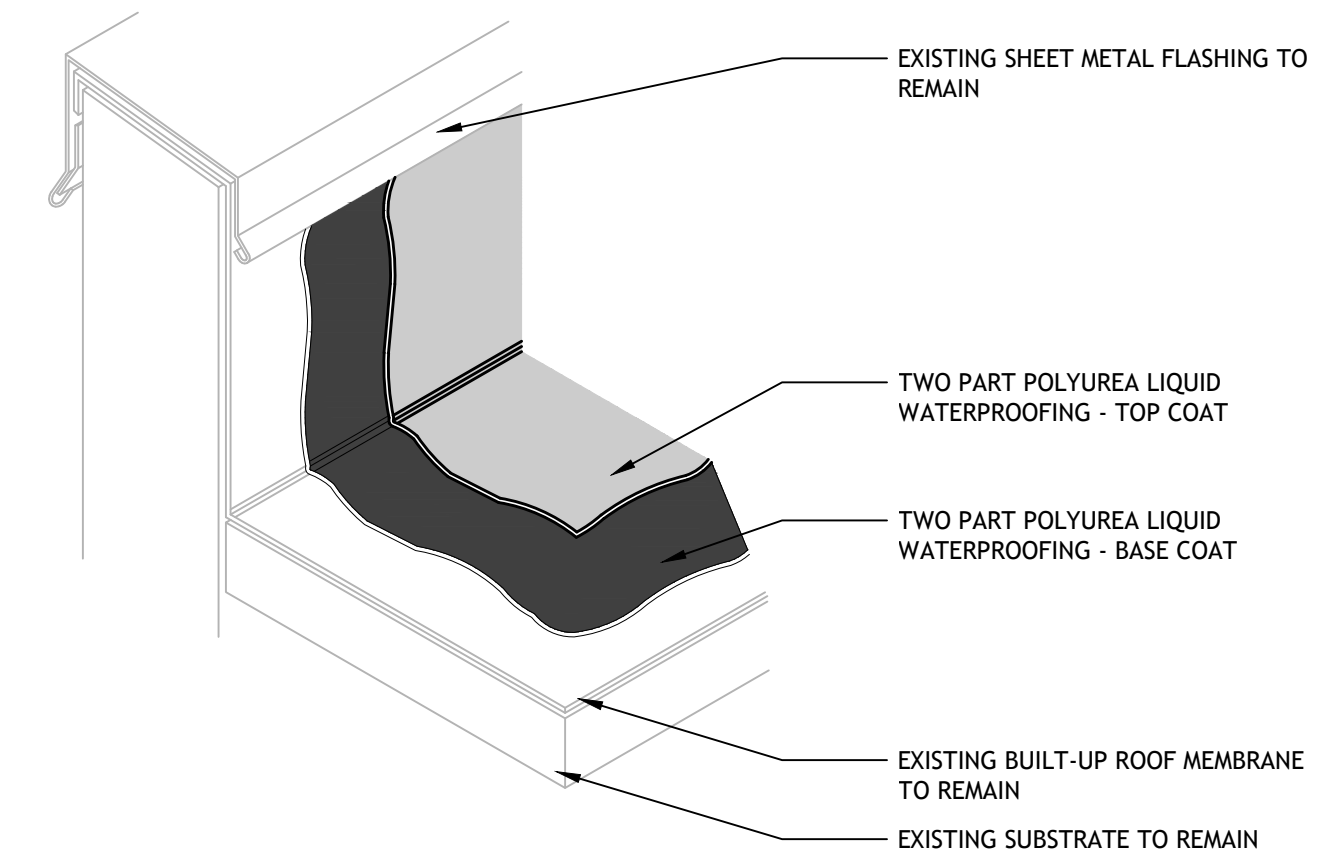
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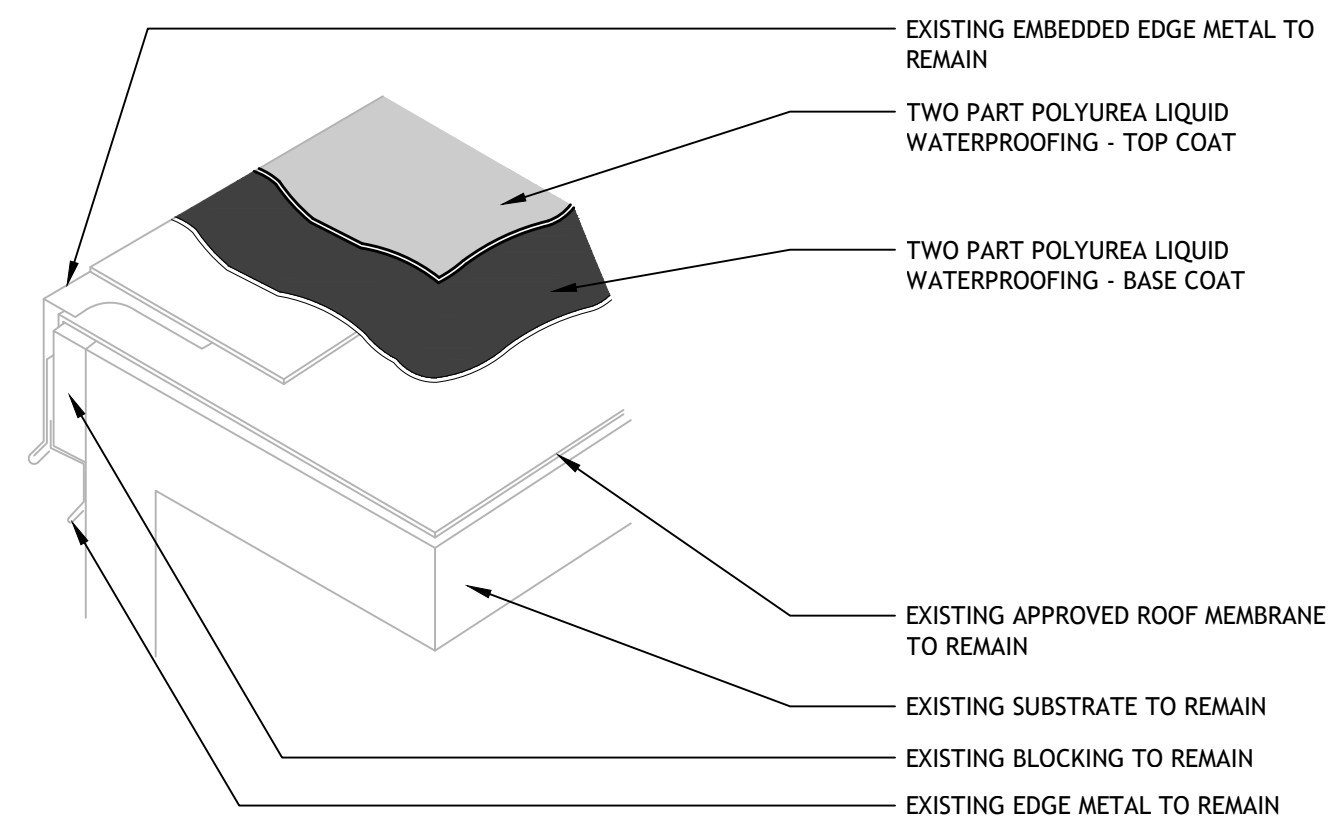
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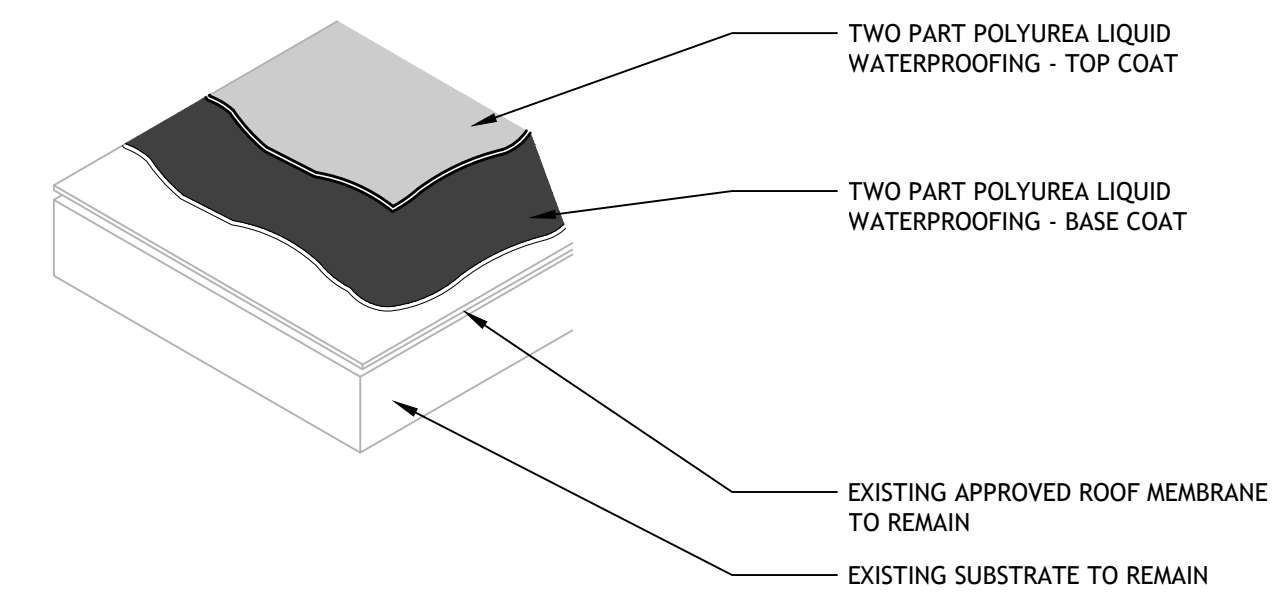
4 PENETRATION DETAIL
SCALE: NOT TO SCALE



2 WALL DETAIL
SCALE: NOT TO SCALE



3 EMBEDDED EDGE METAL DETAIL
SCALE: NOT TO SCALE



1 CROSS SECTION DETAIL
SCALE: NOT TO SCALE

NOTE:
EXISTING LOW-SLOPE ROOF ASSEMBLIES VARY; FLUID APPLIED ROOF COATING SYSTEM TO BE APPLIED TO EXISTING MODIFIED ROOF; CONTRACTOR TO REMOVE ALL EXISTING MATERIALS, INCLUDING, BUT NOT LIMITED TO, EPDM ROOF MEMBRANE AND INSULATION DOWN TO THE EXISTING MODIFIED ROOF.

KEY PLAN

REMARKS

REVISIONS

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Proj. No.:	2023010.01
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LOW-SLOPE
ROOF DETAILS

A7.1

ENDICOTT ESTATE
ROOF REPLACEMENT

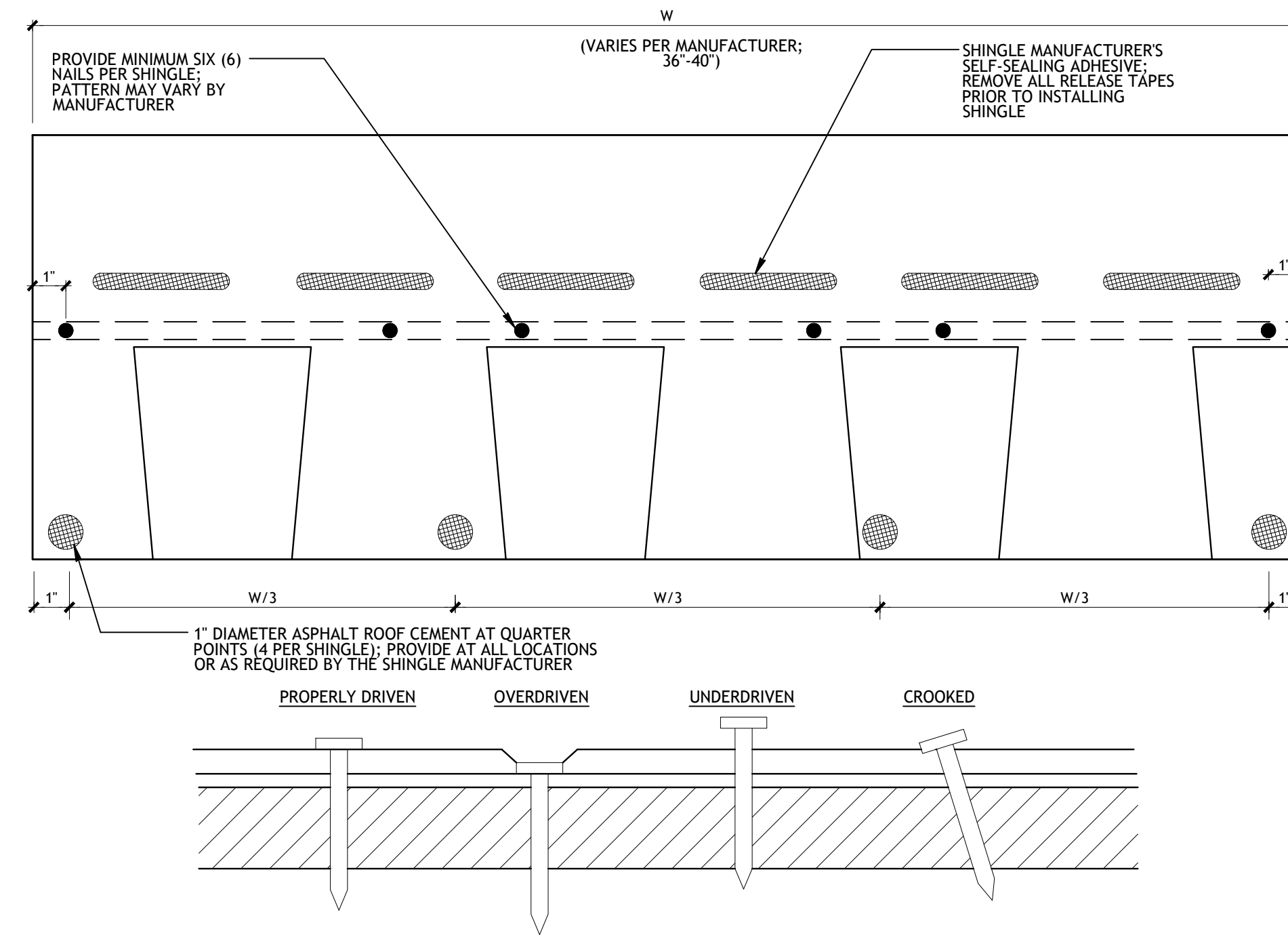
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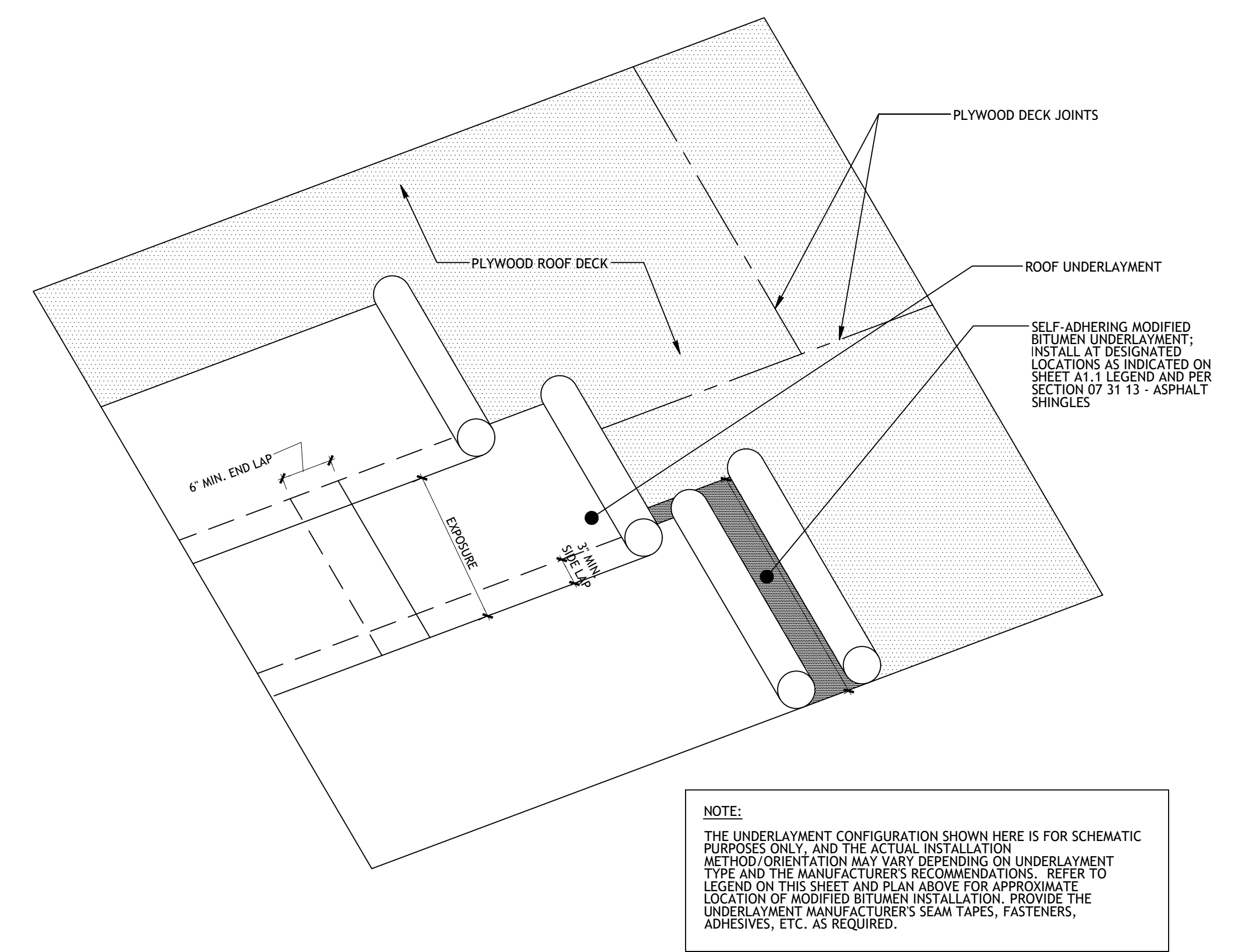
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18 TYPICAL FASTENING & WIND SEALING
SCALE: NOT TO SCALE



NOTE:
THE UNDERLAYMENT CONFIGURATION SHOWN HERE IS FOR SCHEMATIC PURPOSES ONLY. AND THE ACTUAL INSTALLATION METHOD/ORIENTATION MAY VARY DEPENDING ON UNDERLAYMENT TYPE AND THE MANUFACTURER'S RECOMMENDATIONS. REFER TO LEGEND ON THIS SHEET AND PLAN ABOVE FOR APPROXIMATE LOCATION OF MODIFIED BITUMEN INSTALLATION. PROVIDE THE UNDERLAYMENT MANUFACTURER'S SEAM TAPES, FASTENERS, ADHESIVES, ETC., AS REQUIRED.

17 TYPICAL UNDERLAYMENT CONFIGURATION
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Drawn By: EM
Checked By: CP
File Name: A7-2.dwg

TYPICAL DETAILS

A7.2

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