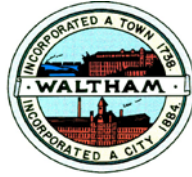


City of Waltham, Massachusetts



**Invites,
in accordance with
the Massachusetts General Law Chapter 149 §44 A-J,
Interested Parties
To respond with the best Bid**

For the:

**Stonehurst, The Robert Treat Paine Estate
Roof Preservation**

100 Robert Treat Paine Drive, Waltham, MA 02452

Site Inspection and Briefing: 10:00 AM Wednesday February 1, 2017

(Meet at 100 Robert Treat Paine Drive, Waltham, MA 02452)

Last Day for written questions: 12:00 Noon Thursday February 2, 2017

(Written questions via email at Jpedulla@city.waltham.ma.us)

General Bid Due: 10:00 AM Tuesday February 21, 2017

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**STONEHURST, THE ROBERT TREAT PAINE ESTATE
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PART I GENERAL DOCUMENTS

DIVISION A: BIDDING INSTRUCTIONS

INVITATION FOR BIDS

Under the rules of Massachusetts General Law Chapter 149 paragraph 44 §§ A-J, the **City of Waltham**, invites sealed bids from **General Contractors** for **Stonehurst, The Robert Treat Paine Estate Roof Preservation** 100 Robert Treat Paine Drive Waltham, Massachusetts 02452 in accordance with the technical documents prepared by **Red Hawk Studio Architects, Inc.**

The Project consists of: **Roof Preservation**

The work is estimated to cost \$185,200.00

The Contractor shall supply all labor and materials and equipment necessary to complete the work shown on the Contract Drawings and hereafter contained in the Specifications.

General bidders must be certified by the Division of Capital Asset Management (DCAM) in the category of **Roofing and Flashing**.

General Bids will be received until **10.00 AM, Tuesday February 21, 2017** and publicly opened, forthwith.

A project briefing and a pre-bid meeting will be held on site at 100 Robert Treat Paine Drive, Waltham, MA 02452 **10:00 AM, Wednesday February 1, 2017**.

Last day for written questions to jpedulla@city.waltham.ma.us **12 noon Thursday February 2, 2017**

Bid Each and every Bid shall be submitted on the Bid Form furnished with the Bidding Documents and shall be sealed in an envelope which is clearly marked " **Stonehurst, The Robert Treat Paine Estate Roof Preservation**". Each and every Bid shall be endorsed with the name and address of the bidder and clearly marked whether it is a "general" or "sub-filed" bid as appropriate.

All Bids should be delivered to: **Joseph Pedulla, Chief Procurement Officer, Office of Purchasing Agent, Waltham City Hall. 610 Main Street, Waltham, MA 02452**, and received no later than the date & time specified above.

General bids shall be accompanied by a bid bond that is not less than five (5%) of the greatest possible bid amount.

Bidders may obtain Electronic Bid Sets online by visiting the Waltham Purchasing Department web site at www.waltham.ma.us/open-bids . Paper Bid Sets are not available.

The full amount of the deposit will be refunded to all responsive bidders returning the Contract Documents in good condition within ten (10) days after date of general Bid opening. Otherwise, the deposit will become the property of The City of Waltham. It is the sole responsibility of the contractor, subcontractor, vendor and/or any individual and/or corporation to review all ADDENDA forty eight hours prior to bid opening

Bids are subject to M.G.L. c.149 §44A-J & to minimum wage rates as required by M.G.L. c.149 §§26 to 27H inclusive.

The successful General Bidder and each filed Sub-Bidder shall furnish a Performance Bond in the amount of one hundred percent (100%) of the amount of the Contract and a Payment Bond in the amount of one hundred percent (100%) of the amount of the Contract with a surety company which is acceptable to Owner.

No Bidder may withdraw his Bid for a period of thirty (30) days (Saturdays, Sundays and legal

holidays excluded) after the actual date of the opening of the General Bids.

Bids for this Contract are subject to the provisions of Massachusetts General Laws Chapter 149, Sections 44 paragraphs A-J *et seq.*

The Owner reserves the right to reject any or all bids or to accept any bid deemed by it to be in the best interest of the City of Waltham and to limit the extent of the work to keep within the limits of available funds.

Bidder's attention is directed to the Supplementary Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program requirements of this Contract. The requirements of these programs are explained in the Instructions to Bidders and in Part II of the Supplementary General Conditions of the Contract.

The Contract Documents may be downloaded at www.city.waltham.ma.us/open-bids

INSTRUCTIONS TO BIDDERS

ARTICLE 1. DEFINED TERMS AND PROCEDURES

1.1. Terms used in the Bidding Documents and not defined elsewhere have the following meanings which are applicable to both the singular and plural thereof:

1.1.1. Owner - the terms "Owner," "Awarding Authority," "Chief Procurement Officer" and "City" are interchangeable and shall mean the "City of Waltham, Massachusetts".

1.1.2. Architect - shall mean Karle Packard, AIA, Red Hawk Studio Architects, Inc.
18 Main Street Concord, MA 01742.

1.1.3. Bidder - shall mean one who submits a Bid directly to Owner.

1.1.4. General Bidder - shall mean one who submits a Bid directly to Owner on the Work.

1.1.5. Filed Sub-Bidder, IF APPLICABLE - shall mean one who submits a Bid directly to Owner on the work of a Filed Sub-Contract, in this case Plumbing and Masonry.

1.1.6. Successful Bidder - shall mean the lowest, qualified, responsible and responsive Bidder, as those terms are defined in M.G.L. c. 149, §44A, to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

1.1.7. Bidding Documents - includes the Invitation for Bids, Instructions to Bidders, the Bid Form and the proposed Contract Documents (which include the Specifications, the Drawings and all Addenda issued prior to receipt of Bids).

1.1.8. Bid Form - shall mean either the "Form for General Bid" or, if applicable, the "Form for Filed Sub-Bid," unless a specific Bid Form is named.

1.1.9. Work - The furnishing all of labor, materials, equipment and other incidentals necessary for or convenient to the successful completion of the Contract and the carrying out of all the duties and obligations imposed by the Contract. Work shall include, in addition to work to be performed on the Contract location in the actual construction process, necessary shop plans, computations, ordering of materials and equipment, fabrication of material, parts and components, etc.

1.1.10. Provide - Wherever the word "provide" is used in the Specifications in reference to work to be performed by the Contractor, it shall be understood to mean "furnished and installed complete in place and in accordance with the Specifications which are incorporated into the Contract."

1.2. The procedure which is described in the Bidding Documents for Bidding and Award of a Contract for the Work will be in accordance with the provisions of Chapter 149, Sections 44A through 44H inclusive of the General Laws of the Commonwealth of Massachusetts, as last revised (hereinafter referred to as "M.G.L. c.149" appropriate Section).

ARTICLE 2. COPIES OF BIDDING DOCUMENTS

- 2.1 Bid forms and contract documents will be available for viewing, downloading and pickup from:
- 2.2. Contract documents may be downloaded at www.city.waltham.ma.us/open-bids
- 2.3. Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

ARTICLE 3. QUALIFICATIONS OF BIDDERS

- 3.1. To demonstrate qualifications to perform the Work, each Bidder may be requested to submit, within five (5) days of Owner's request, written evidence, such as financial data, present commitments, and other such data as may be called for below. Each Bid shall contain evidence of Bidder's qualification to do business in the Commonwealth of Massachusetts or a covenant to obtain such qualification prior to award of the contract.
- 3.2. Every Bid submitted for work of the General Contract shall be accompanied, inter alia, by: (1) a copy of a "Certificate of Eligibility" issued by the Deputy Commissioner of the Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance (DCAM), showing that the General Bidder has a classification of "General Building Construction" and (2) an update statement in such form as the Deputy Commissioner shall prescribe.

Any Bid submitted without the appropriate certification and update statement shall be invalid; and Owner shall reject such Bid.

IF APPLICABLE, Every Sub-Bid for Filed Sub-Contract work shall submitted shall be accompanied, inter alia, by: (1) a copy of a "Certificate of Eligibility" issued by the Deputy Commissioner of the Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance (DCAM), showing that the sub-bidder has a classification commensurate with the filed sub-trade and capacity rating to perform the work required, and (2) an update statement in such form as the Deputy Commissioner shall prescribe.

Any Filed Sub-Bid submitted without the appropriate certification and update statement shall be invalid; and Owner shall reject such Sub-Bid.

- 3.3. Owner reserves the right to reject any Bid if the evidence submitted by such Bidder, or the investigation of such Bidder, fails to satisfy Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.
- 3.4. The Roofing contractor shall also meet the qualifications described in Sect. 07310 –Wood Shingle Roofing, Paragraph 1.05. Documentation of the Roofer's qualifications shall be submitted with the bid response

ARTICLE 4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 4.1. It is the responsibility of each Bidder before submitting a Bid to: (a) attend the voluntary pre-bid meeting and walk-through (b) examine the Contract Documents thoroughly; (c) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work; (d) consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work; (e) study and carefully correlate Bidder's observations with the Contract Documents; and (f) notify Architect of all conflicts, errors or discrepancies in the Contract Documents.

4.2 The submission of a Bid shall constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

4.3. The Contract Documents contain the provisions required for the construction of the project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Bidder or relieve him from fulfilling any of the conditions of the Contract.

ARTICLE 5. INTERPRETATIONS AND ADDENDA

5.1. All questions about the meaning or intent of the Contract Documents are to be directed in writing to the City of Waltham Jpedulla@city.waltham.ma.us . Interpretations or clarifications considered necessary by the City in response to such questions will be issued by Addenda mailed or delivered to all parties of record with the City. Questions received less than ten (10) days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications shall be without legal effect.

5.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner.

5.3 Addenda notification will be distributed by email to all parties recorded by the Owner as having received bidding documents. Each Bidder shall request Addenda as made available by the City. All vendor of record and who have registered with the City shall be sent an e-mail with the issued addenda. Addend shall also be posted by the City in the City web site at www.city.waltham.ma.us/open-bids.

5.4 Each Bidder shall be responsible for determining that it has received all Addenda which have been issued.

ARTICLE 6. BID SECURITY

6.1. Each Bid shall be accompanied by Bid security in the form of a Bid Bond, or cash, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the Owner. A Bid Bond shall be: (a) in a form satisfactory to Owner; (b) with a surety company qualified to do business in the Commonwealth of Massachusetts and satisfactory to Owner; and (c) conditional upon the faithful performance by the principal of the agreements contained in the Bid.

The amount of such Bid security shall be five (5%) per cent of the PROPOSED LUMP SUM CONTRACT PRICE as entered in the Bid Form for General Bid and for sub-bidders, If APPLICABLE, the same applies.

6.2. All Bid security of General Bidders, except those of the three (3) lowest responsible and eligible General Bidders, shall be returned within five (5) days (Saturdays, Sundays and legal holidays excluded) after the opening of the General Bids.

The Bid security of the three (3) lowest responsible and eligible General Bidders shall be returned upon the execution and delivery of the General Contract or, if no award is made, within thirty (30) days (Saturday, Sundays and legal holidays excluded) after the opening of the General Bids; except that if any General Bidder fails to perform its agreement to execute a General Contract and furnish a Performance Bond and also a Labor and Materials or Payment Bond as stated in its Bid in accordance with MGL c.149 Section 44E, its Bid security shall become the property of Owner, as liquidated damages; provided that the amount of the Bid security which becomes the property of Owner shall not, in any event, exceed the difference between its Bid and the Bid of the next lowest responsible and eligible Bidder; and provided further that, in case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting such General Bidder, its Bid security shall be returned.

6.3. IF APPLICABLE, All Bid securities of Filed Sub-Bidders, except: (a) those of the Filed Sub-Bidders named in the General Bids of the three (3) lowest responsible and eligible General Bidders; and (b) those of the three (3) lowest responsible and eligible Filed Sub-Bidders for each Filed Sub-Contract, shall be returned within five (5) days (Saturdays, Sundays and legal holidays excluded) after the opening of the General Bids.

The Bid security of Filed Sub-Bidders not returned pursuant to the provisions of the preceding sentence shall be returned within five (5) days (Saturdays, Sundays and legal holidays excluded) after the execution of the General Contract; except that, if a selected Filed Sub-Bidder fails to perform its agreement to execute a Filed Sub-Contract with the General Bidder selected as the General Contractor, contingent upon the execution of the General Contract, and, if requested to do so in the General Bid by such General Bidder, to furnish a Performance and Payment Bond as stated in its Filed Sub-Bid in accordance with MGL Chapter 149, Section 44F(2), the Bid security of such Filed Sub-Bidder shall become and be the property of Owner, as liquidated damages, provided that, the amount of Bid security which becomes the property of Owner shall not, in any event, exceed the difference between its Filed Sub-Bid and the Filed Sub-Bid of the next lowest responsible and eligible Filed Sub-Bidder; and provided further that, in case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other unforeseen circumstances affecting any such Filed Sub-Bidder, its Bid security shall be returned.

6.4. Any Bid which is not accompanied by Bid security as described in Paragraph 6.1 shall be invalid; and Owner shall reject such Bid.

ARTICLE 7. CONTRACT TIME

7.1. The number of days within which the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Specifications. Section 01 01 00 Summary of Work and on the FORM FOR GENERAL BID.

ARTICLE 8. LIQUIDATED DAMAGES

8.1. Provisions for liquidated damages are set forth in the Agreement

ARTICLE 9. SUBSTITUTE OR "OR-EQUAL" ITEMS

9.1. The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by Contractor if acceptable to Architect, application for such acceptance will not be considered by Architect until after the Effective Date of the Agreement; all consideration shall comply with M.G.L. c. 30, §39M(b).

ARTICLE 10. LEFT BLANK INTENTIONALLY

ARTICLE 11. BID FORM

11.1. The " Form for General Bid are included in the Bidding Documents; an additional loose copy of each is also included as part of the Bidding Documents for use by the Contractor in preparing their bids.

11.2. The term "Bid Form" shall apply to "Form for General Bid" unless the specific Bid Form is named.

11.3. The Bid price of each item on the Bid Form shall be written in words and in figures. In the event there is a discrepancy in the Bid between a Bid price written in words and a Bid price written in figures, the Bid Price stated in words shall govern.

11.4. All Bids will be compared on the basis of the "**Contract Price**" listed on the Form for General Bid. The Bid entered shall be for the complete Work as specified and shall include the work of the General Contractor.

The work of the General Contractor includes all work.

11.5. Bids by corporations shall be executed in the corporate name by the president, vice-president, or other corporate officer accompanied by evidence of authority to sign, and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.6. Bids by partnerships shall be executed in the partnership name and shall be signed by a partner, whose title shall appear under the signature and the official address of the partnership shall be shown below the signature.

11.7. All names shall be typed or printed in ink below the signature.

11.8. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form). If no Addenda are received the Bidder shall fill in "none" on the Bid Form.

11.9. The address, e-mail and telephone number for communications regarding the Bid shall be shown.

11.10. A conditional or qualified Bid shall not be accepted.

ARTICLE 12. SUBMISSION OF BIDS

12.1. Bids shall be submitted at the time and place indicated in the Invitation for Bids and shall be enclosed in an opaque sealed envelope, marked with the Project title, as indicated in the Invitation for Bids, and name and address of the Bidder, and shall be accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it and addressed as indicated in the Invitation for Bids.

12.2. Bids submitted for the Work of the General Contract shall be valid only when accompanied by all of the following: **(1)** a fully completed and properly executed "Bid Form for General Bid"; **(2)** Bid security in the amount of five percent (5%) of the amount bid and in a form as described in the Instructions to Bidders; **(3)** a copy of a "Certificate of Eligibility" issued by the Deputy Commissioner of the Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance (DCAM), showing that the General Bidder has a classification of "General Building Construction"; **(4)** an update statement in such form as the Deputy Commissioner shall prescribe; and **(5)** the completed "Compliance" section 00 74 01.

12.3 LEFT BLANK INTENTIONALLY

12.4 The Bidder assumes all responsibility for the Bid arriving on time. Bids received after the time specified in the Invitation for Bids shall not be accepted. No faxed Bids shall be accepted. The time of receipt of a Bid will determine the acceptability of mailed Bids, regardless of postmark. It shall be the sole responsibility of the Bidder to assure that a Bid has arrived before the time for opening of Bids as specified in the Invitation for Bids.

ARTICLE 13. MODIFICATION AND WITHDRAWAL OF BIDS

13.1. Bids may be modified only by an appropriate document duly executed (in the manner that a Bid shall be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

13.2. Bids may be withdrawn at any time prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.

ARTICLE 14. OPENING OF BIDS

14.1. All Bids will be opened and read aloud publicly at the time and place indicated in the Invitation for Bids.

14.2. Any Bid received after the time and date specified in the Invitation for Bids shall not be considered.

ARTICLE 15. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

15.1. All Bids will remain subject to acceptance by Owner for a period of ninety (90) days (Saturdays, Sundays and legal holidays excluded) after the actual day of opening of General Bids.

ARTICLE 16. AWARD OF CONTRACT

16.1. A Contract will be awarded no later than 90 days from the receipt date, if at all, pursuant to M.G.L. c. 149, §44A, to the lowest responsible and eligible Bidder. According to M.G.L. c. 149, §44A, the term "Responsible" means demonstrably possessing the skill, ability and integrity necessary to

faithfully perform the work called for by a particular contract, based upon a determination of competent workmanship and financial soundness in accordance with the provisions of M.G.L. c. 149, §44D.

According to M.G.L. c. 149, §44A-J, the term "Eligible" means able to meet all requirements for bidders or offerors set forth in M.G.L. c. 149, §§44A-44H and not debarred from bidding under M.G.L. c. 149, §44C or any other applicable law, and who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

16.2. The Owner reserves the right to eliminate sections of the work or parts of sections, as may be determined by them as a basis of award, to keep within the limits of available funds, or to add sections of the work previously eliminated, provided that such action comports with generally accepted principles of public bidding in the Commonwealth.

16.3. Owner reserves the right to reject any and all Bids, to waive any and all informalities if it is in the Owner's best interest to do so, and the right to disregard all nonconforming, non-responsive or conditional Bids.

16.4. Owner also reserves the right to reject the Bid of any Bidder that it considers to be unqualified relative to Article 3 of these Instructions to Bidders.

16.5. Every Bid which is not accompanied by all of the items required by Articles 12.2 and 12.3 of these Instructions to Bidders or which otherwise does not conform with MGL c.149 Section 44A to 44H inclusive, or which is on a form not completely filled in, or which is incomplete, conditional or obscure or which contains any addition not called for, shall be invalid and shall be rejected by Owner.

16.6. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

16.7. If the Contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within thirty (30) days (excluding Saturdays, Sundays and legal holidays) after the day of the General Bid opening. All Bids shall remain open for thirty (30) days (excluding Saturdays, Sundays and legal holidays) after the day of the General Bid opening, but Owner may, in their sole discretion, release any Bid and return the Bid security prior to that date. The time allowed between the opening of General Bids and the Notice of Award of the Contract specified above may be extended by mutual agreement between Owner and the Bidder.

ARTICLE 17. CONTRACT SECURITY AND INSURANCE CERTIFICATES

17.1. General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance and payment Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required performance and payment Bonds.

17.2. General Conditions and Supplementary Conditions sets forth Owner's requirements as to insurance. When the successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by certificates indicating that the required insurance has been secured.

17.3. Attorneys-in-fact who sign Bid Bonds or Payment Pond and Performance Bond shall file with each Bond, a certified and dated copy of their Power of Attorney, which is currently in effect.

17.4. The successful Bidder shall provide Commercial General Liability Insurance, Automotive Liability Insurance, Worker's Compensation and Employer's Liability Insurance, including other coverages such as indicated in the General Conditions and as amended in the Supplementary Conditions. The Certificate of Insurance shall contain the following precise language, supported by amendments: **"the City of Waltham is a named additional insured for General Liability"**

The successful Bidder shall provide separate Owner's Protective Liability Insurance, with the Owner and Architect only as insured. A Rider clause to the Contractor's Liability Insurance shall not be acceptable. Each certificate and policy of insurance required by this Agreement shall contain a cancellation provision as indicated below with **no variations**.

"Should any of the above described policies be cancelled or materially amended before the Expiration date therefore, the issuing insurer will mail within thirty (30) days written notice to the certificate holder named to the left".

17.5 The Successful Bidder shall provide to the Owner, with its proof of insurance coverage, endorsements or riders to the policies of Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance, Umbrella Form, which indicate **that the City is named as an additional insured on each such policy.**

ARTICLE 18. SIGNING OF AGREEMENT

18.1. When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within five (5) days (Saturdays, Sundays and legal holidays excluded) after presentation thereof by Owner, Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds and insurance certificates. Within ten (10) days thereafter, Owner will deliver one fully signed counterpart to Contractor.

18.2. If the Successful Bidder fails to perform its agreement to execute a Contract in accordance with the terms of its Bid, within the above time limits, and furnish the required Bonds and insurance certificates, which are acceptable to Owner, Owner may consider the Bidder in default.

If the Bidder is determined to be in default, Bidder's Bid security shall become the property of Owner, as liquidated damages, and Owner will consider the Bid of the next lowest responsible and eligible Bidder.

ARTICLE 19. NOTICE TO PROCEED

19.1. The Notice to Proceed (NTP) will be issued within thirty (30) days of the execution of the Agreement by Owner. This time may be extended by mutual agreement between Owner and Successful Bidder.

19.2. The Notice to Proceed (NTP) will establish the date of Commencement of the Work, the date of Substantial Completion and the date of Final Completion, as they are defined in the General Conditions and the Supplementary Conditions.

ARTICLE 20. SALES AND USE TAX EXEMPTION

20.1. Owner is exempt from Commonwealth of Massachusetts Sales and Use Tax on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Contract Price. Owner shall provide a Certificate of Exemption Number at the pre-construction meeting.

ARTICLE 21. LAWS, REGULATIONS AND PERMITS

21.1. The Bidder's attention is directed to the fact that all applicable local, federal and state laws; municipal ordinances; and the rules and regulations of all authorities having jurisdiction over the Work, shall apply to the Contract throughout, and they shall be deemed to be included in the Contract Documents as though they were written out in full therein.

21.2. Neither Owner nor Architect shall be responsible for monitoring Bidder's compliance with any Laws or Regulations.

21.3 Contractor shall obtain building permits, all fees will be waived by the City.

ARTICLE 21. MINIMUM PREVAILING WAGE RATES

21.1. Minimum Prevailing Wage Rates as determined by the Commissioner of the Executive Office of Labor and Workforce Development (EOLWD) under the provisions of the Commonwealth of Massachusetts General Laws, Chapter 149, Section 26 to 27D, as last revised, shall apply to the Work of this Contract. The Minimum Prevailing Wage Rates are found at www.city.waltham.ma.us/open-bids

21.2. The Minimum Prevailing Wage Rates Determination establishes Minimum Prevailing Wage rates only. Owner will not consider any claims by Contractor for additional compensation which is paid in excess of these Minimum Prevailing Wage rates.

21.3. The Minimum Prevailing Wage Rates Determination shall be kept posted in a conspicuous place at the site of the Work throughout the active progress of the Work.

21.4. Regulations for the Prevailing Wage Act state that payment of compensation to workmen for work performed on public work on a lump sum basis, piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the Act regardless of the average hourly earnings resulting therefrom. This shall result in the disqualification of any Bidder employing these methods.

21.5 The Contractor shall submit weekly payrolls to the Owner during the progress of this Contract for each day work is performed.

21.6. No payments request can be process until all certified payrolls are submitted for the period of the payment request.

ARTICLE 22. GUARANTEE

22.1. The Successful Bidder, if selected as the Contractor, shall furnish all supplies, equipment, and labor necessary for the performance of the services and/or delivery of equipment required by this Contract and shall warrant that it has in its employ, and throughout the term of this Contract or any extension or renewal thereof, shall continue to have a sufficient number of persons experienced in performing services required by this Contract, such that the Contractor's obligations under this Contract shall be carried out in a prompt, safe and professional manner.

22.2 The Successful Bidder, if selected as the Contractor, shall further warrant that it shall perform services under this Contract with the highest degree of professionalism and care. Any equipment delivered, unless otherwise agreed by the parties, shall be of generally merchantable quality and shall be fit for the purpose sought by the Owner.

22.3 The Successful Bidder, if selected as the Contractor, shall warrant to the Owner that the work to be performed under the Contract shall be free from defects in material and workmanship for twelve (12) months after a) the Contractor fully completes the work and b) the Owner takes possession for occupancy. If any defects in material or workmanship regarding the work occur within said twelve (12) month period, the Contractor shall have the option of repairing or replacing the defective component(s) involved in the work with components that comply with the Specifications which are incorporated into the Contract.

ARTICLE 23. WEATHER PROTECTION

23.1. Pursuant to Section 44G of MGL 149, the Contractor shall provide weather protection and adequate heat for all construction included in this Contract during the months of November through March.

ARTICLE 24. NONDISCRIMINATION IN EMPLOYMENT

24.1. The policy of the Program in brief states that: In connection with the performance of work under the Contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, sex, gender identity, sexual orientation (which shall not include persons whose sexual orientation involves minor children as the sex object), genetic information, ancestry, children, marital status, veteran status or membership in the armed services, the receiving of public assistance, and handicap. The aforesaid provision shall include, but not be limited to the following: advertising; recruitment; hiring; rates of pay or other forms of compensation; terms, conditions or privileges of employment; employment upgrading; transfer; demotion; layoff; and termination. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Massachusetts Commission against Discrimination or other applicable agency of the Commonwealth of Massachusetts setting forth the provisions of the Fair Employment Practices Law of the Commonwealth. The Contractor shall also undertake in good faith, affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age, sex, gender identity, sexual orientation (which shall not include persons whose sexual orientation involves minor children as the sex object), genetic information, ancestry, children, marital status, veteran status or membership in the armed services, the receiving of public assistance, and handicap, and to eliminate and remedy any effects of such discrimination in the past.

ARTICLE 25. SAFETY

25.1. This project is subject to the Safety and Health Regulations of the U.S. Department of Labor, as set forth in Title 29 CFR Part 1926, to all subsequent amendments thereto, and to the Massachusetts Executive Office of Labor and Workforce Development (EOLWD), Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations" (Chapter 454 CMR 10.00 *et seq.*). Contractors shall be familiar with the requirements of these regulations.

25.2. Each Bidder shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite shall have successfully completed a course in construction safety and health approved by the United State Occupational Safety and Health Administration that is at least ten (10) hours in duration at the time the employee begins work. He shall also certify that he shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he shall comply fully with all laws and regulations applicable to awards made subject to section 44A.

ARTICLE 26. MANUFACTURER'S EXPERIENCE

26.1. Whenever it is written that an equipment manufacturer shall have a specified period of experience with his product, equipment which does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide an "Efficiency Guarantee Bond" or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.

ARTICLE 27. CONTRACT TERMINATION

27.1. In addition to rights afforded under the Contract General Conditions, the City reserves the right to terminate this Contract upon written notice to the Contractor if a source of money to fund the Contract is not available during any year of the Contract term. In the alternative, the parties may agree in writing to amend the Contract to provide for a Contract price which represents the reduced appropriation for a Contract year.

27.2. The City reserves the right to cancel the contract for any reason with a fourteen (14) days written notification to the contractor. All outstanding invoices legitimately due to the contractor for work performed prior to the contract termination notice shall be paid in full within forty-five (45) days.

ARTICLE 28. FUNDS APPROPRIATION.

28.1 THE CONTRACT OBLIGATION ON BEHALF OF THE CITY IS SUBJECT TO PRIOR APPROPRIATION OF MONIES FROM THE GOVERNMENTAL BODY AND AUTHORIZATION BY THE MAYOR.

ARTICLE 29. THE AWARDING AUTHORITY RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS, OR ANY PART OF ANY BID, WHICH IN THE OPINION OF THE AWARDING AUTHORITY, IS IN THE BEST INTERESTS OF THE CITY OF WALTHAM.

ARTICLE 30 THE TAX ATTESTATION CLAUSE, CERTIFICATION OF NON-COLLUSION AND THE CERTIFICATE OF VOTE AUTHORIZATION, are required by statute and are an integral part of the Invitation for Bid and must be completed and signed by the person submitting the Bid, or by the person/persons who are officially authorized to do so. Failure to do so may disqualify the bid.

ARTICLE 31 CHANGE ORDERS.

31.1 Change orders are not effective until, if, as and when signed by the Mayor and no work is to commence until the change orders are fully executed.

ARTICLE 32 BID OPENING INCLEMENT WEATHER

32.1 If, at the time of the originally scheduled bid opening, City Hall is closed to inclement weather or another unforeseeable event, the bid opening will be extended until 2:00 PM on the next normal business day. Bids will be accepted until that date and time.

ARTICLE 33 TIE BREAK

33.1 In the event of a tie where both vendors were responsive and responsible the vendors with a tie agree to a coin toss to determine the winner. The Coin toss will be executed in the presence of both vendors and a witness from the Purchasing Office. The coin will be flipped by the Chief Procurement Officer in the presence of the two bidders. A written record of the process you used, including the results and the names of those participating. The low bidders shall sign an agreement stating that they will abide by the results of the tie breaker. As an alternative, you may allow for a "second round" between the tied vendors

DIVISION B: BID FORM

FORM OF GENERAL BID

**TO: Joseph Pedulla,
Chief Procurement Officer
City of Waltham Purchasing Department**

A. The undersigned proposes to furnish all labor and materials required for Roof Preservation Project at Stonehurst, The Robert Treat Paine Estate for the City of Waltham in Waltham, Massachusetts in accordance with the Technical Specifications prepared by: Red Hawk Studio Architects, Inc. for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda number(s) , , , , , , , .

C. The proposed contract price is:

_____ dollars \$ _____
(Bid Amount in Words) (Bid Amount in Numbers)

For Alternate No. 1 Add \$ _____; Subtract _____.

D. Schedule Of Unit Prices:

Section		Description	Unit	Unit Price
06100	Rough Carpentry	Replace Roof sheathing	4 sq.ft.	
06200	Finish Carpentry	Replacement of Deteriorated gutter	4 lin. ft.	
		Replacement of Deteriorated gutter	4 lin. ft.	
07620	Sheet Metal Flashing and Trim	Replacement of Deteriorated Flashings	4 lin. ft. x 18 in.	
		Replacement of Deteriorated Gutter Linings	4 lin. ft.	

E. The subdivision of the proposed contract price is as follows:
 Item1: The work of the general contract, being all work other than that covered by item 2 -
 \$ _____

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

The undersigned agrees that each of the above named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this bid.

The undersigned agrees that if he is selected as general contractor, he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.

- E. The undersigned agrees that, if selected as general contractor, we will within five days, Saturdays, Sundays, and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.
- F. The undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that they will comply fully with all laws and regulations applicable to awards made subject to section forty-four A of Chapter 149.
- G. The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.
- H. The undersigned hereby certifies that this bid does not include excise imposed by Chapter 24, Acts of 1966, upon purchase or rental of materials, supplies, services and the equipment to be used in the work to furnish all labor, materials, equipment and services required to complete the work.
- I. The undersigned represents that (s)he has , has not , participated in a previous contract or subcontract subject of the equal; opportunity clause prescribed by U.S. Executive Orders 10925, 11114, or 11246 or the Secretary of Labor; that (s)he has , has not , filed all required compliance reports, and that representations indicating submission of required compliance reports signed by proposed subcontractors, will be obtained prior to subcontract awards. (The above representation need not be submitted in connection with contracts or subcontracts which are exempt from the clause).

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

FORM FOR GENERAL BID
2 of 3

Name of General Bidder)

BY: _____
(Authorized Signature & Title of person signing bid)

Print Name

(Business Address)

(City and State)

Date: _____

Note: If the bidder is a corporation, indicate state of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses of partners if different from business addresses.

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

FORM FOR GENERAL BID

3 of 3

DIVISION C: CONTRACT FORMS

FORM OF CONTRACT

AGREEMENT made between the **CITY OF WALTHAM**, a municipal corporation duly established under the laws of the Commonwealth of Massachusetts, through its Mayor thereunto duly authorized, hereinafter called the OWNER, and _____ having a usual place of business at _____ hereinafter called the CONTRACTOR.

The OWNER, having by letter dated _____ accepted the proposal of the CONTRACTOR for _____ all of which are hereto attached and made a part hereof, hereinafter called the DOCUMENTS, and the CONTRACTOR hereby agrees to provide the labor, materials, services and work in accordance with the quotation, bid, proposal and said DOCUMENTS

If applicable, all contractors must comply with the prevailing wage rate law as required under the provisions of all Massachusetts General Law

All appropriate Bonds and Certificates of Insurance, per specifications, will be submitted before Contract is signed. This Contract shall not be in effect nor any work commenced until the Mayor signs the Contract.

IN WITNESS WHEREOF, the OWNER sets its hand and corporate seal through its Purchasing Agent thereunto duly authorized, and the CONTRACTOR hereunto sets its hand and seal on the day and year first above written.

Bid package and company response are incorporated herewith by reference.

APPROVED AS TO FORM ONLY

CITY OF WALTHAM

John Cervone,
City Solicitor
Date _____

Joseph P. Pedulla, CPO
Purchasing Agent
Date: _____

APPROVED, MAYOR

FOR THE COMPANY

Jeannette A. McCarthy,
Mayor
Date _____

Authorized Signature

Print Name
Date _____

WALTHAM BUILDING DEPARTMENT

AUDITING DEPT.

William Forte,
Superintendent of Buildings.
Date _____

Paul G. Centofanti,
City Auditor
Date _____

PERFORMANCE BOND

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

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

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

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 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 has entered into a certain contract with the Owner (the "Construction Contract"), dated the _____ day of _____, 20____, 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, this obligation shall 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

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PERFORMANCE BOND

consent and election of the Owner, shall immediately take one of 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.

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 attorney's 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; and (4) 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
	By	_____
_____		_____
(Principal Secretary)		_____

		(Address-Zip Code)

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PERFORMANCE BOND

Witness as to Principal (SEAL)

(Address-Zip Code)

ATTEST:

By _____
Surety
(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.

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 of Waltham, 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:

Roof Preservation at Stonehurst, The Robert Treat Paine Estate

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.

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PAYMENT BOND

1 of 5

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.

Roof Preservation Project at Stonehurst, The Robert Treat Paine Estate in Waltham, Massachusetts, in accordance with the documents prepared by Red Hawk Studio Architects, Inc.

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PAYMENT BOND

LIST OF DRAWINGS

- T1.0 Title Sheet
- A1.1 Floor 2 Roof Plan
- A1.2 Roof Plan
- A2.1 Sections & Details

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

LIST OF DRAWINGS

1 of 1

DIVISION D: CONDITIONS OF THE CONTRACT

GENERAL CONDITIONS

1. INFORMATION

All information shall come from the Office of the City Purchasing Agent. The Contractor shall inquire at this office for any information needed. Wherever the words “or equal as approved” are used, it is to be understood that the opinion of the City Purchasing Agent shall govern.

2. SUITS

The Contractor shall assume defense of and shall indemnify and hold the City and its agents harmless from all suits and claims against the City and its sub-contractors arising from the use of any invention, patent right labor or employment, or from any act of omission or neglect of the City, its agents, employees or any subcontractor in performing the work, under this contract.

3. LAWS AND REGULATIONS

The Contractor shall conform to all the applicable rules, regulations, laws and ordinances of the City of Waltham, the Commonwealth of Massachusetts, the United States of America and all agencies having jurisdiction over this contract.

4. PROTECTION OF PROPERTY

The Contractor shall take all proper precautions to protect the City’s property from damage and unnecessary inconvenience. Any City property damaged by the Contractor in carrying out the provisions of this contract shall be restored to its original condition, by and at the expense of the Contractor.

5. PROTECTION OF PERSONS

The Contractor shall take all proper precautions to protect persons from injury, unnecessary inconvenience, and shall be responsible for his failure to do so. The Contractor agrees to hold the City harmless from any and all liabilities of every nature and description, which may be suffered through bodily injury, including death, to any person, by reason of negligence of the Contractor, his agents or employees, or any subcontractor.

6. CONTRACT DURATION.

This contract is for the period required to complete the job for at least 75 days from the notice to proceed (NTP) excluding the guarantee period for all materials

7. INSURANCE

A. **WORKMAN’S COMPENSATION:** The Contractor shall provide by insurance for the payment of compensation and furnishing of other benefits under Chapter 152 of the General Laws of the Commonwealth of Massachusetts to all persons to be employed under this contract, the premiums for which shall be paid by the Contractor.

B. **COMPREHENSIVE GENERAL LIABILITY**

Bodily Injury: \$1,000,000 Each Occurrence
 \$2,000,000 Aggregate
Property Damage: \$1,000,000 Each Occurrence
 \$2,000,000 Aggregate

C. **AUTOMOBILE (VEHICLE) LIABILITY**

Bodily Injury \$2,000,000 Each Occurrence
Property Damage \$1,000,000 Aggregate

D. **UMBRELLA POLICY**

General liability \$2,000,000

Your bid response must include a Certificate of Insurance with the above limits as a minimum. In addition, the Certificate of Insurance must have the following text contained in the bottom left box of

the Certificate: "The City of Waltham is a named Additional Insured for all Insurance". The Certificate of Insurance must be mailed directly to:

Office of the Purchasing Agent
Purchasing Department
City of Waltham
610 Main Street
Waltham, MA 02452

8. PERSONNEL:

The Contractor shall employ a competent supervisor and all properly licensed personnel necessary to perform the services required in this contract. The City Purchasing Agent shall have the right to require the Contractor to remove and/or replace any of the personnel for nonperformance or for unprofessional behavior. The City Purchasing Agent may require the Contractor to submit a weekly performance record of the areas and of the work performed, on forms approved by the City Purchasing Agent. The Contractor or his supervisor shall be available to inspect such work as required by the City Purchasing Agent.

9. PREVAILING WAGES

The Contractor is required to pay the prevailing wages as determined under the provisions of Chapter 149, Sections 26 and 27D of the Massachusetts General Laws, including the submission of weekly payrolls to the awarding authority. The prevailing Wage Schedule can be found at www.city.waltham.ma.us/open-bids

10. MATERIALS

The City or its Agent reserves the right to approve or reject any supplies, material or equipment used by the Contractor. The Contractor agrees to replace any supplies, material or equipment used by the Contractor. The Contractor agrees to replace any rejected supplies, materials or equipment, to the satisfaction of the City or its Agents.

11. TERMINATION OF CONTRACT

This contract may be terminated by the City upon deliverance to the Contractor of a five-day written notice of said termination.

12. CONTRACT OBLIGATIONS

Contract obligations on behalf of the City are subject to an annual appropriation to cover the contract obligation.

13. BIDDER EXPERIENCE EVALUATION

Each bidder shall submit with his bid, all the information relative to their experience and qualifications in performing the work required under this contract and shall have been in business for a minimum of five (5) years, in order for their bid to be considered.

14. NOT-TO-EXCEED AMOUNT

The bid amount proposed in your company's response is a "not-to- Exceed" amount unless the City makes changes, in writing, to the scope of work to be performed. The Change Order must be signed and approved by the City's Purchasing Agent, City Auditor, Law Department and the Mayor prior to the commencement of the change order work. No work is to begin until the proper approvals have been obtained. A change order will be priced at the unit price. Failure to comply with this procedure will result in the cancellation of the contract and the non-payment of services provided

16. FINANCIAL STATEMENTS.

The City may require, within five (5) days after the bid opening, a complete and detailed Financial Statement prepared by a Certified Public Account, to determine a bidder's financial stability.

17 BREACH OF CONTRACT/ NON PERFORMANCE

If the Contractor shall provide services in a manner, which is not to the satisfaction of the City, the City may request that the Contractor refurnish services at no additional cost to the City until approved by the City. If the Contractor shall fail to provide services, which are satisfactory to the City, the City in the alternative may make any reasonable purchase or Contract to purchase services in substitution for those due from the Contractor. The City may deduct the cost of any substitute Contract for nonperformance of services together with incidental and consequential damages from the Contract price and shall withhold such damages from sums due or to become due to the Contractor. If the damages sustained by the City exceed sums due or to become due, the Contractor shall pay the difference to the City upon demand. The Contractor shall not be liable for any damages sustained by the City due to the Contractor's failure to furnish services under the terms of this Contract if such failure is in fact caused by the occurrence of a contingency the nonoccurrence of which was a basic assumption under which this Contract was made, including a state of war, embargoes, expropriation of labor strike or any unanticipated federal, state or municipal governmental regulation of order, provided that the Contractor has notified the City in writing of such cause within seven (7) days after its occurrence.

18 RIGHT TO AUDIT

The City of Waltham has the right to review and audit documents related to this contract. This right extends to any subcontractor, supplier or other entity used by the prime contractor to fulfill the obligations under this contract.

19. CITY ORDINANCE. APPROVAL OF CONTRACTS BY MAYOR, SEC. 3-12 OF THE CITY ORDINANCES.

All contract made by any department, board or commission where the amount involved is two thousand dollars (\$2,000) or more shall be in writing, and no such contract shall be deemed to have been made or executed until the approval of the Mayor is affixed thereto. Any construction contract shall, and all other contracts may, where the contract exceed five thousand dollars (\$5,000) be required to be accompanied by a bond with sureties satisfactory to the Mayor.

20. BID OPENING INCLEMENT WEATHER

If, at the time of the originally scheduled bid opening, City Hall is closed to inclement weather or another unforeseeable event, the bid opening will be extended until 2:00 PM on the next normal business day. Bids will be accepted until that date and time.

COMPLIANCE FORMS

(PLEASE COMPLETE AND SUBMIT THESE FORMS WITH YOUR RESPONSE)

NON-COLLUSION FORM AND TAX COMPLIANCE FORM

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity or group of individuals. The undersigned certifies that no representations made by any City officials, employees, entity, or group of individuals other than the Purchasing Agent of the City of Waltham was relied upon in the making of this bid

(Signature of person signing bid or proposal) _____
Date

(Name of business)

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, & 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of person submitting bid or proposal _____
Date

Name of business

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

CERTIFICATE OF VOTE OF AUTHORIZATION

Date:

I _____, Clerk of _____ hereby certify that at a meeting of the Board of Directors of said Corporation duly held on the _____ day of _____ at which time a quorum was present and voting throughout, the following vote was duly passed and is now in full force and effect:

VOTED: That _____ (*name*) is hereby authorized, directed and empowered for the name and on behalf of this Corporation to sign, seal with the corporate seal, execute, acknowledge and deliver all contracts and other obligations of this Corporation; the execution of any such contract to be valid and binding upon this Corporation for all purposes, and that this vote shall remain in full force and effect unless and until the same has been altered, amended or revoked by a subsequent vote of such directors and a certificate of such later vote attested by the Clerk of this Corporation.

I further certify that _____ is duly elected/appointed _____ of said corporation

SIGNED:

(Corporate Seal)

Clerk of the Corporation:

Print Name: _____

COMMONWEALTH OF MASSACHUSETTS

County of _____

Date:

Then personally appeared the above named and acknowledged the foregoing instrument to be their free act and deed before me, _____

Notary Public;

My Commission expires: _____

CORPORATION IDENTIFICATION

The bidder for the information of the Awarding Authority furnishes the following information.

If a Corporation:

Incorporated in what state _____

President _____

Treasurer _____

Secretary _____

Federal ID Number _____

If a foreign (out of State) Corporation – Are you registered to do business in Massachusetts?

Yes _____, No _____

If you are selected for this work you are required under M.G.L.ch. 30S, 39L to obtain from the Secretary of State, Foreign Corp. Section, State House, Boston, a certificate stating that you Corporation is registered, and furnish said certificate to the Awarding Authority prior to the award.

If a Partnership: (Name all partners)

Name of partner _____

Residence _____

Name of partner _____

Residence _____

If an Individual:

Name _____

Residence _____

If an Individual doing business under a firm's name:

Name of Firm _____

Name of Individual _____

Business Address _____

Residence _____

Date _____

Name of Bidder _____

By _____

Signature _____

Title _____

Business Address _____ (POST OFFICE BOX NUMBER NOT ACCEPTABLE)

City State Telephone Number Today's Date

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided, A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract. In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of his or her weekly payroll records to the awarding authority. For every week in which an apprentice is employed, a photocopy of the apprentice's identification card must be attached to the payroll report. Once collected, the awarding authority is also required to preserve those reports for three years. In addition, each such contractor, subcontractor, or public body shall furnish to the awarding authority directly, within fifteen days after completion of its portion of the work, a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 201__

I _____,
(Name of signatory party) _____ (Title)

I do hereby state that I pay or supervise the payment of the persons employed by

_____ On the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____, Title _____

Print _____, Date _____

WEEKLY PAYROLL REPORT FORM

Company Name: _____
 Project Name: _____
 Awarding Auth.: _____
 Work Week Ending: _____
 Final Report

Prime Contractor
 Subcontractor
 List Prime Contractor: _____
 Employer Signature: _____
 Print Name & Title: _____

Employee Name & Address	Work Classification	(A) Hours Worked							(B) Hourly Base Wage	Employer Contributions			(F) [B+C+D+E] Hourly Total Wage (prev. wage)	(G) [A*F] Weekly Total Amount	
		S	M	T	W	T	F	S		(C) Health & Welfare	(D) Pension	(E) Supp. Unemp.			

NOTE: Every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority.

RIGHT TO KNOW LAW

Any vendor who receives an order or orders resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to M.G.L. c. 111F, §§8,9 and 10 and the regulations contained in 441 CMR 21.06 when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to M.G.L. c. 111F §7 and regulations contained in 441 CMR 21.05. Failure to furnish MSDS and/or labels on each container may result in civil or criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the Commonwealth. All vendors furnishing substances or mixtures subject to Chapter 111F or M.G.L. are cautioned to obtain and read the laws, rules and regulations referenced above. Copies may be obtained from the State House Bookstore, Secretary of State, State House, Room 117, Boston, MA (617) 727-2834.

Authorized Signature Indicating Compliance with the Right-to-know laws:

Signature

Date

Print Name

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

DEBARMENT CERTIFICATION

In connection with this bid and all procurement transactions, by signature thereon, the respondent certifies that neither the company nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts, procurement or non procurement programs from the Commonwealth of Massachusetts, the US Federal Government and /or the City of Waltham. "Principals" means officers, directors, owners, partners and persons having primary interest, management or supervisory responsibilities with the business entity. Vendors shall provide immediate written notification to the Purchasing Agent of the City of Waltham at any time during the period of the contract of prior to the contract award if the vendor learns of any changed condition with regards to the debarment of the company or its officers. This certification is a material representation of fact upon which reliance will be placed when making the business award. If at any time it is determined that the vendor knowingly misrepresented this certification, in addition to other legal remedies available to the City of Waltham, the contract will be cancelled and the award revoked.

Company Name _____

Address _____

City _____, State _____, Zip Code _____

Phone Number (____) _____

E-Mail Address _____

Signed by Authorized Company Representative: _____

Print name. _____, Date _____

10 HOURS OSHA TRAINING CONFIRMATION

Chapter 306 of the Acts of 2004

CONSTRUCTION PROJECTS

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC

The undersigned hereby certifies that all employees to be employed at a worksite for construction, reconstruction, alteration, remodeling, repair, installation, demolition, maintenance or repair of any public work or any public building estimated to cost more than \$10,000.00 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 payroll report for each employee and will comply with all laws and regulations applicable to awards of subcontracts subject to section 44F.

Company Name: _____

Address: _____

Signature: _____

Title: _____

Print Name _____

Date _____

See following Chapter 306 of the Acts of 2004

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

PROOF OF CONTRACTOR'S RESPONSIBILITY

Before a contract will be awarded to any bidder, he/she will be required to furnish evidence satisfactory to the City that he/she has all of the following qualifications:

- A. Ability, equipment, organization, and financial resources sufficient or enable him/her to construct and complete the work successfully within the time required.

- B. Experience during the past three (3) years in the successful completion of turf restoration projects, the magnitude of which shall be not less than one-half (1/2) the work herein specified. In this connection, the attention of the bidder is directed to the "Bidder's Experience" attached hereto, which shall be used in determining the responsibility of the bidder. The City may require additional information as necessary to determine the responsibility of the bidder.

- C. An experienced bidder shall be construed to mean that the bidder has an individual within his/her organization with the experience to supervise a job of this nature.

In the event the bidder fails, refuses, or neglects to submit any required information within the reasonable time stated in any request or fails to qualify as a responsible bidder, his/her bid guaranty shall be forfeited to the use of the owner, not as a penalty, but as liquidated damages.

The determination of whether a bidder is responsible shall rest solely with the City.

BIDDER'S EXPERIENCE

The following is a list of the projects similar in character and scope to the work specified under this contract, which have been successfully completed by this bidder during the past three years.

This information must be furnished by each bidder. A completed project is one that has been accepted and the final payment received from the City or authorized representative.

Bidder's Signature

Date

COMPLETE ONLY IF YOUR COMPANY IS AN LLC

**CERTIFICATE OF AUTHORITY
LIMITED LIABILITY COMPANY**

The undersigned, being (a/the) duly elected, qualified and active (member / manager) of _____, a Massachusetts limited Liability Company (hereinafter “the Company”)

Does Hereby Certify that

1. The Articles of Organization of the Company were duly filed with the Office of the Secretary of State of the State of Massachusetts on _____, and the Articles of Organization have not been (further) amended.
2. The Company has complied with the publication requirements contained in Section 67 of the Limited Liability Company Law.
3. There exists an Operating Agreement of the Company and that the said Operating Agreement has not been amended or repealed and that the said Operating Agreement remains in full force and effect as of this date.
4. Neither the Articles of Organization nor the Operating Agreement (as amended) require any further act to be taken or a meeting to be held by its members other that as follows:
5. All said requirements, whether as contained in the Articles of Organization or in the Operating Agreement or by operation of law as to the transaction of _____, 20__ have been met.
6. The following person or persons has/have been duly authorized by the Company to execute all documents in connection with said transaction and that the signature appearing to the right of their name(s) is his/her genuine signature.

NAME	OFFICE HELD	SIGNATURE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

IN Witness Whereof, the undersigned has executed this Certificate of Authority this _____ day of _____, 20____.

(Signature)

STATE OF MASSACHUSETTS, COUNTY OF _____

On the ____ day of _____, 20____, before me, the undersigned personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/ they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public: _____

My Commission Expires: _____

Notary Stamp:

DIVISION E: LABOR WAGES

For a complete copy of the Prevailing Wage Schedule please go to www.city.waltham.ma.us/open-bids

For reporting the certified payrolls please use, as a sample, the form found in the Compliance Section

PART II: TECHNICAL SPECIFICATIONS

DIVISION 1: GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

1. GENERAL SCOPE OF WORK

- A. This property is a National Historic Landmark and is listed on the National Register of Historic Places and is protected by a detailed Preservation Restriction held by the Massachusetts Historical Commission. All work on this property, including maintenance, repair and restoration, is subject to review by the Massachusetts Historical Commission and must strictly comply with the Secretary of the Interior's Standards for the Treatment of Historic Buildings (36 CFR 68).
- B. The project consists of replacement of the existing wood shingle roofing at the 1886 Richardson Wing (east wing), replacement of the existing membrane roofing and balustrade at the Kitchen Wing (northwest wing), and several minor repairs and replacements.
- C. The work includes, but is not limited to, selective demolition of the roofing and balustrade, finish carpentry, miscellaneous metalwork, repair and replacement of existing sheet metal flashings and roofing in certain areas, membrane roofing, and wood shingle roofing, and minor painting.
- D. The Roofing Contractor shall meet the qualifications described in Section 07310 - Wood Shingle Roofing - para. 1.05 Quality Assurance.
- E. In addition, the Work under the Contract includes:
 - (1.) Inform the Architect of damaged or decayed materials encountered during the project.
 - (2.) The restoration of any items damaged or destroyed by encroaching upon areas outside the Project Site.
 - (3.) Providing all temporary facilities and restoring affected areas to their original condition, where appropriate.
 - (4.) The Contractor shall be responsible for obtaining required building permits and paying required fees.
- F. The property is municipally-owned and it is open to the public daily and routinely rented out for private events. The work site must be safe and presentable.
 - (1.) There are events every month, with the busiest months being May to June (an event or field trip nearly every day) and Sept to Oct. Currently, between March 17 and May 20, 2017 is open. A calendar will be provided to the contractor at the outset of work and revised as needed.
 - (2.) See Section 01050 Conduct of the Work, para, 1.04 for requirements.

2. TIME OF COMPLETION

- A. The work is to be performed on a construction schedule developed in accordance with the *General Conditions of the Contract for Construction* and shall be complete within **one hundred and fifty (150) consecutive calendar days from the Notice to Proceed.**

END OF SECTION

STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION

SUMMARY OF WORK / 01010-1

**SECTION 01020
UNIT PRICES**

1. GENERAL PROVISIONS

The Unit Prices for items set forth in the Schedule of Unit Prices shall be used to determine adjustments to the Contract Sum when changes in the Work involving said items are made in accordance with Article 8 of the General Conditions and other sections of the Contract Documents. These provisions shall apply to items within the project work area.

2. REQUIREMENTS

- A.** Unit Prices shall be computed to include net cost plus overhead, profit, and bond and all other charges required to complete the work item for both additions and deductions.
- B.** Unit Prices net cost includes the cost of all labor, materials, equipment, disposal, and all other costs required to complete the work item.
- C.** Unit Prices shall apply until the date of Contract Completion established at the time of the Notice to Proceed. If the date of Contract Completion has been modified by Change Order, Unit Prices may be adjusted at the discretion of the Owner.
- D.** 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.

3. APPLICABILITY OF UNIT PRICES

- A.** Prior to commencing removal or placement of materials set forth in the Schedule of Unit Prices, the Contractor shall notify the Architect in sufficient time to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Architect will be considered in the determination of adjustments to the Contract Sum.
- B.** Performance of Work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not such Work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Architect.

4. SCHEDULE OF UNIT PRICES

- A. Replacement of Deteriorated Roof Sheathing** - Cost per 4 sq ft of additional replaced roof sheathing.
- B. Replacement of Deteriorated Gutters to Match Existing Profile, including Lead Coated Copper Lining**- Cost per 4 lineal ft of additional replaced gutter and lining.
- C. Replacement of Deteriorated Wood Fascia and or Soffit** - Cost per 4 lineal ft of additional replaced fascia and soffit.
- D. Replacement of Copper, Lead Coated Copper or Lead Flashings Where Deteriorated Beyond the Remediation Required Under the Contract** - Cost per 4 lineal ft by 18 in. wide sheet of additional replaced flashing.

END OF SECTION 01020

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

UNIT PRICES / 01020-1

SECTION 01030

ALTERNATES

1. SCOPE

- A.** This Section lists the Alternates which appear in the Contract Documents. Consult the individual sections for 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 and Subcontractors 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.

2. SCHEDULE OF ALTERNATES

ALTERNATE NO. 1 Add re-roofing and associated work at the south side of the Main Gable (Richardson Wing).

END OF SECTION

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

ALTERNATES / 01030-1

SECTION 01050

CONDUCT OF THE WORK

1.01 GENERAL PROVISIONS

The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

1.02 MEETINGS

A. PRE-CONSTRUCTION MEETING

1. The Architect will schedule a pre-construction meeting within 7 days of issuance of Notice to Proceed, to be attended by all project managers, Contractor's field superintendent, and representatives of major sub-contractors. At this time, Contractor shall make specified pre-construction submittals including following:
 - i. Typed list of Contractor's sub-contractors, consultants and personnel (including superintendent and principal assistants), with addresses and telephone numbers.
 - ii. Certificates of insurance.
 - iii. Construction schedule.
 - iv. Schedule of values.
 - v. Permits.
 - vi. Specified bonds.
 - vii. Executed contract agreements.
2. Pre-construction meeting agenda will include following:
 - i. Processing applications for payment.
 - ii. Processing and distribution of submittals.
 - iii. Maintenance of record documents.
 - iv. Procedure for field changes, change estimates, change orders, etc.
 - v. Site and building security.
 - vi. Location and maintenance of temporary storage areas, field offices, vehicular parking and access, waste disposal, etc.
 - vii. Safety and first-aid procedures.

B. PROGRESS MEETINGS, REPORTING

1. General: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, hold a general progress meeting each month with time coordinated with preparation of the payment request. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting: Review each entity's present and future needs including interface requirements, time, sequences, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, change orders, and documentation of information for payment requests. Discuss whether each element of current work is ahead of schedule, on time, or behind schedule in relation with updated progress schedule. Determine how behind-schedule work will be expedited, and secure commitments from entities involved in doing so. Discuss whether schedule revisions are required to ensure that current work and subsequent work will be completed within Contract Time. Review everything of significance which could affect progress of the work

1.03 PROJECT MANAGEMENT

- A. The Contractor's attention is directed to the General Conditions.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

CONDUCT OF WORK / 01050-1

- B. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- C. Unless specifically authorized by the Owner, in writing, the work must be conducted between the hours of 7:00 a.m. and 5:00 p.m. on Monday through Friday. No work is to be done on holidays, Saturdays, or Sundays other than for emergencies.
- D. The Contractor is responsible for the security of partially completed work until the project is accepted by the Owner.
- E. Storage within the building will be available in a basement location authorized by the Owner.
- F. Only materials and/or equipment intended and necessary for immediate use shall be brought into the building. At the end of each work day and at the completion of each phase of work, equipment and leftover or unused materials shall be removed from the building.
- G. Workers shall refrain from smoking while on the property, including interior, exterior and basement areas. The Contractor shall remove from the project workers who consistently violate this provision.
- H. The use of torches or open flames in or around the building is strictly prohibited.

1.04 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work
- B. Perform the Work so as not to interfere with the Owner's day-to-day operations. Maintain access to existing exits,
- C. Prior to scheduled events all materials, tools, debris, etc. shall be removed (see Section 01010 Summary of Work, para. 1.E). Work area shall be cleaned-up. No work shall take place during an event. Materials, tools, equipment and dumpsters shall stored out of the way, as approved by the Owner, or off site.

1.05 SCHEDULE OF VALUES

- A. Refer to General Conditions for general provisions governing schedule of values and applications for payment. For these submittals, use AIA Document G702/703, Application and Certificate for Payment. Use Specifications Sections as listed in Table of Contents as basis for format for listing costs. Itemize change orders separately as they are approved.

1.06 CONSTRUCTION SCHEDULE

- A. Refer to General Conditions for general provisions governing construction progress schedule. Schedule shall show activities, itemized according to specification Section, and be organized in bar-chart or graph form so as to show both projected and actual progress of work. Submit updated schedule monthly, together with application for payment.
- B. Schedule work around events and function rentals:
 1. See Section 01010 Summary of Work, para. 1.E.
- C. Bar-Chart Schedule: Submit a bar-chart type progress schedule not more than 7 days after the date established for commencement of the work. On the schedule, indicate a time bar for each major category or unit of work to be performed at the site, properly sequenced and coordinated with other elements of work. Show completion of the work sufficiently in advance of the date established for substantial completion of the work.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

1.07 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary to securing Work. Secure Work true to line and level. Allow for expansion, contraction, and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Recheck measurements and dimensions before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

1.08 COORDINATION

- A. Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection and operation.
- B. The Contractor shall submit for approval to the Owner and Architect a detailed operational plan showing the sequence of operations prior to commencement of any work at the site. Any changes to this operational plan must be approved by the Owner.
- C. The Contractor must retain on the Work during its progress a competent full time representative, satisfactory to the Owner. This representative shall not be changed, except with the consent of the Owner. The representative shall be in full charge of the work and all instructions given to this person by the Architect shall be binding.
- D. The Contractor must supply to the Owner the home telephone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.
- E. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

CONDUCT OF WORK / 01050-3

- F. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - G. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - H. Prepare similar memoranda for the Owner and separate contractors where coordination of their Work is required.
 - I. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules
 - 2. Installation and removal of temporary facilities
 - 3. Delivery and processing of submittals
 - 4. Progress meetings
 - 5. Project Close-out activities
 - J. Personnel: The Contractor shall employ a full time project site superintendent for this project. The superintendent shall be equipped with a portable telephone and pager.
 - K. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water and materials. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work. Refer to other sections for disposition of salvaged materials that are designated as Owner's property.
- 1.09 COORDINATION DRAWINGS:
- A. Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the interrelationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Comply with requirements contained in Section "Submittals."
- 1.10 OWNER'S COOPERATION
- A. The Owner shall assist the Contractor to perform the Work in accordance with the approved operational plan by removing obstructions that may be in the Contractor's way, upon proper notice from the Contractor.
- 1.11 CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS
- A. See General Conditions of the Contract
- 1.12 RETAINED ITEMS
- A. The following items which are to be removed and are in good condition shall be retained by the Owner (at the discretion of the Owner) and shall be stored at a location directed by the Owner:
 - 1. Canvas roofing removed from Floor 2 Front Porch.
 - 2. Existing wood gutter to be removed at the roof of the Front Porch.

END OF SECTION

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

CONDUCT OF WORK / 01050-4

SECTION 01300

SUBMITTALS - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1.01 GENERAL

- A. The "General Conditions" and other Sections of "Division 1 – General Requirements" form part of this Section.
- B. Non-Compliance: The Contractor shall assume all cost, direct and indirect, for the removal and replacement of any materials or items incorporated into the work without the required approval submittal for said material, found to be in non-compliance with the Specifications.
- C. The Contractor shall provide written notice of deviations of any type from the requirements of the contract or from the Construction Documents. The contractor shall remain liable for any deviations unless such changes are reviewed and acknowledged by the Architect in writing.
- D. Architect's review is for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the Contractor from compliance with the requirements of the plans and specifications and applicable laws, codes, and regulations. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences, and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

1.02 RELATED DOCUMENTS

- A. This Section supplements the Contract and the General Conditions of the Contract.
- B. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

1.03 GENERAL PROCEDURES FOR SUBMITTALS

- A. Timeliness - The Contractor shall transmit each submittal to the Architect sufficiently in advance of performing related Work or other applicable activities so that the installation is not delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect in advance of the Work. Processing time shall typically take two (2) weeks from receipt of the submittal by the Architect to transmittal back to the Contractor.
- B. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the Architect's approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.
- C. Contractor's Review and Approval –
 - 1. The Contractor shall review and approve submittals (including sub-contractors' submittals) before transmitting to the Architect.
 - 2. Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.
- D. Architect's Action - The Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

SUBMITTALS / 01300-1

1. **Final Unrestricted Release:** Where marked "No Exceptions Taken" or "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
 2. **Final-But-Restricted Release:** When marked "Note Markings" or "Approved- Furnish as Corrected" the Work may proceed provided it complies with the Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Confirmation of these conditions may be noted as required. Acceptance of the Work will depend on these compliances.
 3. **Returned for Resubmittal:** When marked "Revise and Resubmit" or "Rejected" the Work covered by the submittal (such as purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay, in accordance with the Architect's notations stating the reasons for returning the submittal.
- E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.

1.04 SUBSTITUTIONS

- A. Definition - Whenever a specification section names one or more brands for a given item, and the Contractor wishes to submit, for consideration, another brand, the submission shall be considered an "or-equal" or a "material substitution". For the purposes of this Contract, the terms "or-equal" and "material substitution" shall be considered synonymous.
- B. In no case may an item be furnished on the Work other than the item named or described, unless the Architect, in writing, shall consider the item equal to the item so named or described.
- C. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Architect at the expense of the Contractor submitting the substitution.
- D. The Architect and/or the Owner may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor shall bear full cost for providing, delivering, and disposal of all such samples.
- E. The Contractor shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work which may be caused by such substitution. Submit proposals to provide products other than those specifically named in ample time before product is to be incorporated in Work, in order to allow for full investigation of proposal. Thoroughly document proposal with manufacturers' literature, shop drawings and samples, as appropriate and as requested by Architect.
- F. Contractor shall warrant as part of his request that proposed alternative product is comparable in size, operation, material, finish and quality to product specifically named. He shall further warrant that he will provide same warranty as for product specified.
- G. Contractor shall be responsible for coordination of accepted substitution into Work and waives all claims for additional costs related to substitution which subsequently become apparent.
- H. Architect retains absolute right of approval of any proposed substitution, and may reject same on any grounds including appearance.
- I. Or Equal Approval Process - On the transmittal, or on a separate sheet attached to the submission, the Contractor shall direct attention to any deviations, including minor limitations and variations, from the Contract Documents.
 1. The Contractor shall submit to the Architect for consideration of any or-equal substitution a written point-by-point comparison containing the name and full particulars of the proposed product and the product named or described in the Contract Documents.
 2. Such submittal shall in no event be made later than 120 calendar days prior to the incorporation of the item into the Work. In any case in which the time period specified in the Contract Documents from the Notice to Proceed to Substantial Completion is less than 120 days, this requirement can be waived by the Architect.
 3. Upon receipt of a written request for approval of an or-equal substitution, the Architect shall investigate whether the proposed item shall be considered equal to the item named or

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described in the Contract Documents. Upon conclusion of the investigation, the Architect shall promptly advise the Contractor in writing that the item is, or is not, considered acceptable as on Or-Equal substitution.

1.05 SUBMISSION OF SHOP DRAWINGS

- A. Shop Drawings shall be complete, giving all information necessary or requested in the individual section of the specifications. Shop Drawings shall be for whole systems and assemblies. They shall also show adjoining Work and details of connection thereto.
- B. Partial submissions will not be accepted.
- C. The Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.
- D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Architect's stamp.
- E. The Contractor shall submit sufficient copies of each shop drawing for the Architect to retain two (2) copies of the submittal on file. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.
- F. When the shop drawing is returned by the Architect with the stamp "Resubmit" or "Rejected", the Contractor shall correct the original drawing or prepare a new drawing and resubmit a transparency and two prints thereof to the Architect for approval. This procedure shall be repeated until the Architect's approval is obtained.
- G. When the transparency is returned by the Architect with the stamp "No Exceptions Taken" or "Note Markings", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use.
- H. The Contractor shall maintain one full set of approved shop drawings at the site.
- I. The Contractor shall provide one full set of approved shop drawings and product data to the Owner at the completion of the project.

1.06 SUBMISSION OF PRODUCT DATA

- A. The Contractor shall submit 7 copies of Product Data to the Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.
- B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not impair legibility.
- C. Product Data returned by the Architect as "Disapproved" shall be resubmitted in 7 copies until the Architects approval is obtained.
- D. When the Product Data are acceptable, the Architect will stamp them "Approved" or "Approved as Corrected", retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.
- E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

1.07 SUBMISSION OF SAMPLES

- A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.
- B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work.

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- C. Samples which can be conveniently mailed shall be sent directly to the Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.
- D. All other samples shall be delivered at the field office with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Architect.
- E. If a sample is rejected by the Architect, a new sample shall be resubmitted in the manner specified hereinabove. This procedure shall be repeated until the sample is approved by the Architect.
- F. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications, at no additional cost to the Owner.

END OF SECTION

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SUBMITTALS / 01300-4

SECTION 01500

TEMPORARY FACILITIES

1. GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Architect. The Contractor bears full responsibility for re-providing any facility removed prior to Substantial Completion
- B. Removal of all temporary facilities and restoration of affected areas to their original condition, where appropriate shall be a condition precedent to Substantial Completion unless directed otherwise by the Architect or specifically noted in the specifications.
- C. The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor and Industries Regulation 454 CMR.

2. FIELD OFFICES

- A. The Contractor shall provide a suitable office at the site for use by Contractor personnel.
- B. The offices shall be set in a location approved by the Architect, and shall be maintained by the Contractor in a clean and orderly condition.

3. TEMPORARY TELEPHONES

- A. Portable cellular phone service is acceptable to meet this requirement. The Contractor shall provide telephone service for the use of the Contractor's authorized personnel. The Site Superintendent shall have a portable phone.
- B. The Contractor shall pay for or all calls and charges in connection with the foregoing temporary telephones.

4. TEMPORARY TOILETS

- A. The Contractor shall provide and service an adequate number of toilet booths with chemical type toilets.
- B. The toilets shall be erected in a location approved by the Architect and shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements.

5. TEMPORARY CONSTRUCTION FENCE

- A. The Contractor shall be responsible for providing and maintaining temporary fencing or barricades around the construction as may be necessary to assure the safety of all persons authorized or unauthorized. Such protective measures shall be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

6. TEMPORARY STRUCTURES AND MATERIAL HANDLING

- A. Site staging and storage space will be made available to Contractor in an area or areas designated by Owner.
- B. 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

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and trailers.

- C. 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.
- D. 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.

7. TEMPORARY STAGING, STAIRS, 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. Debris shall not be allowed to fall freely from upper levels of the building.

8. 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.

10. TEMPORARY WATER

- A. 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 and only as long as the water is not used wastefully.
- B. The Contractor shall provide all necessary piping and hoses to utilize the available sources of water.
- C. The Contractor shall provide an adequate supply of cool drinking water with individual drinking cups for personnel on the job.

11. TEMPORARY ELECTRICITY

- A. The Contractor may make use of the electricity available at the site, metered and paid for by the Owner, provided that the Contractor shall supply proper adapters and extension cords.
 - (1.) Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the Contractor shall provide temporary service to supply the power.
 - (2.) The Contractor shall connect to power outlets in locations approved by the Owner.
- B. If required, the Contractor shall furnish, install, and maintain lamps in operating condition. The Contractor, and each Subcontractor, shall furnish their own extension cords and additional lamps as may be required for their work. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for the trade requiring same.
- C. 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 set of lamps required to be provided under the Electrical section of the specifications.
- D. 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 and Industries Regulation, 454 CMR.

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12. WEATHER PROTECTION

- A.** The Contractor shall provide temporary enclosures to permit work to be carried on during the months of November through March in compliance with MGL c.149 §44G (d). These specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible in the opinion of the Owner. Without limitation this includes such items as excavation, pile driving, steel erection, erection of certain exterior wall panels, roofing, and similar operations.
- B.** "Weather Protection" means the temporary protection of that Work adversely affected by moisture, wind, and cold by covering, and enclosing. This protection shall provide adequate working areas during the months of November through March as determined by the Owner and consistent with the construction schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs. This provision does not supersede any specific requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Documents with added regard to performance obligations of the Contractor.
- C.** Within 30 calendar days after award of the Contract, the Contractor shall submit in writing, to the Architect for approval, three (3) copies of the proposed methods for "Weather Protection".
- D.** The Contractor shall assume the entire responsibility for weather protection during construction (until Substantial Completion), and shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation.
- E.** Work damaged by frost shall be removed and replaced by and at the Contractor's expense and as directed by the Architect.
- F.** It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Contractor to the execution of the Work. This provision shall not constitute any waiver, release, or lessening of the Contractor's obligation to bring the Work to Substantial Completion within the period of time set forth in the Contract Documents.

END OF SECTION

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SECTION 01510

PROTECTION

1. PROTECTION OF PERSONS & PROPERTIES

- A. The building will be occupied and open to the public during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.
- B. Owner's objects in the attic shall be protected by plywood from damage and by draped polyethylene from dirt and debris from work above..
- B. Any damage to buildings, roads, (public and private), bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner.
- C. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

2. TEMPORARY PROTECTION

- A. The Contractor shall:
 - (1.) Protect buildings, and materials at all times from rain water, ground water, backing-up, or leakage of sewers, drains, or other piping, or from water damage of any origin. Provide all pumps, piping, coverings, and other materials and equipment as required by job conditions to accomplish this requirement.
 - (2.) In addition to the weather protection during the months of November to March specified elsewhere, provide temporary watertight enclosures for openings in exterior walls and in roof decks when and as required to protect the Work from damage by inclement weather. Temporary enclosures shall be provided with adequate means of ventilation to prevent accumulation of moisture in the buildings.
 - (4.) Protect sills, jambs, and heads of openings through which materials are handled.
 - (5.) Protect decks and slabs to receive work by other trades from any soiling which will prevent proper adhesion of subsequent Work. Decks and slabs shall be left clean and free of blemishes at the time other trades begin the application of their work.
 - (6.) Protect concrete slabs to remain exposed, unfinished (the attic floor), and finished floors against mechanical damage, oil, grease, paint, or other material which will stain the floor finish. Install and maintain adequate strips of building paper or other protection on finished floors in rooms where future Work will be done by other trades.
 - (7.) Protect all surfaces to receive work by other trades from any soiling which will prevent proper execution of subsequent work
 - (8.) Protect other areas, furniture, and private property of the resident and the Owner. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.
- 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. After the installation of the Work by any Subcontractor 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

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at the time of Substantial Completion.

3. ACCESS

- A. The Contractor shall, at all times, leave an unobstructed way along walks and roadways, and shall maintain barriers and lights for the protection of all persons and property in all locations where materials are stored or work is in progress.

4. SECURITY

- A. The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests in the Work.

5. NOISE AND DUST CONTROL

- A. The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, dust, and other disturbances by:
 - (1.) Keeping common pedestrian and vehicular circulation areas clean and unobstructed;
 - (2.) Insulating work area from occupied portions as far as possible; and
 - (3.) Sealing dust and fumes from contaminating occupied spaces.

6. FIRE PROTECTION

- A. The Contractor shall take necessary precautions to insure against fire during construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and that combustible rubbish and construction debris is promptly removed from the site.
- B. Installation of equipment suitable for fire protection shall be done as soon as possible after commencement of the Work. The Contractor's attention is directed to the requirements of the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulation 454 CMR.
- C. The use of torches or open flames in or around the building is strictly prohibited.

7. WIND PROTECTION

- A. Should high wind warnings be issued by the U.S. Weather Bureau, the Contractor shall take every precaution to minimize danger to persons, to the Work, and to the adjacent property.

8. WEATHER PROTECTION

- A. The Contractor shall provide Weather Protection as required by Specification Section 01500 Temporary Facilities and any other specific requirements of the Contract Documents.

END OF SECTION

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PROTECTION / 01510-2

SECTION 01520

CLEANING UP

1. RELATED DOCUMENTS

- A.** This section supplements the General Conditions.
- B.** Consult the individual sections of the specifications for cleaning of Work installed under those sections.

2. CLEANING DURING CONSTRUCTION

- A.** Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1.** Do not burn or bury rubbish and waste materials on the site.
 - 2.** Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3.** Do not dispose of wastes into streams or waterways.
- B.** Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C.** Do not allow materials and rubbish to drop free or be thrown from upper floors, but remove by use of a material hoist or rubbish chutes.
- D.** Maintain the Site free from accumulations of waste, debris, and rubbish.
- E.** Provide on-site containers for collection of waste materials and rubbish.
- F.** At the end of each day, remove and legally dispose waste materials and rubbish from site.
- G.** Prior to scheduled events broom clean and rake clean all debris from work on the building (see Section 01050 Conduct of the Work, para, 1.03.G).
- H.** Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- I.** Disposal of materials shall be in compliance with all applicable laws, ordinances, codes, and by-laws.

3. FINAL CLEANING

- A.** Prior to submitting a request to the Architect to certify Substantial Completion of the Work, the Contractor shall inspect all interior and exterior spaces and verify that all waste materials, rubbish, tools, equipment, machinery, and surplus materials have been removed, and that all sight-exposed surfaces are clean. Leave the Project clean and ready for occupancy.
- B.** Before beginning cleaning of existing surfaces, submit proposed cleaning methods to Owner and Architect for approval.
- C.** Unless otherwise specified under other sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- D.** Cleaning shall include all surfaces, interior and exterior, which the Contractor has had access to, whether new or existing.
- E.** Employ experienced workmen or professional cleaners for final cleaning.

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- F. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.
- G. Use cleaning materials which will not create a hazard to health or property and which will not damage surfaces.
- H. All broken or defective glass caused by the Contractor's Work shall be replaced at the expense of the Contractor.
- I. Remove grease, mastic, adhesive, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective specifications.
- J. Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.
- K. Polish glossy surfaces to a clear shine.
- L. Leave all architectural metals, hardware, and fixtures in undamaged, polished conditions.
- M. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- N. In cleaning items with manufacturer's finish or items previously finished by a Subcontractor, care shall be taken not to damage such manufacturer's or Subcontractor's finish. In cleaning glass and finish surfaces, care shall be taken not to use detergents or other cleaning agents which may stain adjoining finish surfaces. Any damage to finishes caused by cleaning operations shall be repaired at the Contractor's expense.
- O. Broom clean exposed concrete surfaces and paved surfaces. Rake clean other surfaces of grounds.
- P. Owner's responsibility for cleaning commences at Substantial Completion.

END OF SECTION

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CLEANING UP / 01520-2

SECTION 01600

PRODUCTS AND INSTALLATION

1.01 GENERAL

- A. Attention is directed to General Conditions, Paragraphs 3.4 and 3.5, governing products and workmanship.
- B. If not specified otherwise, colors and finishes of specified products will be selected from manufacturer's standard ranges.
- C. Standards (ANSI, ASTM, Federal Specifications, etc.) referenced in specifications are latest edition as of date Contract Documents are issued for bidding. Where compliance with a standard is required, provide affidavit from sub-contractor or manufacturer certifying compliance, if requested by Architect.
- D. Design snow/wind load requirements: per Massachusetts Building Code, if not otherwise specified elsewhere in Contract Documents.

1.02 SUBSTITUTIONS

- A. See Section 01300 Submittals, para. 1.04.

1.03 DELIVERY, STORAGE AND INSTALLATION

- A. Enclose products properly in containers, boxes, packages, etc, to prevent damage during transportation and handling. Deliver in original unopened containers with labels indicating brand names, model numbers, quality designations, fire-resistance ratings, etc.
- B. Store materials delivered to site off ground, under cover, in dry, well-ventilated locations secure from vandalism and theft, in full conformance with manufacturers' recommendations.
- C. Carefully protect stored materials from mechanical damage, dampness, and extremes of temperature. Provide separators between finished materials which are stored in stacked or leaning position.
- D. Install, finish and clean products in strict accordance with applicable specification Section and with manufacturers' instructions, by skilled workmen under adequate supervision.
- E. Make copies of manufacturers' installation instructions for all products available at job site. Foremen of installation crews shall have minimum of three years' experience installing that product.
- C. Protect installed products until Substantial Completion by appropriate means, including plastic or canvas sheeting, kraft paper, masking tape and wood barricades. Remove name plates and other identifying markings from exposed surfaces of manufactured items installed in finished spaces, if requested by Architect.

1.04 CUTTING AND PATCHING

- A. Refer to General Conditions and Section 02070 Selective Demolition, for cutting and patching at existing construction. Refer also to other specification Sections for cutting and patching requirements for specific materials.

END OF SECTION

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PRODUCTS AND INSTALLATION / 01600-1

SECTION 01700
PROJECT CLOSEOUT

1. RELATED DOCUMENTS

- A. This section supplements the General Conditions.
- B. Consult the individual sections of the specifications for specific items required under those sections.

2. OCCUPANCY PERMIT

The Contractor shall coordinate the efforts of all Subcontractors and obtain the Occupancy Permit, or equivalent certification, from the local Building Department prior to requesting a Certificate of Substantial Completion.

3. SUBSTANTIAL COMPLETION

- A. Prior to requesting Substantial Completion as provided in the General Conditions the Contractor shall make a thorough inspection of the Work. During this inspection the Contractor shall prepare a comprehensive list of all items remaining to be completed or corrected. This list shall include all remaining Contractor and Subcontractor items to be provided under the Contract Documents.
- B. Upon completion of the items noted on the Contractor's list the Contractor shall notify the Architect that the Work is Substantially Complete. The Architect shall then conduct a similar thorough inspection. If the Architect agrees that the Work is Substantially Complete, the Architect will promptly make a thorough inspection and prepare a punch list, setting forth in accurate detail any items on the Contractor's list and additional items that are not acceptable or incomplete. The Contractor shall coordinate all Subcontractors to achieve prompt completion of the punch list.
- C. The Contractor shall not be relieved of the responsibility to provide Contract items left off of the Architect's punch list.
- D. If the Architect determines that the Work is not Substantially Complete, the Architect shall inform the Contractor of those items that must be completed before the Architect will prepare a punch list. Upon completion of those items, the Contractor shall again request the Architect to prepare a punch list.
- E. When the punch list has been prepared, the Architect will arrange a meeting with the Contractor and Subcontractors to identify and explain all punch list items and answer questions on work which must be done before final acceptance.
- F. The Architect may revise the punch list, from time to time, to ensure that all items of Work are properly completed.
- G. The Architect shall prepare the Certificate of Substantial Completion in accordance with the General Conditions.

4. RECORD DRAWINGS

- A. Record Drawings shall consist of all the Contract Drawings.
- B. From the sets of drawings furnished by the Owner, the Contractor shall reserve one set for record purposes.
- C. The Contractor shall keep their marked up As Built set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include the location and dimensions of underground and concealed Work, and any architectural, mechanical, or electrical variations from the Contract Drawings. All changes, including those issued by Addendum, Change

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Order, or instructions by the Architect shall be recorded. Marked up As Built drawings shall be prepared for the entire project and include all Work.

- D. The Architect may periodically inspect the marked up As Built drawings at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly applications for payment.
- E. At Substantial Completion the Contractor shall submit the complete set of marked up As Built drawings to the Architect. The Contractor shall check all marked up As Built drawings prepared by subcontractors and certify in writing on the title sheet of the drawings that they are complete and correct, prior to submission to the Architect.
- F. The Architect shall review the marked up As Built drawings and verify by letter to the Owner that the Work is complete. The Architect shall incorporate all changes onto to original drawings.
- G. The Contractor may make a written request for copies of the completed Record Drawings. The Contractor shall reimburse the Owner directly for the cost of printing of any requested Record Drawings.
- H. Submission of accurate marked up As Built drawings and their approval by the Architect shall be a condition precedent to final payment.

5. OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Consult the individual sections of the specifications for the specific requirements for those sections and for further details and descriptions of the requirements
- B. Prior to final payment and completion the Contractor shall provide all Operating Manuals and Maintenance Instructions as required by the Contract Documents in the technical sections.

6. FINAL COMPLETION

A. RELATED REQUIREMENTS

The Contractor's attention is directed to the General Conditions.

B. FULL RELEASE OF RETAINAGE

- 1. Upon completion of all work, and after receipt of all appropriate marked up As Built Drawings, Operating Manuals, Warranties, Guarantees (including Contractor's Guaranty), and Spare Parts required by the Contract Documents, the Architect shall prepare the Certificate of Final Completion.
- 2. The Contractor's signature on this Certificate shall be notarized.
- 4. The Contractor shall provide a final Application for Payment to complement the close-out process.

C. PARTIAL RELEASE OF RETAINAGE

- 1. If within 65 days after Substantial Completion, any of the items on the Architect's punch list are not complete or if the Contractor has not provided the appropriate marked up As Built Drawings, Operating Manuals, Warranties, Guarantees, or Spare Parts the Architect shall assign a monetary value for each incomplete item as well as any other items as provided by M.G.L. c.30 §39K, and the Architect shall prepare a Certificate for Partial Release of Retainage
- 2. If the Architect is required to prepare a Certificate for Partial Release of Retainage the Contractor shall complete all remaining Work in accordance with the provisions of the General Conditions.
- 3. The Contractor's signature on this Certificate shall be notarized.

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4. The Contractor may make a request for additional releases of retainage when portions of the Work listed on the Architect's punch list have been satisfactorily completed. Each request shall be accompanied by a new application for payment and a new signed and notarized Certificate for Partial Release of Retainage.
5. The Architect's inspections, required to complete the additional payment applications described in subparagraph C4 above, are subject to provisions of the General Conditions.
6. Upon completion of all remaining items, the Final Release of Retainage shall be processed in accordance with paragraph B above.

END OF SECTION

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DIVISION 2: SITE WORK & DEMO

SECTION 02070
SELECTIVE DEMOLITION

PART 1.00 – GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to Contract and General Conditions and all Sections within Division 1, General Requirements, which are hereby made a part of this Section of the Specifications.

1.02 DESCRIPTION OF WORK

A. Provide labor, materials, and equipment necessary to complete work of this Section, including but not limited to following:

1. Demolition and removal of existing roofing and other materials to be replaced.
2. Cutting, patching, and repairs, except as specifically called for in other Sections.
3. Preparation and cleaning of existing surfaces, for work specified in other Sections.
4. See drawings for complete scope of work

B. Related work specified elsewhere:

1. Alterations to Existing Conditions: Section 01040
2. Temporary Facilities: Section 01500
3. Protection: Section 01510

1.03 SUBMITTALS

A. Refer to Section 01300, Submittals, for submittal provisions and procedures.

C. Samples of each product specified.

D. Before beginning demolition work, submit demolition schedule to Architect for approval, including methods, sequencing, and provisions for disconnecting utility services.

E. Before beginning cleaning of existing surfaces, submit proposed cleaning methods to Architect and Owner for approval.

1.04 QUALITY ASSURANCE: Refer to Section 01600, Material and Equipment, for general provisions covering material delivery, storage, and installation.

PART 2 - PRODUCTS / EXECUTION

2.01 DEMOLITION AND REMOVAL OF EXISTING MATERIAL

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- A. Contractor shall remove all existing trash, debris, and other loose material as part of his demolition operations.
- B. Demolition procedures:
1. Carry out demolition operations with utmost care to prevent excessive vibration, settlement, or other structural damage, or damage to existing finish materials scheduled to remain.
 2. Do not use cutting torches.
 3. Protect unaltered portions of existing construction, including finishes, furnishings, and equipment, with dropcloths, dustproof partitions, etc. as required.
 4. Provide secure weather protection at temporary exterior wall openings and roof openings, until such openings are closed.
- C. Carefully demount material designated to remain Owner's property, and store in location designated by Owner.
- D. Except as otherwise itemized in specifications or on drawings, all demolished material and equipment shall become Contractor's property and responsibility, and shall be removed from site by Contractor. Demolished material may not be re-used unless so noted elsewhere in Contract Documents.
- E. Demount and remove mechanical and electrical equipment, lines, fixtures, etc. in altered areas, which are not scheduled to be re-used, including when it is concealed from view and does not interfere with new construction (i.e. behind new walls, above suspended ceilings).
- F. Demolition work shall be considered to be General Contractor's responsibility, except where noted for mechanical and electrical equipment.

2.02 CUTTING, PATCHING, AND REPAIRS

- A. Cutting and patching provisions of Contract apply to both newly-installed and existing construction. Refer also to other specification Sections for cutting and patching requirements for specific materials.
- B. Neatly patch and seal exposed-to-view openings, using sealants, tooled mortar joints, escutcheons, or flanged collars, as appropriate.
- C. Whether or not called for specifically on drawings, patch, touch-up, and clean all existing walls, ceilings, and floors scheduled to remain, which are damaged by demolition, cutting, or removal of existing construction such as door frames, partitions, and equipment, or which are damaged during installation of new material. Bring to the Architect's attention. Use materials and methods approved by Architect.
- D. Remove, cut, and patch work so as to minimize damage to existing elements. Use materials for patching which are of same types, sizes, qualities, and appearance as existing materials, or as specified for new work, as appropriate. Provide neat transition to newly-installed material. Where existing surfaces are cut so that a smooth transition is not possible, cut existing surface along natural division line, as determined by Architect.

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E. Carefully remove, store, refinish, repair, and reinstall items shown on drawings to be reused or relocated. Neatly cut and trim such elements as required for reinstallation. Clean all relocated items after reinstallation, same as for new work.

F. Where existing construction must be cut, use powered core-drills or saws if possible; jack-hammering may be used only with Architect's permission.

G. Dimensions shown at existing construction represent best information available to Architect at time of design. Take field dimensions before factory-fabricating equipment which is required to fit closely into existing construction. No additional compensation will be paid for repairing or replacing items which do not fit into existing construction.

H. Wherever patching and repair work reveals damaged, deteriorated, or otherwise unsuitable material which could cause structural instability, or which cannot be resurfaced by normal methods, call Architect's attention to condition. Do not proceed with installation of new finish materials until damaged conditions are corrected.

I. Repair and replace existing exterior pavement and curbing damaged by construction, using materials matching existing. Saw-cut edge of existing pavement in a straight line, at a 45-degree angle to vertical, so that all existing loose or cracked areas of pavement are removed. Provide a smooth transition between new and old pavement.

2.03 PREPARATION AND CLEANING OF EXISTING SURFACES

A. Prepare and clean existing surfaces as required for installation of new materials, equipment, and finishes specified in other specification Sections.

B. General:

1. Remove materials such as rust, adhesive, dirt, oil, wax, and sealers; which would prevent proper adhesion of new finish materials, from all surfaces scheduled for refinishing.
2. Use scrapers, brushes, wire pads, detergents, chemical cleaning solutions, light sand-blasting, or other materials and equipment appropriate for surfaces being cleaned.
3. Clean test areas for Architect's approval before proceeding with complete cleaning operations.
4. After cleaning is completed, completely brush or rinse off surfaces, in readiness for installation of finish materials.

C. At previously painted or varnished surfaces, sand sound paint or varnish to a feather edge, and lightly sand entire surface.

E. Remove mildew by scrubbing with solution of one cup non-ammoniated detergent, one quart household bleach, and one gallon of water. For stubborn mildew, add an extra quart of bleach to solution. Rinse surface with clean water and allow to dry completely.

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2.04 LEAD-BASED PAINT REMOVAL

- A. WARNING: All existing paint shall be assumed to be lead-based.
- B. Remove lead-based paint only where required by State Building Code requirements and public health regulations.
- C. Take all necessary precautions to reduce health and safety dangers during removal of lead-based paint. Perform work per OSHA Publication 3126, "working with Lead in the Construction Industry", and state deleading regulations.
- D. Following paragraphs are intended as a rough guide and shall not be construed to relieve Contractor of strict adherence to above-mentioned standards and regulations, as well as any other regulations in effect at time of construction.
- E. Do not use a blow torch to remove lead-based paint. Workmen shall wear toxic dust respirators, and wash both skin and clothing after removing paint.
- F. For solvent- and caustic-based strippers, workmen shall wear toxic vapor respirators, cotton-lined gloves, and full covering on arms and legs. Provide a source of water to flush strippers from skin.
- G. Workmen shall wear safety goggles when using manual, mechanical, or fluid paint scrapers, sanders, or strippers.
- H. Sweep or rake up dust and paint chips from dropcloths; scrape sludge into containers.

END OF SECTION

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DIVISION 3 AND 4. NOT USED

DIVISION 5. METAL

**SECTION 05500
MISCELLANEOUS METAL FABRICATIONS**

PART 1.00 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include GENERAL CONDITIONS and applicable parts of Division 1 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK TO BE DONE

- A. Furnish all materials, equipment, labor and services required for all miscellaneous metal work as specified herein, as indicated on Drawings, or both, including miscellaneous standard steel shapes, bars, plates and accessories shown on architectural drawings, which are not part of structural, site, mechanical or electrical work.
- C. Work also includes repair and replacement of miscellaneous metal items, where shown on the drawings.
- D. It is not the intent herein to describe all the items of light iron and miscellaneous metal work required for the Work. All light iron and miscellaneous metals not specified under another Section but required for the Work shall be provided under this Section.
- E. Provide specific metal fabrications itemized in this Section or on the drawings, including balustrade posts.
- F. Furnish all required metal inserts, anchor slots, anchors, anchor bolts, fastenings, etc., for attachment of work of all trades to concrete and masonry, except where otherwise specified or obviously included under other Sections of the Specifications.
- G. See Drawings for locations and details.

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Painting, except as specified herein.
- B. Removal of existing work.
- C. Metal flashing.

1.04 REFERENCE STANDARDS

- A. Work shall conform to codes and standards of the following agencies as further cited herein:

ASTM: American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

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AISC: American Institute for Steel Construction, 101 Park Avenue, New York, NY including "Code of Standard Practice for Steel Buildings and Bridges"; "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings".

AISI: American Iron and Steel Institute, 1000 16th Street, N.W., Washington, DC 20036 including "Specifications for the Design of Light Gauge Cold Formed Structural Members".

AWS: American Welding Society, Inc., 2501 NW 7th Street, Miami, FL 33125, "Standard D1.1-72, Structural Welding Code". AAMA: Architectural Aluminum Manufacturers Association, 410 North Michigan Avenue, Chicago, IL 60611.

SSPC: Steel Structures Painting Council, 4400 Fifth Avenue, Pittsburgh, PA 15213, as published in Volumes 1 and 2 of "SSPC Manual".

FS: Federal Specifications published by the United States Government, available from General Services Administration, Specification and Consumer Information Distribution Service, Washington Navy Yard Building 197, Washington, DC.

B. Gauges of sheet iron and steel as specified are U.S. Standard for sheet and plate. Gauges of non-ferrous metals are Browne and Sharpe.

1.05 SHOP DRAWINGS AND SAMPLES

A. Prepare and submit Shop Drawings in accordance with requirements of Division 1 for Architect's review before proceeding with fabrication.

B. Take measurements in the field and verify all dimensions before submitting Shop Drawings.

C. Shop Drawings shall show all items in large scale detail with kind of materials, size of members and methods of securing same together and to work of other trades. Shop Drawings shall be fully dimensioned and show relationship to adjacent materials. Each field piece shall be marked and markings indicated on Shop Drawings.

D. Where provisions must be made for attaching other materials to work included under this Section or where provisions must be made for assembly and installation of steel and miscellaneous iron in the field, the required holes shall be provided in the shop, unless such connections are to be welded. The sizes and locations of all such holes shall be shown on the Shop Drawings. Such holes shall be either drilled or punched and reamed.

E. Samples: Submit samples as required by the Architect of all materials specified herein in accordance with requirements of Division 1 for Architect's review before ordering materials. Provide special samples of pipe railings, elbows and connections.

F. Data: Provide manufacturer's data on manufactured products and mill reports on steel.

G. Certification: Submit written certification of conformance to requirements for galvanizing and shop priming. Submit certification evidence for all welders on the job.

H. Calculations: Submit complete guardrail post design and attachment calculations stamped with the seal of a licensed professional engineer and indicating compliance with specified and code-

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prescribed load requirements. Ensure the rails will be capable of withstanding 200 pound concentrated load applied at any point downward or horizontally.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store work under this Section in a manner to prevent wracking or stress of components, and to prevent mechanical damage or damage by the elements.
- B. Items which become rusted or damaged because of non-compliance with these conditions will be rejected and shall be replaced without additional cost to the Owner.
- C. Deliver work to the site in sufficient time to avoid delay in job progress and at such times as to permit proper coordination of the various parts.
- D. Deliver anchor bolts, washers, and other anchorage in time for building-in. Deliver bolts, and other small items required for erection of work under this Section bundled with their respective items.
- E. Hot-dip galvanized steel shall be marked with a stamp indicating ASTM number and weight of coating and shall be inspected for compliance with applicable ASTM requirements.

1.07 COORDINATION

- A. The work of this Section shall be coordinated with the work of other Sections. Verify dimensions and work of other trades which adjoin materials of this Section before installing items specified.
- B. Obtain all necessary templates and patterns required from other trades for proper execution of work of this Section. Furnish to other trades items to be built into work of other Sections. Supervise installation of such built-in work.

PART 2.00 – MATERIALS

2.01 MATERIAL REQUIREMENTS

- A. Provide only new materials, free from defects impairing strength, durability, and appearance, and of the quality specified.
- B. Standard products meeting the detailed requirements specified herein will be considered for acceptability by the Architect.
- C. Furnish all supplemental parts necessary to complete each item whether or not such parts are shown and specified. Furnish all fastenings for securing the work required hereunder.
- D. Provide fastenings of the same material, color, and finish as the metal to which applied unless otherwise indicated.

2.02 METALS

- A. Steel shapes, plates and bars: Shall conform to the requirements of Standard Specification for Steel for Bridges and Buildings, ASTM A36.

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- B. Steel tubular members: Shall conform to the requirements of ASTM ASOI, in sizes as indicated on the Drawings, galvanized when used on exterior, ASTM A53 or A120.
- C. Steel bolts and nuts shall conform to ASTM B-6.
- D. Filler Metal for Welding: Welding electrodes for manual shielded metal arc welding shall conform to ASTM A233, E60 or E70 Series. Bare electrodes and granular flux used in the submerged-arc process shall conform to AISC Specifications.
- E. Construction accessories shall be by Hohmann and Barnard, Gateway Erectors, Inc., Richmond Screw Anchor Co., or equal. All accessories shall be heavily hot-dip galvanized.
- F. Stainless Steel shall be AISI Series 300 austenitic alloys: Type 304 where exposed, Types 305 for bolts, nuts, screws and fasteners. All other stainless steel shall be Type 302 of shapes as required. Provide standard dull mill finish except as otherwise indicated.

2.03 GALVANIZING

- A. All ferrous metal exposed to the weather, and/or indicated as such on the drawings, shall be hot-dip galvanized after fabrication and chromated after galvanizing by dipping in a .15% chromic acid solution. Galvanizing bath shall be a combination nickel-zinc mixture "Ni-Galv" or equal. Galvanize all ferrous fasteners, clips, sleeves, anchors, and accessories in contact with galvanized items.
- B. Galvanizing: Shall comply with ASTM A123, minimum 3.4 dry mu thickness, except as follows:

Steel pipe:	A120
Structural Steel Shapes:	A123
Assembled steel products:	A386
- C. All galvanized materials shall be inspected for compliance with these specifications and marked with a stamp indicating the name of the galvanizer, the ASTM Specification and the weight of the zinc coating in ounces per square foot.
- D. A notarized statement of compliance with specifications shall be furnished by the galvanizer with the initial shipment.
- E. Items to be galvanized shall be galvanized after fabrication. Where size of assembly is too large for complete unit galvanizing, assemblies shall be galvanized prior to fabrication in as large sections as practical and then only with the written permission of the Architect.
- F. Where galvanizing prior to completing fabrication cannot be avoided, joints shall be welded after fabrication, ground smooth and finished with four (4) full coats of California Products WW Totrust, Sealube ZRC, Zirp by Duncan or equal.

2.05 WELDING

- A. The AWS standard code of Arc and Gas Welding shall govern all welding under this Section.
- B. Welding shall be continuous except where tack-welding is specifically permitted. Tack welding will not be permitted on exposed surfaces. All exposed welds shall be ground smooth.

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- C. Where structural joints are made by welding, the details of all joints, the techniques of welding employed, the appearance and quality of welds made, and the methods used to correct defective work shall conform to the requirements of the AISC and AWS Codes.
- D. Welds shall be made only by certified welders who have previously been qualified by tests as prescribed in AWS "Standard Qualification Procedure" for the type of work required.
- E. Weld with uncoated wire to prevent flux deposits. All flux residue shall be removed to bare white metal. Seal off contact areas of overlapping surfaces by welding full perimeter of contact areas.
- F. Take all necessary precautions when welding to prevent fires. Maintain fire extinguishing equipment on hand at all times and ready for immediate use.

2.06 MISCELLANEOUS ITEMS

- A. **Items Included:** Carefully review all Drawings for miscellaneous metal items. Furnish and install miscellaneous metal items required by the various trades, whether or not specifically listed herein, such as miscellaneous clip angles, miscellaneous steel brackets, and other miscellaneous metal items as indicated on the Drawings, reasonably implied therefrom, or reasonably necessary for the thorough completion of the Work. Include the following miscellaneous metal items as well as all other items required.
- B. **Sleeves and Inserts:** Include steel sleeves and miscellaneous steel anchor bolts as required, clip angles, anchors, fasteners, sockets and accessories required to complete the proper installation of all items of this Section, whether indicated or not.

PART 3.00 – EXECUTION

3.01 WORKMANSHIP

- A. All work shall be executed by experienced mechanics and shall conform to details, be clean and straight with sharply defined profiles. Unless otherwise particularly noted, finished surfaces shall have smooth finish.
- B. Curved work shall be formed to true radii. Shearing and punching shall be done cleanly so as not to deform or mar adjacent surface.
- C. Shop connections shall be welded or riveted, and field connections bolted unless otherwise indicated. Use flathead countersunk rivets finished flush where riveted connections are exposed to view in finished work. Bolts shall be turned up tight and threads deformed to prevent loosening.
- D. Castings shall be sound and free from warp, holes and other defects that impair strength and appearance. Exposed surface shall have a smooth finish with sharp well-defined lines and arises. Machined joints shall be milled to a close fit. Provide all necessary lugs, brackets and similar items so that work can be assembled and installed in a neat, substantial manner.
- E. Provide holes and connections as required to accommodate the work of other trades and for site assembly of metal work. Holes shall be drilled or punched and reamed in the shop. Show sizes and locations of all such holes on the Shop Drawings.
- F. Joints and connections exposed to weather shall be formed to exclude water.

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- G. All materials and workmanship under this Section shall be subject to inspection in the mill, shop or field by the Architect¹ or by qualified inspectors retained by the Owner. Inspection shall be without expense to the Contractor. However, such inspection, wherever conducted, shall not relieve Subcontractor of his responsibility to furnish materials and workmanship in accordance with Contract requirements.
- H. Shop fabricate items wherever practicable, accurately fitting all parts and making all joints tight.
- I. Grind all edges of bars and plates completely free from nicks and machine marks prior to galvanizing and/or shop priming.
- J. Draw up all threaded connections tightly after buttering same with pipe joint compound to exclude water.
- K. Countersink all screw heads and bolt heads as far as practicable. Use not less than two screws, bolts, or other anchorage items at each connection point.
- L. Use only screws and bolts of sufficient size to assure against loosening from normal usage of miscellaneous metal items furnished hereunder.
- N. Welding shall be continuous except where tack-welding is specifically permitted. Tack welding will not be permitted on exposed surfaces. All exposed welds shall be ground smooth.
- O. Where structural joints are made by welding, the details of all joints, the techniques of welding employed, the appearance and quality of welds made, and the methods used to correct defective work shall conform to the requirements of the AISC and AWS Codes.
- P. Welds shall be made only by certified welders who have previously been qualified by tests as prescribed in AWS "Standard Qualification Procedure" for the type of work required.

3.02 INSTALLATION

- A. Take all measurements required at the building. Check measurements, compare dimensions and other data with various trades installing adjoining work to assure proper coordination.
- B. Do all drilling and fittings, cutting, welding, bolting and riveting required to erect, install and fit metal work to adjoining work. Conform to AISC Code. Furnish all screws, bolts, anchors, etc., required to attach metal work securely to adjoining work.
- C. Do not cut or alter members in the field without approval. Do not enlarge unfair holes by burning and forcing, but correct by reaming.
- D. Contractor shall be responsible for the correct location of miscellaneous metal work, including anchor bolts and base plates, lintels and angles. Take particular care to maintain steel shapes, plumb and level during the pouring of concrete.
- E. Store materials in conformance with general provisions of Section 01 600, Products and Installation. Store materials on skids, not on ground, in such fashion as to prevent bending, twisting or similar damage.

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F. Erect products plumb and true, well-aligned with other building elements, and securely attached in place. Tolerances shall comply with applicable reference standards specified in Division 5 structural steel Section. Use attachments galvanically compatible with materials being installed, or separated therefrom with mastic or rubber washers.

G. Secure metal items to masonry and concrete using toggle or expansion-type stainless, cadmium plated or galvanized steel anchors, minimum 1/4 in. in diameter, 24 in. o.c. Power-driven pins may be used at concrete. Furnish inserts, anchors and other recessed items as required for installation in masonry and concrete under Divisions 3 and 4.

H. All metal work shall be well-formed to shape and size, with sharp lines or angles. Shearing and punching shall leave clean, true lines and surfaces. Weld permanent connections. Do not use screws or bolts where they can be avoided; where used, heads shall be countersunk, screwed up tight and threads dressed close to nuts and nicked to prevent loosening. Curved work shall be evenly sprung.

I. Make field connections in most practical locations for appearance, maintenance and ease of installation. Conceal joints and attachments to extent possible. Reinforce members and punch or drill as required for securing other materials. Thickness of metal and details of assembly and supports shall give ample strength and stiffness. Joints exposed to weather shall be formed to exclude water. Provide holes and connections for the work of other trades. Exposed fastening shall match base material and finish.

J. Touch up damaged shop coat using original or zinc-rich primer. Apply a thick coat of bituminous or zinc-chromate paint to concealed metal surfaces in contact with masonry, concrete or dissimilar metals.

K. Touch up breaks in galvanized surfaces caused by field cuts, welds, hole-drilling, etc., per ASTM A 780. Apply first coat within two hours after break in galvanizing occurs. At welds, power-wire brush off weld spatter, flux and slag, and apply two coats of galvanizing compound extending 3 in. beyond edges of burned-off galvanized area.

L. Clean installed work from crayon marks, weld spatter, chalk dust, dirt and other foreign materials, ready for field painting. Protect installed work as required from damage by subsequent building operations.

M. Welding, where required, shall be neat and surrounding metal shall not be burned. All exposed-to-view welds shall be ground down flush and smooth.

END OF SECTION 05500

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MISCELLANEOUS METAL / 05500-7

DIVISION 6. WOOD AND PLASTICS

SECTION 06100

ROUGH CARPENTRY

1.00 GENERAL

1.01 References: General provisions of contract, including General and Supplementary Conditions and Division 1, General Requirements, apply to work specified in this Section.

1.02 WORK INCLUDED

A. The work under this Section consists of furnishing and installing all rough carpentry and related work as shown on the drawings and as specified herein and includes, but is not limited to, the following:

1. Roof sheathing.
2. Roof battens
3. Miscellaneous rough carpentry items

1.03 REFERENCES

A. Reference the following codes and standards as apply to each specific application.

1. AHA (American Hardboard Association) A135.4 - Basic Hardboard.
2. ALSC (American Lumber Standards Committee) - Softwood Lumber Standards.
3. ANSI A208.1 - Mat-Formed Wood Particleboard.
4. APA (American Plywood Association).
5. AWWPA (American Wood Preservers Association) C1 - All Timber Products - Preservative Treatment by Pressure Process.
6. AWWPA (American Wood Preservers Association) C20 - Structural Lumber Fire Retardant Treatment by Pressure Process.
7. NFPA (National Forest Products Association).
8. NLGA (National Lumber Grades Authority).
9. SPIB (Southern Pine Inspection Bureau).
10. WCLIB (West Coast Lumber Inspection Bureau).

1.04 QUALITY ASSURANCE

A. Provide at all times during the Work of this Section adequate supervisory personnel who shall be thoroughly familiar with the type of construction involved and with the requirements of the Contract Documents pertinent to this Work. Provide adequate numbers of skilled craftsmen and other personnel to ensure the orderly and proper progress of the Work in accordance with the approved Progress Schedule.

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B. Lumber standard: Comply with PS20 for each indicated use, including moisture content and actual sizes related to the indicated nominal sizes, except as otherwise indicated.

1.05 PRODUCT HANDLING

A. Keep carpentry materials dry during delivery, storage and handling. Store lumber and plywood in stacks, with provision for air circulation within stacks. Protect bottom of stacks against contact with damp surfaces. Protect exposed materials against weather, covering and blocking above ground.

1.06 JOB CONDITIONS

A. Coordinate location of furring, nailers, blocking, grounds and similar supports so that attached work will comply with design requirements.

B. Installer must examine the substrates and supporting structures and the conditions under which the carpentry Work is to be installed, and notify the General Contractor in writing of conditions until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

1.07 SUBMITTALS

A. Submit full Product Data of all manufactured or proprietary items and certification of compliance with these requirements for all items to be furnished exactly as specified.

2.00 MATERIALS

2.01 WOOD PRODUCTS

A. Lumber Grading Rules: NFPA, RIS, SPIB, WCLIB or WWPA.

B. Lumber shall be marked S-Dry to 19% moisture content unless otherwise noted. All materials shall be inspected before use, with all checked, split, and otherwise deficient stock rejected, or used only for miscellaneous blocking, furring or other incidental use. The Contractor shall be responsible for replacing all members which, due to warpage, twist, splitting or checking, result in unsatisfactory Work. Such replacement shall be required at any time, whether before or after application of finish materials under other Sections.

2.02 SHEATHING MATERIALS

A. Roof Sheathing: Spruce, thickness and width to exactly match existing, Structural Grade: SELECTED DECKING; Appearance Grade: SELECT STRUCTURAL

2.03 ROUGH HARDWARE

A. Anchorage and Fastening Materials: Select proper type, size, material and finish for each application. Materials for Work within exterior construction shall be galvanized.

1. Nails and Staples: Fed. Spec. FF-N-105.

3. Wood Screws: Fed. Spec. FF-N-103.

C. Comply with all requirements and recommendations of the Massachusetts Building Code for

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fastener types, sizes and spacings.

3.00 EXECUTION

3.01 LAYING OUT WORK

A. The Contractor shall be responsible for establishing lines and levels in accordance with the conditions of the Contract and general requirements.

B. Lay out all Work in accordance with the Contract Documents, approved Shop Drawings and completed portions of the Work. Report all discrepancies to the Architect promptly for correction and adjustment. In the event of failure to do so, the Contractor is responsible for correction of any errors, including subsequent applied finishes and other construction.

3.02 INSTALLATION OF SHEATHING

A. Secure sheathing and decking with longer edge perpendicular to framing members and with ends staggered and sheet ends over bearing.

3.03 MATERIALS INSTALLED BY OTHERS

A. Coordinate the Work of this Section with all other trades.

C. Work improperly coordinated shall be corrected to the satisfaction of the Architect at no additional cost to the Owner.

3.04 INTENT AND WORKMANSHIP

A. It is not the intent of this Section to herein define the types, sizes or installation methods for each item of Work. Methods of installation, joinery, sizes, spacing of nailers and furring strips, and other information pertaining to the lumber, plywood and other items of required Work, shall be installed in accordance with the details on the drawings for the specified areas involved.

B. Work that is to be finished or painted shall be free from defects or blemishes on surfaces exposed to view that will show after the finish coat of paint is applied. Any material which is in any way defective and not up to specifications for quality and grade for its intended use, or otherwise not in proper condition, shall be rejected and replaced at no cost to the Owner.

3.05 PROTECTION

A. Adequate protection for the public shall be provided by the Contractor, or as directed by the Architect in areas used by the public while Work under this Section is in progress. All such protection shall be so arranged as to maintain legal egress at all times.

3.06 CLEANING

A. Maintain premises in neat, safe and orderly condition during execution of work.

B. Maintain free of accumulations of sawdust, cut ends and debris.

END OF SECTION 06100

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SECTION 06200
FINISH CARPENTRY

1.00 GENERAL

I.01 REFERENCES: General provisions of Contract, including General and Supplementary Conditions and Division 1, General Requirements, apply to work specified in this Section.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Rough carpentry, including blocking for finish carpentry and roof sheathing: Section 06100

B. Field finishing finish carpentry items: Section 09900.

1.03 SUBMITTALS: Issue submittals in accordance with Section 01300, Submittals and Record Documents. Submittals shall include:

A. Shop drawings on shop-fabricated millwork.:

1. The contractor shall be responsible for details and dimensions not controlled by job conditions.
2. Show all required field measurements beyond control of the contractor.
3. Indicate and dimension locations of joints and special patterns.

B. Full-size samples:

1. 12 in. long full-size samples of all components required.
2. Samples shall be approved by Architect before fabrication of entire assembly. Approved samples shall serve as minimum standard for acceptance of completed work.

1.04 QUALITY ASSURANCE

A. Mark each assembled unit of architectural millwork with manufacturer's identification and grade mark, evidencing compliance with indicated AWI quality grade. Locate grade mark on surfaces which will not be exposed after installation. For other items requiring field assembly, a certification of compliance may be substituted for marking of individual pieces.

2.00 PRODUCTS

2.01 GENERAL

A. Finish carpentry shall comply with Architectural Woodwork Institute Custom Grade requirements.

B. Exterior finish wood:

1. Species where scheduled for field painting:
African mahogany, or accoya, per AWI Quality Standards, Section 100

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except where indicated otherwise on drawings.

2.02 CONTINUOUS WOOD STANDING AND RUNNING TRIM (STOPS, STOOLS OR SILLS, BASES, MOLDINGS, ETC.):

- A. Fabricate in compliance with AWI Quality Standards, Section 300, Grade and material as specified above under Paragraph 2.01, GENERAL. Section thicknesses and profiles: as shown on drawings. Material shall not be finger jointed.
- B. Where abutting or replicating existing moldings, profile of new material must match the existing material exactly. Moldings may require unique cutters to reproduce. This expense should be included in the Contractor's bid.
- C. When running trim over 8 in. in width is laminated together, grain, color and texture shall be uniform.
- D. Trim pieces butt-jointed together shall be identical.

3.00 EXECUTION

3.01 INSTALLATION

- A. Store and install materials in conformance with general provisions of Division 6 rough carpentry Section; and AWI Quality Standards Section 1700, Installation of Architectural Woodwork.
- B. Verify that substrates are plumb, level and structurally adequate to support finish carpentry installation, as specified in Division 6 rough carpentry Section.
- C. Prime, stain or seal finish wood required to be job-finished immediately upon delivery to job, including edges, ends, faces, undersides and backsides.
- D. Install finish carpentry items straight, true, level and plumb, firmly anchored in place. Shim items as required using concealed shims. Install to a tolerance of 1/8 in. in 8'-0" for plumb and level (including counter-tops); and with a 1/16 in. maximum offset in flush adjoining surfaces, 1/8 in. maximum offsets in revealed adjoining surfaces.
- E. Back-prime all finish wood with brush coat of alkyd paint.
- F. Where possible, secure finish wood by blind nailing, or locate and drive attachments so as to be imperceptible on finished surfaces.
- G. Where attachments must be visible, anchor mill-work to concealed blocking with finish nails or countersunk fasteners. Use fine finish nails, well-set, filled with matching putty. Conceal countersunk fasteners with solid plugs of species matching surrounding surfaces, finished flush with surrounding surfaces.
- H. Install continuous wood trim, window sills and stools, bases, railings etc. with minimum number of joints possible, using longest length pieces available, full-length pieces where possible. Shiplap or scarf joints in continuous runs.
- I. Stagger joints in adjacent and related members. Cope at returns, miter at corners. Gently ease

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exposed edges.

- J. Lap trim over grounds and fit tightly to adjacent materials. Scribe and closely fit face plates and filler strips to irregularities of adjacent surfaces, leaving a maximum gap of 1/32 in. Do not use additional overlay trim for this purpose.
- L. Lightly sand finished wood surfaces as required to produce uniformly smooth surface, always sanding in direction of grain. No coarsegrained sandpaper mark, hammer mark, or other imperfection will be accepted.
- M. Protect installed work as required from subsequent construction. At job completion, clean exposed-to-view surfaces.

END OF SECTION

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DIVISION 7. THERMAL AND MOISTURE PROTECTION

**SECTION 07310
WOOD SHINGLE ROOFING
(Combined Filed Sub-Bid for Sections 07310, 07530, and 07620)**

PART 1.00 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. The “Conditions of the Contract” and “Division 1, General Requirements” form part of this Section.
- B. Provide all plant, facilities, labor, materials, tools, equipment, transportation, supervision, and related work necessary to complete the work specified in this Section and as shown on the Drawings.

1.02 FILED SUB-BID REQUIREMENTS

A Bidding procedures shall be in accordance with latest edition of Massachusetts General Laws, Chapter 149, Section 44; and Chapter 30, Section 39M. Time and place for submission of sub-bids is given in Advertisement for Bids.

B Sub-bids for work under this Section shall be for complete work and shall be filed in a sealed envelope with Awarding Authority, at time and place specified in Advertisement for Bids. The following shall appear on face of envelope:

CITY OF WALTHAM
STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION
[NAME OF SUB-BIDDER]
SUB-BID FOR SECTIONS 07310, 07530, AND 07620, ROOFING AND FLASHING

C Every sub-bid submitted for work under this Section shall be on forms furnished by Awarding Authority, as required by Section 44 of Chapter 149 of General Laws, and specified in Advertisement for Bids.

D Sub-bids filed with Awarding Authority shall be accompanied by bid deposits in form of a bid bond, or cash, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the Town of Plymouth; in compliance with Chapter 149, Section 44B. Amount of bid deposit shall be as specified in the advertisement for bids.

E Work of this Section is shown on the following drawings: T1.0, A1.1, A1.2, and A2.1

F Examine all other Sections of the specifications for requirements which affect work under this Section whether or not such work is specifically mentioned in this section.

G Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

H This Section, together with Section 07530 and 07620, comprises the Filed Sub-bid on Roofing and Flashing.

1.03 SCOPE OF WORK

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- A. The Scope of work consists of, without limiting the generality thereof, includes all labor and materials necessary for the installation of all roof covering, flashings, and provide all related items required to complete the work indicated on the Drawings and as specified herein.
 - 1. Wood Shingle Roofing System.
 - 2. All related items required to complete the work indicated on the Drawings and specified herein.

1.04 RELATED WORK SPECIFIED IN OTHER SECTIONS

- A. Sheet Metal Flashing and Trim: Section 07620

1.05 QUALITY ASSURANCE

- A. The Roofer shall be required to provide documentation of acceptance of his company by the approved roofing manufacturer complying to the requirements of the Contract Documents.
- B. Qualifications of Wood Shingle Roofing Contractor: Must be experienced in all phases of wood shingle roofing, specifically proper layout of joints, nailing, and observation and selection for grain. The contractor must have six years and/or four projects of similar materials and characteristics. Documentation of qualifications shall be submitted with the bid.
- C. The Roofer shall also show proof of the following:
 - 1. The manufacturer is familiar with the existing conditions and all substrate materials proposed for use and that the manufacturer agrees to provide all necessary technical assistance to achieve a satisfactory installation.
 - 2. All materials and workmanship will be in strict accordance with the manufacturer's recommendations.
 - 3. At completion of the work, that the manufacturer's full warranty will be issued.
- D. Shingles shall be installed in accordance with the requirements and standards of the Cedar Shake & Shingle Bureau (CSSB); PO Box 1178 Sumas, WA 98295-1178; 604-820-7700; www.cedarbureau.org

1.06 SUBMITTALS

- A. Contractor Qualifications
 - 1. Submit resumes, list of projects, and photographs attesting to qualifications listed under 1.05 Quality Assurance.
- B. Material List:
 - 1. Before any of the materials of this work are delivered to the jobsite, submit to the Architect for approval a complete list of materials proposed to be furnished and installed, and how each material is to be installed.
 - 2. Manufacturer's Recommendations: Accompanying the materials list, submit copies of the manufacturer's current specialties and recommended method of installation for the proposed roofing system, and the manufacturer's recommended installation details with appropriate notations to adapt these details to the requirements of these Contract Documents.

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3. Product Description – Submit:
 - a. The manufacturer's technical data for all materials to be used on this installation.
4. All modifications and updating of roofing manufacturer's instructions and recommendations which are issued by the roofing manufacturer subsequent to the issuing of Contract Documents for bidding and continuing throughout the construction period shall be promptly submitted to the Architect and the Owner in writing.
5. Submit Shop Drawings of metal flashings if any and product data, match existing.
 - a. Indicate general construction, configurations, jointing methods and locations, fastening methods and locations, and installation details.
 - b. Submit manufacturer's installation instructions. Submit roofing manufacturer's sample warrantee.
 - c. Provide treatment company's treatment warranty
6. Submit samples of all specified products.
7. Submit copies of manufacturer and treatment warranty.
8. Prior to Substantial Completion of the project the Contractor shall provide the Owner with the original invoice for shingles and preservative treatment showing date and list of amounts of shingles or shakes purchased, and all shingle bundle labels or tags.

1.07 GUARANTEE/WARRANTY

- A. Warranties shall begin on the date of Substantial Completion of the work.
- B. The shingle manufacturer shall warranty its product for a period of forty (40) years. The manufacturer warrants that the product is free from manufacturing defects, has been inspected, graded and labeled under the Cedar Shake & Shingle Bureau's ("CSSB") inspection and certification standards, as set forth by the CSSB, and, for the period specified, the warranted products will remain free from rot, decay, and leaks caused by original product manufacture deemed defective as proscribed under the official grading standards used in the CSSB inspection and certification program.

If the warranted product leaks within the warranty period due defects under the cited grading standards the manufacturer shall either (1) provide replacement shakes or shingles or (2) refund the portion of the original paid price on the portion of the product deemed defective.

This warrantee shall run directly to the Owner. This warranty shall also be transferable to subsequent Owners within the ten year period following shingle installation.

- C. The Preservative Treater shall provide a 50 year warranty against fungal decay and termite attack that would make the material structurally unfit for the application for which it is used covering replacement of shingles or shakes, not including costs of delivery, removal, and installation.
- D. The Contractor shall warrant for 5 years that the wood shingle roofing system, as installed, is free from defects in workmanship. Installer shall provide a warranty that roofing has been installed in accordance with the specifications of the CSSB New Roof Construction Manual,

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at a minimum, and in accordance with these specifications, where they exceed the CSSB specifications. The Contractor shall warrant that the roofing product installation has used correct fasteners, fastener installation, layout, and spacing of the products. When repairs due to defective workmanship are required during the Contractor's warranty period, the Contractor shall make repairs within 72 hours of notification. When repairs are not performed within the specified time, emergency repairs performed by others will not void the warranty. The Warranty under the Contractor's Warranty Period shall cover materials and labor for all required work. In addition, the Contractor shall warrant for one year from completion of Project all shingles against blow-off and/or wind damage.

1.08 DELIVERY AND STORAGE

- A. Materials shall be delivered to the site in the original sealed containers or packages, and shall bear the manufacturer's name and brand designation.
- B. Materials shall be stored, handled, and installed in a manner to protect them from all damage during the entire construction period.
- C. Materials shall be stored on site only in approved locations and in strict accordance with manufacturer's recommendations. The Contractor shall be responsible to ensure against fire, vandalism or theft at all times.

PART 2.00 – MATERIALS

2.01 ROOFING SYSTEM

- A. The shingles shall be
 - 1. Red Cedar Shakes carrying the Cedar Shake and Shingle Bureau(CSSB) CERTI-SAWN Tapersawn #1 Premium Grade blue label. For the purposes of this specification the term "shingles" or "shakes" shall refer to the aforementioned Tapersawn product. Shingles shall be treated with preservative.
 - 2. The shingles shall be inspected, graded and labeled under the Cedar Shake & Shingle Bureau's ("CSSB") inspection and certification standards, as set forth by the CSSB.
 - 3. Butt thickness: 5/8"
 - 4. Length: 18" Perfections
 - 5. Sawn both sides; 100% edge grain, 100% clear and 100% heartwood. No flat grain.
 - 6. The shingles shall be manufactured by one of the following mills:
 - a. G&R Cedar Ltd., Box 83 - Matsqui British Columbia, Canada V4X 3R2 - P.O. Box 2823 Sumas, Washington 98295 Phone: 604.308.7685 (Sales) | Phone: 604.846.4455 (Mill) | sales@grcedar.com
 - b. Anbrook Industries Ltd, PO Box 3044, Sumas, WA 98295-3044 www.anbrook.com (phone 604 465 5657)
 - c. Waldun Forest Products Partnership, P.O. Box 96, Sumas, WA 98295 or 9393 287th Street, Maple Ridge, BC, V2W 1L1 www.waldun.com (phone 800 4waldun)
 - d. Watkins Sawmill - www.watkinsawmills.com
 - 7. Shingles are available through Taylor Forest Products; 765 Washington St, Pembroke, MA 02359 (781) 829-2121 or Specialty Hardwoods. Portsmouth NH

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8. Preservative Treatment: shall be CERTI-LAST CCA (chromated copper arsenate) Preservative-Treated by vacuum pressure processes to 0.40 pcf retention of preservative.
 - a. Preservative treatment shall be by Western Wood Preservers Ltd., 26035-31B Avenue, Aldergrove, B.C. (phone (604) 857 1900)

- B. Membrane underlayment –
 1. Eave, valley and rake membrane underlayment: Self-adhering rubberized asphaltic membrane (ice and water shield), a minimum of 40 mils thick, roll width 36", must have same material warranty as shingles and recommended by the shingle manufacturer. Membrane must be approved for use with shingles on slopes down to 2 inches.
 - a. Acceptable Manufacturers will be:
 - i) Ice & Water Shield as manufactured by W.R. Grace Co., Cambridge, MA.
 - ii) Or approved equal.

- C. Felt underlayment –
 1. Asphalt-Saturated Organic Felt: The field area of the roofing shall be underlaid with "30 pound" ASTM D226 Type II Asphalt-Saturated Organic Felt. The felt shall not be interleaved with the shingles.

- D. Rigid, Non-Compressive Vent Product:
 1. Where shown on drawings use: CedarVentPlus®
 - a. Description: Corrugated vent product
 - b. Color: Black
 - c. Material: polyethylene plastic
 - d. Width: 2.75 inches
 - e. Length: 37.5 inches.
 - f. Thickness: 3/4 in.
 - g. CedarVent Plus (Fabric factory attached)
 2. Manufacturer: DCI Products
 Contact: 415 South Penn Street, Clifton Heights, PA 19018 (800-622-4455; 610-622-4455) www.dciproducts.com; email: info@dciproducts.com
 3. Substitutions: No substitutions permitted.

- E. Nails for Applying Wood Shingles: roof shingles shall be secured with two (2) stainless steel Type 316 nails. Fasteners shall be long enough to penetrate into the solid wood battens at least 3/4" or all the way through. Staples and mechanical driven nails shall not be used for installation of shingles.

- F. Nails for Applying Asphalt-Saturated Felt: Hot-dipped galvanized steel with sharp points and flat heads 3/8 to 7/16 inch in diameter. Shank diameter of nails shall be a minimum of 0.105 inch and a maximum of 0.135 inch. Nails shall be long enough to penetrate completely through or extend a minimum of 3/4 inch into roof deck, whichever is less, when driven through materials to be fastened.

- G. Modified Bitumen Flashing Cement: ASTM D 3019, Type III.

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- H. Field Preservative Treatment (for end cuts) - product shall be an approved proprietary wood preservative (e.g. copper naphthenate) containing at least 2% by weight of copper metal.

PART 3.00 – INSTALLATION

3.01 GENERAL

- A. Repair and replace any defective deck, and/or nailing of same.
- B. All roofing and flashing work shall be done by competent workmen skilled in their part of the work to be done and under the supervision of a factory-trained, licensed applicator of the roofing system manufacturer.
- C. The roofing contractor shall inspect the substrate for defects such as excessive surface roughness, contaminated surfaces, that will adversely affect the quality of work.
- D. Installation of any roofing materials shall be interpreted as acceptance of the previous substrate by this Contractor.
- E. Roofing system to be installed as per manufacturer's requirements.
- F. The Roofing Contractor shall furnish and install his own scaffold or rigging.

3.02 JOB CONDITIONS

- A. Coordinate with the General Contractor regarding removals of existing construction and roofing and flashing as necessary to provide new roofing and flashing work. Remove and repair or replace existing roofing insulations and flashing to the extent necessary to adjoin new to the existing roofing surface.
- B. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- B. All surfaces to receive new shingles or flashings shall be thoroughly dry. Should excessive surface moisture occur, the contractor shall provide the necessary equipment to dry the surface prior to application.
- C. Do not install any portion of roof assembly over wet substrate, in inclement weather, or when precipitation is forecast.
- D. Protect roof areas as they are exposed by removal of roofing material from weather and physical damage to surfaces and material below. Fully protect by waterproof tarpaulins, plastic sheeting, or roofing underlayment all areas where roofing materials have been removed to effect work. Under no conditions shall more existing roofing be opened at the start of a work period than can be made completely watertight by the end of the work period.
- D. All new and temporary construction, including equipment and accessories, shall be secured against wind blow-off or damage.
- E. The Contractor shall comply with all OSHA Safety Regulations.

3.03 APPLICATION

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Apply roofing materials as specified herein unless specified or recommended otherwise by shingle manufacturer's written instructions.

A. Felt Underlayment

1. Provide one layer of underlayment to roof deck. Provide a 19 inch wide strip as starter sheet to maintain specified number of layers throughout roof. Lay parallel to eaves, starting at eave. Provide minimum 19 inch head laps, 6 inch laps from both sides over ridges, and 12-inch end laps in the field of the roof. Nail sufficiently to hold until shingles are applied. Turn up vertical surfaces a minimum of 4 inches. When a self-adhering membrane is used for eave flashing, start underlayment from upper edge of eave flashing. Follow manufacturer's instructions.
2. Nail 6 to 8 in. o.c. at edges and 12 in. o.c. at midline and per manufacturer's recommendations.

B. Membrane Underlayment

1. From the eaves to a point 36 inches minimum beyond the exterior wall, apply one layer of self-adhering membrane as shown on the Drawings. Apply at all ridges, hips and rakes. Follow membrane manufacturer's printed installation instructions.

C. Rigid, Non-Compressive Vent Product

1. Install in a continuous line at peaks, gable ends, cheeks, eaves, lower edges, and changes in roof slope.
2. Butt ends of strips tightly

D. Shingle Courses

1. Apply shingle courses as follows:
 - a. Apply shingles with 5-1/2 inch exposure.
 - b. Shingles shall be installed in a 3-ply application. Starting first course with full shingle, and apply succeeding courses with joints staggered at thirds or halves and by at least 1-1/2 inches. Butt-end joints of shingles shall not align vertically more often than every fourth course.
 - c. Shingles shall be at least doubled at all eaves.
 - d. Butts of the shingles in the first course on roofs shall project 1 1/2" from the edge of roof eaves to ensure proper spill into gutters and approximately 1" at gable and rake edge.
 - e. Shingles shall be spaced apart by a joint or keyway of not less than 1/4", not more than 3/8". Tighten keyways if shingles are wet.
 - f. Do not install shingles that are less than 4 inches in width or that have knots, or splits. Saw down shingles that are wider than 9 inches in width, except at valley cuts.
2. Treat field cuts that expose untreated wood with the specified wood preservative. Protect the untreated exposed portion with two liberal brush applications.
 - a. Follow the manufacturer's recommendations for application.
 - b. Take wood treatment manufacturer's recommended precautions when cutting, boring, planing or drilling the product.
 - c. Do not burn offcuts or wood waste.

E. Nailing

1. Nails shall be driven flush but not so that the nail head crushes the wood. They shall be placed approximately 3/4" to 1" from the side edges of the shakes/shingles and

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approximately 3/4" to 1-1/2" above the butt line of the following course. Staples and mechanically driven nails shall not be used for installation of shingles.

2. Avoid nailing through keyways
3. Nails shall be embedded at least 3/4 in. into substrate.
4. Install no more than two nails per shingle.

F. Flashing

1. Existing flashings have been inspected and appear to be in good condition. Except where shown otherwise on drawings existing flashings shall be re-used.

G. Hips and Ridges

1. All shingle hips and ridges shall be of alternate overlap type applied at the same exposure as field of roof and with nails long enough to penetrate into sheathing at least 3/4". Install a eave protection material or re-use existing metal over hip or ridge under the ridge or hip cap. If longer or shorter ridge cap is used, adjust exposure accordingly.

H. Valleys:

1. Shingles extending into the valley shall be sawed to the proper miter.
2. Do not lay shingles with grain parallel with the centerline of valleys.
3. All valleys shall be installed with shingles lapping the valley flashing not less than 7" on each side.
4. On shingle roofs of less than 6:12 slope, flashing should extend at least 11" on each side.

3.04 COMPLETION

- A. Prior to demobilization from site, the work shall be reviewed by the Owner, Architect and Contractor. All defects noted, non-compliances with these specifications or the recommendations of the roofing manufacturer.
- B. All guarantees, as required in Part 1.00 of this Specification, shall be submitted for approval prior to final payment.
- C. Prior to Substantial Completion of the project the Contractor shall provide the Owner with the original invoice showing date and list of amounts of shingles and preservative treatment purchased, and all shingle bundle labels or tags.

3.05 CLEAN-UP

- A. Prior to scheduled events broom clean and rake clean all debris from work on the building (see Section 01050 Conduct of the Work, para, 1.03.G).
- B. Site clean-up including both interior and exterior building areas below or adjacent to, or in any way affected by the construction shall be begun immediately upon Owners request and be complete to the Owner's satisfaction.
- B. All paved areas shall be swept clean.
- C. All areas stained, dirtied, and discolored or otherwise damaged due to the work shall be cleaned, restored and replaced as required.
- D. All shingles, felt, eave flashing, trash and debris shall be completely removed and legally disposed of off site periodically during the work and at completion of the work.

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3.06 EXTRA MATERIALS

- A. Furnish one (1) extra square of shingles for future replacement purposes.
 - 1. Obtain signed receipt from Owner.

3.07 BUNDLE LABELS

- A. Turn all bundle labels over to the Owner
 - 1. Obtain signed receipt from Owner.

END OF SECTION

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**SECTION 07530
MEMBRANE ROOFING
(Combined Filed Sub-Bid for Sections 07310, 07530, and 07620)**

PART 1.00 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. The “Conditions of the Contract” and “Division 1, General Requirements” form part of this Section.
- B. Provide all plant, facilities, labor, materials, tools, equipment, transportation, supervision, and related work necessary to complete the work specified in this Section and as shown on the Drawings.

1.02 FILED SUB-BID REQUIREMENTS

- A Bidding procedures shall be in accordance with latest edition of Massachusetts General Laws, Chapter 149, Section 44; and Chapter 30, Section 39M. Time and place for submission of sub-bids is given in Advertisement for Bids.
- B Sub-bids for work under this Section shall be for complete work and shall be filed in a sealed envelope with Awarding Authority, at time and place specified in Advertisement for Bids. The following shall appear on face of envelope:
CITY OF WALTHAM
STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION
[NAME OF SUB-BIDDER]
SUB-BID FOR SECTIONS 07310, 07530, AND 07620, ROOFING AND FLASHING
- C Every sub-bid submitted for work under this Section shall be on forms furnished by Awarding Authority, as required by Section 44 of Chapter 149 of General Laws, and specified in Advertisement for Bids.
- D Sub-bids filed with Awarding Authority shall be accompanied by bid deposits in form of a bid bond, or cash, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the Town of Plymouth; in compliance with Chapter 149, Section 44B. Amount of bid deposit shall be as specified in the advertisement for bids.
- E. Work of this Section is shown on the following drawings: T1.0, A1.1, A1.2, and A2.1
- F. Examine all other Sections of the specifications for requirements which affect work under this Section whether or not such work is specifically mentioned in this section.
- G. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- H.
- I. This Section, together with Section 07310 and 07620, comprises the Filed Sub-bid on Roofing and Flashing.

1.03 SCOPE OF WORK

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- A. The Scope of work consists of, without limiting the generality thereof, includes all labor and materials necessary for the installation of all roof covering, flashings, and provide all related items required to complete the work indicated on the Drawings and as specified herein.
 - 1. Single ply membrane roofing system where designated.
 - 2. Canvas roofing
 - 2. All caulking and sealants, as necessary for a watertight installation.
 - 3. All related items required to complete the work indicated on the Drawings and specified herein.

1.04 SUBMITTALS

- A. Form of roofing manufacturer's warranty.
- B. Samples of all materials to be used that are part of the roofing system.
- C. Roofing Systems manufacturer's printed product data.
- D. Dimensioned shop drawings of roof.
- E. Certificates of Compliance from insulation and roofing component manufacturers that all materials to be supplied comply with all industry standards.
- F. Manufacturer's Recommendations: Accompanying the materials list, submit copies of the manufacturer's current specialties and recommended method of installation for the proposed roofing system, and the manufacturer's recommended installation details with appropriate notations to adapt these details to the requirements of these Contract Documents.
- G. All modifications and updating of roofing manufacturer's instructions and recommendations which are issued by the roofing manufacturer subsequent to the issuing of Contract Documents for bidding and continuing throughout the construction period shall be promptly submitted to the Architect and the Owner in writing.

1.05 QUALITY ASSURANCE

- A. Refer to Section 01600, Products and Installation, for general provisions covering material storage, installation and substitutions.
- B. Materials and installation shall comply with FM Technical Advisory Bulletin 1-29, "Adhered or Mechanically-Attached Single-Ply Membrane Roofing Systems." If requested, assist Owner in preparation and submittal of roof installation acceptance certification, such as FM Form 800, required by Owner's insurance company.
- C. Provide materials tested by UL or other nationally-recognized laboratory, for Class A fire-resistance rating.

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- D. Except as shown otherwise on drawings, construction details shall conform to manufacturer's recommendations and to National Roofing Contractors Association "NRCA Construction Details" Guide.
- E. Roofing installation shall be done by a contractor authorized by manufacturer of roofing membrane.
- F. The roofing contractor must furnish written evidence when submitting a bid that he is authorized by manufacturer to install roofing systems.
- G. The roofing contractor must have been trained by a technical representative of roofing systems manufacturer and be familiar with the product.
- H. Before beginning roofing work, conduct meeting to review roofing plans, specifications and proposed materials and installation methods. Present at meeting shall be Architect, Contractor, roofing sub-contractor, and field foreman to be assigned to job.
- I. Materials shall be delivered to the site in the original sealed containers or packages, and shall bear the manufacturer's name and brand designation.

1.06 WARRANTY:

- A. Provide executed copy of membrane roofing manufacturer's standard "limited service warranty," including flashing endorsement, directly from manufacturer to Owner, signed by authorized representative of manufacturer. Length of warranty period after Substantial Completion: Ten (10) years

PART 2.00 – MATERIALS

2.01 MEMBRANE ROOFING SYSTEM

- A. Assembly shall be Carlisle EPDM Sure-Seal Design A (Adhered System) or equal, consisting of a black EPDM sheet membrane adhesive-bonded to mechanically-fastened insulation. Acceptable products include:
 - Carlisle Sure-Seal
 - DiversiTech GenFlex ACR
 - Firestone Rubbergard
 - Goodyear Versigard
 - Manville 5PM.
- B. EPDM sheet: per ASTh D 4637, Type 1, Class U (unreinforced). Thickness: 60 mils typical. Color: black.
- C. Coating: The EPDM membrane shall be coated with a water-based, high solids elastomeric coating utilizing Kynar® fluoropolymer which provides color retention, even in bright colors. Color: White or Custom Color. Product shall be Carlisle X-Tenda Coat Plus-K Acrylic System or equal by Firestone, Goodyear, Manville, or DiversiTech
- D. Accessories shall be as supplied or recommended by roofing manufacturer, including membrane adhesive.
- E. Flash roof penetrations, interruptions and intersections with sloped or vertical surfaces, using manufacturer's standard elastomeric flashing in longest pieces possible.

2.02 INSULATION

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- A. Insulation: rigid foam extruded board, thickness per drawings, faced on both sides with aluminum foil or fiberglass-reinforced roofing felts. Acceptable manufacturers: Celotex Apache, International Permalite, Manville, NRG, Owens-Corning, Rmax, Thermal Systems, or equal. Minimum aged R-value/in.: 5.0.
- B. Insulation fasteners: FM-approved shank or toggle-type to achieve secure attachment to or through substrate, galvanized steel, as supplied or approved by roof membrane manufacturer, designed so as not to damage membrane. Provide matching washers, interlocked with fasteners, of large enough diameter to resist pull-through. Provide minimum 1/2 in. penetration at steel deck, 1 in. at other types of substrate.
- C. Insulation and mechanical fasteners shall be supplied or approved by roof membrane manufacturer.
- D. Provide pre-formed cant and eave strips of matching materials, where shown on drawings.

2.03 CANVAS ROOFING

- A. Canvas shall be army grade, unbleached, unsized, closely woven, and between No. 6 (13-ounce) and No. 2 (17-ounce) grade
- B. Width to match existing
- C. Manufacturer: John Attwooll & Co (Tents) Ltd; Bristol Road; Whitminster, Gloucester GL2 7LX, England; Tel: 01452 742211

PART 3.00 – INSTALLATION

3.01 GENERAL

- A. All existing roofing, underlayment, eave and valley flashing, and appurtenances and all fasteners and protrusions shall be removed down to the existing sheathing. Sweep the deck clean of all debris and dust in preparation of installation of new eave and valley flashing, underlayment and asphalt shingles.
 - 1. Repair and replace any defective deck, and/or nailing of same.
- B. All roofing and flashing work shall be done by competent workmen skilled in their part of the work to be done and under the supervision of a factory-trained, licensed applicator of the roofing system manufacturer.
- C. The roofing contractor shall inspect the substrate for defects such as excessive surface roughness, contaminated surfaces, that will adversely affect the quality of work.
- D. Installation of any roofing materials shall be interpreted as acceptance of the previous substrate by this Contractor.
- E. Roofing system and flashing to be installed as per manufacturer's requirements.
- F. The Roofing Contractor shall furnish and install his own scaffold or rigging.

3.02 JOB CONDITIONS

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- A. Materials shall be stored, handled, and installed in a manner to protect them from all damage during the entire construction period.
- B. Materials shall be stored on site only in approved locations and in strict accordance with manufacturer's recommendations. The Contractor shall be responsible to ensure against fire, vandalism or theft at all times.
- C. Material storage shall conform to general provisions of Section 01600, Products and Installation. Store materials on raised platforms or pallets, in temporary sheds or under light-colored opaque tarpaulins, well-secured from wind. Each day, verify that stored materials are clean and dry. Protect elastomeric sheet materials from abrasion and puncturing.
- D. Store adhesives and sealants at 40-to-80 degree F temperatures. Should these materials be exposed to lower temperatures, store at 60-to-80 degrees for a minimum of 24 hours before use.
- E. Do not install any portion of roof assembly over wet substrate, in inclement weather, or when precipitation is forecast.
- F. Protect substrate and installed materials from damage during roofing installation and subsequent operations, such as installation of rooftop mechanical equipment, by proper selection and operation of materials-handling equipment, provision of plywood panels for temporary walkways, etc.
- G. All new and temporary construction, including equipment and accessories, shall be secured against wind blow-off or damage.
- H. The Contractor shall comply with all OSHA Safety Regulations.

3.03 PREPARATION

- A. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- B. All surfaces to receive new roofing or flashings shall be thoroughly dry. Should excessive surface moisture occur, the contractor shall provide the necessary equipment to dry the surface prior to application
- C. Before beginning installation, inspect previously installed work for inadequate anchorage, unevenness, excessive corrosion, or other conditions which would prevent satisfactory installation of roofing system.
- D. Remove water, ice, dirt, debris, oil deposits, etc., using appropriate cleaning methods. Install no roofing or insulation over wet or dirty substrates. Sweep off loose material immediately before beginning work.

3.04 ROOFING AND ROOF INSULATION INSTALLATION

Apply roofing materials as specified herein unless specified or recommended otherwise by manufacturer's written instructions.

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MEMBRANE ROOFING / 07530-5

- A. Secure insulation to structural deck with mechanical fasteners, in accordance with manufacturer's instructions and FM 1-28, including fastener placement diagrams for different types and sizes of insulation board. Provide a minimum of one fastener for every 4 sq. ft. of surface area.
- B. Install insulation with long joints continuous and end joints staggered. Limit joints between adjacent units to 1/4 in. maximum. Neatly cut and fit insulation around roof penetrations. Insulation may be spot-adhered to facilitate handling during windy conditions.
- C. At completion of each day's work, provide temporary protection consisting of strip of roofing membrane, extending 6 in. onto deck and 6 in. over ends of exposed insulation, secured with adhesive
- D. Apply bonding adhesive to both sheet and substrate, and allow to dry until no longer tacky. Roll membrane into adhesive, being careful to avoid wrinkles. Brush down bonded half of sheet with broom to obtain maximum contact. Fold back unbonded half, and repeat above procedures. Overlap adjacent sheets 3 in. and splice per manufacturer's instructions.
- E. Install elastomeric roof penetration flashing as detailed on drawings and in accordance with manufacturer's recommendations. Extend base flashing up vertical surfaces 8 in. minimum and horizontally 4 in. minimum. Adhere to vertical surfaces with manufacturer's recommended adhesive and seal at top with sealant.
- F. Splice flashing to main roof sheet before bonding to vertical surface. Seal splice at least 3 in. beyond fasteners attaching horizontal membrane to nailer. Take care that flashing does not bridge at transitions from horizontal to vertical.
- G. After joints have set up, test all spliced joints for continuity by running a screwdriver along joint. Re-splice as required.
- H. Temporarily seal loose edges of membrane at night or when inclement weather is threatening, to prevent water from flowing under completed portion of roof. Pull sheet free from sealing compound before continuing work.
- I. Do not use oil-base or plastic roofing cement in conjunction with elastomeric roofing material.
- J. Prime metal flashing as recommended by roofing manufacturer, and secure sheet material to metal flashing and curbs with manufacturer's recommended adhesive. Overlap over metal 4 in. minimum.
- K. At job completion, clean adhesives from walls, ground surfaces, flashing and accessories. Remove debris from roof surfaces. Provide three copies of manufacturer's maintenance and repair recommendations for roofing. Deliver warranty specified under GENERAL.

3.05 CANVAS ROOFING

- A. Canvas must be laid on a smooth, tight deck surface.
- B. Sew seams before installation

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MEMBRANE ROOFING / 07530-6

- C. Paint the substrate with a paint made of the following, if a light-colored roof is desired: 100 pounds of white-lead paste, 4 gallons of raw linseed oil, 2 gallons of turpentine, and 1 pint of liquid drier.
- D. When this paint is thoroughly dry, apply a heavy coat of the white-lead paste.
- E. Lay the first strip of canvas on the wet paste and press it down firmly. (Pressing it down with rollers will give a smoother surface.) Stretch the canvas slightly and fasten it along the edges with 3/4-inch copper tacks or galvanized nails, spaced 4 inches apart. Apply the white-lead paste along the edges. Lay the next strip of canvas with a lap of 1-1/2 inches. Nail the joint with 3/4-inch copper tacks, spaced 3/4 inch apart.
- F. After the canvas has been laid, apply three coats of paint. See Section 09900 Painting
- G. Flashing:
 - 1. Use canvas flashings.
 - 2. Match existing flashing installation.

3.06 COMPLETION

- A. Prior to demobilization from site, the work shall be reviewed by the Owner, Architect and Contractor. All defects noted, non-compliances with these specifications or the recommendations of the roofing manufacturer shall be corrected.
- B. All guarantees, as required in Part 1.00 of this Specification, shall be submitted for approval prior to final payment.

3.07 CLEAN-UP

- A. All areas stained, dirtied, and discolored or otherwise damaged due to the work shall be cleaned, restored and replaced as required.
- B. All nails, flashing, and roofing scraps, containers, tools, trash and debris shall be completely removed from the roof and legally disposed of off site periodically during the work and at completion of the work.

END OF SECTION

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SECTION 07620
SHEET METAL FLASHING AND TRIM
(Combined Filed Sub-Bid for Sections 07310, 07530, and 07620)

PART 1 - GENERAL

- 1.01 REFERENCES: General provisions of Contract, including General and Supplementary Conditions and Division 1, General Requirements, apply to work specified in this Section.
- 1.02 FILED SUB-BID REQUIREMENTS
- A Bidding procedures shall be in accordance with latest edition of Massachusetts General Laws, Chapter 149, Section 44; and Chapter 30, Section 39M. Time and place for submission of sub-bids is given in Advertisement for Bids.
- B Sub-bids for work under this Section shall be for complete work and shall be filed in a sealed envelope with Awarding Authority, at time and place specified in Advertisement for Bids. The following shall appear on face of envelope:
CITY OF WALTHAM
STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION
[NAME OF SUB-BIDDER]
SUB-BID FOR SECTIONS 07310, 07530, AND 07620, ROOFING AND FLASHING
- C Every sub-bid submitted for work under this Section shall be on forms furnished by Awarding Authority, as required by Section 44 of Chapter 149 of General Laws, and specified in Advertisement for Bids.
- D Sub-bids filed with Awarding Authority shall be accompanied by bid deposits in form of a bid bond, or cash, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the Town of Plymouth; in compliance with Chapter 149, Section 44B. Amount of bid deposit shall be as specified in the advertisement for bids.
- E Work of this Section is shown on the following drawings: T1.0, A1.1, A1.2, and A2.1
- F Examine all other Sections of the specifications for requirements which affect work under this Section whether or not such work is specifically mentioned in this section.
- G Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- H This Section, together with Section 07310 and 07530, comprises the Filed Sub-bid on Roofing and Flashing.
- 1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS
- A . Roof sheathing: Section 06100.
- B. Wood shingle roofing: Section 07310
- 1.04 SUBMITTALS: Issue submittals in accordance with Section ID, Submittals, Shop Drawings, Product Data and Samples.
- A. Submit shop drawings of metal flashings showing anchorage, joints, fastener types, profiles, etc.; and 8 in. sq. samples of exposed-to-view sheet metals.
- B. Samples of gutter/downspout materials proposed for use in the work shall be submitted including:

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1. Conductors (gutters) –one-foot sections.
2. Leader (downspout) Straps –
3. Expansion Joint –.
4. Gutter Apron and Hangers –.
5. Downspout Elbows.

1.04 QUALITY ASSURANCE

- A. Refer to General and Supplementary Conditions for general provisions covering material storage, installation, and substitutions.
- B. Materials and installation shall comply with recommendations of SMACNA Architectural Sheet Metal Manual.

1.05 GUARANTEE-WARRANTY

- A. This Contractor shall furnish a written warranty, countersigned and guaranteed by the General Contractor, stating that all work executed under this section will be free from defects of material and workmanship for a period of two (2) years from the date of Substantial Completion.
- B. The following types of failures will be adjudged as defective new drainage: undue expansion, lifting, deformation, loosening, splitting of seams, leaking, failure to stay in place.

1.06 DELIVERY AND STORAGE AND HANDLING

- A. Deliver materials in sealed packages.
- B. Store and handle material to prevent intrusion of foreign materials and damage by weather or breakage. Packaged materials shall be delivered and stored in original packages with manufacturers labels intact and legible.
 1. Packages opened for inspection shall be resealed until ready for use. Packages, materials and equipment showing evidence of damage shall be rejected.
- C. All materials affected by dampness shall be stored in suitable substantial watertight storage facilities maintained in good condition throughout their use. All storage facilities shall be protected from acts of vandalism.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Sheet metal:
 1. Unless otherwise noted all sheet metal shall be Lead coated Copper, which shall be copper per ASTM 370, cold-rolled except where temper 060 is required for forming, coated on both sides with lead weighing 6 to 7 1/2 lbs. per 100 sq. ft. on each side. Lead coated copper shall conform to ASTM specification B101, Type 1, Class A.
 2. Use lead coated copper at masonry
 3. Thickness:
 - a. Base flashing: 20 oz/sq.ft..
 - b. Cap flashing: 20 oz.
 - c. Edge strip:: 20 oz.

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- d. Apron flashing: 16 oz.
- e. Metal gutters: 32 oz.
- f. Miscellaneous flashing: 16 oz. unless otherwise noted
- g. Metal roofing: 20 oz.
- h. Continuous cleats or hook strips: 24 oz.

B Miscellaneous materials and accessories:

- 1. Solder: per ASTM B 32, 50/50 tin-lead type; soldering flux as suited for specific metal.
- 2. Fasteners: screws, or threaded or annular ring-type nails, penetrating 1 in. minimum into wood; of same or other galvanically compatible metal as metal being fastened. Fastener heads shall match metal being fastened.
- 3. Bituminous coating: SSPC Paint 12, solvent-type bituminous mastic, nominally free of sulphur, compounded for 15 dry mil thickness coat.
- 4. Mastic sealant: polyisobutylene.
- 5. Provide sheet metal clips, straps, anchoring devices, and similar accessories as required, matching material being installed, of size and gauge required for performance.
- 6. Adhesive: as recommended by sheet flashing fabricator.
- 7. Roofing cement: ASTM D 2822, asphaltic.

2.02 SHEET METAL FABRICATION

A Shop-fabricate work to greatest extent possible. Furnish metal flashing in 8-to-10 ft. lengths for continuous runs. Shorter pieces may be used at ends of runs and at corners. Corners shall be mitered, seamed and soldered.

B Fabricate non-moving joints with flat-lock seams. Joints shall follow recommendations of SMACNA Manual.

C Hem exposed edges. Angle bottom edges of exposed vertical surfaces to form drips. Fabricate flanges so as to extend 4 in. minimum over roof blocking.

D Gutters: sizes and shapes per architectural drawings. Provide gutter ends, hangers, spacers, expansion joints, strainers, and outlet tubes as recommended in SMACNA Manual. Provide continuous mesh gutter guards, with selvaged edges and non-corrosive fasteners, galvanically compatible with gutters.

E Downspouts: plain, round, dimensions as shown.

- 1. Telescope upper sections into lower sections 1-1/2 in. minimum. Seal joints.
- 2. Attach to wall with brackets matching existing. Locate brackets at downspout top, bottom, horizontal joints, and 10 ft. o.c. maximum.
- 3. Fit downspout strainers tightly into each outlet.

F Drip edge: brake-formed to provide 6 in. roof deck flange, and 1 in. fascia flange with 3/8 in. drip at lower edge.

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2.03 SHOP FABRICATED SHEET METAL ITEMS

- A. Metal drip edges: 6 inch
- B. Counterflashing where roofing system meets masonry: one-piece unit installed in slot recess, fabricated to provide spring action against top of base flashing. Metal flashing shall overlap base flashing 4 in. minimum.
- C. Gutters: Lead coated Copper, sizes and shapes per architectural drawings. Provide ends, expansion joints, strainers, and outlet tubes as recommended in SMACNA Manual. Provide mesh conductor-head guards at each outlet tube with selvaged edges and non-corrosive fasteners, galvanically compatible with gutters.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installed work shall be watertight, without waves, buckles, or distortion, properly installed to allow for expansion and contraction.
- B. Embed horizontal flanges of sheet metal work in a thick bed of sealant or adhesive, and secure with two staggered rows of nails, 4 in. o.c. each row, with outer row not less than 1/2 in. from flange edge.
- C. Where field seaming of work is required locked and soldered flat seams should be installed.
 - 1. Use only well-heated non-electric soldering coppers with heads weighing no less than 3 lbs. No torches shall be used.
 - 2. Do not use abrasives in preparing the surface for solder.
 - 3. Seams shall have 1/2 in. locked overlap and shall be fluxed, malleted flat, and sweat soldered. Seams shall show at least 1" of evenly flowed solder.
 - 4. Soldering should be done on the same day as installation of sheets of metal.
- D. Existing flashings have been inspected and appear to be in good condition. Except where shown otherwise on drawings existing flashings shall be re-used.
- E. Sheet metal flashing in conjunction with roofing shingles shall be properly pitched, interlocked, and extended under shingles a minimum of 4 in. Extend flashing vertically up underneath wall siding, as detailed.
- F. Separate dissimilar metals to prevent galvanic action, using sealant, paint, or sheet material. Where metal is to be installed directly on wood substrate, install asphalt impregnated felt or membrane underlayment, depending on the location, under a layer of red rosin paper. Install sealant where flashing terminates against dissimilar materials.
- G. Examine all existing flashings at all intersections of roofs and vertical surfaces of all kinds, at all openings in roofs where pipes or other items extend through roof surfaces, and all other points where called for or required by conditions to provide water and weatherproof construction and repair and/or replace all damaged flashings as directed by Architect.
 - 1. All laying and workmanship of all copper work herein specified shall be in accordance with the specifications of the Copper & Brass research Assoc., 420 Lexington Ave., New

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SHEET METAL FLASHING AND TRIM / 07620-4

York, insofar as they apply to the work. These specifications shall be considered as part of this specifications to the same extent as if they were written herein in full.

2. Proper provisions shall be made in installation to allow for the expansion and contraction of sheet metal under normal temperature ranges within causing damage to the metal, its joints or fastenings.
4. Cleats, and edge strips shall be used wherever possible for securing sheet metal in place. Nailing through sheet metal shall not be done except where absolutely necessary and approved. Any such nails or screws through the sheets shall have over-size holes and lead washers to allow for expansion, and exposed heads where required to insure watertightness shall have metal cover caps soldered on.
5. Fastenings: All nails, screws, bolts, clips or other device used for the fastening of sheet metal together or in place shall be of similar metal and equal in corrosion resisting quality to the sheet metal on which they are used.
6. Insulation AGAINST ELECTROLYTIC CORROSION: No plain copper shall be installed in direct contact with other metal except tin or lead. When such contact is unavoidable, either lead coated copper shall be used, a full width separator of sheet lead to installed, or both surfaces be painted with asphaltum and separated by a ply of asphalt saturated felt.

E At job completion, clean adhesives, stains, dirt, and other imperfections from exposed-to-view flashing using cleaning materials compatible with base metal.

1. Remove all soldering flux from faces of sheet metal and neutralize flux residue by swabbing with washing soda or ammonia.

END OF SECTION

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
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SECTION 07900

SEALANTS

1.01 REFERENCES: General provisions of Contract, including General and Supplementary Conditions and Division 1, General Requirements, apply to work specified in this Section.

1.02 WORK INCLUDED IN THIS SECTION

A. Scope of work in this Section includes all exterior and interior sealants and caulking, except as excluded under Related Work Paragraph 1.03 below.

B. Attention is directed to sealant and caulking requirements at various finish materials, as shown on drawings and specified in other specification Sections, all of which are included as part of work in this Section.

C. In addition to joints specifically shown on drawings, scope includes joint sealers for following locations:

1. Exterior joints:

- Openings where items pass through exterior walls. Use sealing compound at both exterior and interior surfaces of exterior wall penetration.
- Joints between wood and stone, concrete or masonry
- Gaps less than 1/4 in. in wood trim as directed by the architect.
- Metal to metal joints where sealing or caulking is shown or specified.

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Cutting, patching and repairs to existing construction, including sealant work: Section 01040 and 01600.

B. Sealant in conjunction with sheet metal flashing and trim: Section 07610.

1.04 SUBMITTALS: Issue submittals in accordance with Section 01300, Submittals and Record Documents. Submittals under this Section shall include:

A. Manufacturers' specifications and installation instructions on all specified products.

B. Color charts and material samples.

1.05 QUALITY ASSURANCE

A. Refer to Section 01600, Products and Installation, for general provisions covering material storage, installation and substitutions.

B. Make trial applications at field mock-up panels or portions of actual installation areas for each type of sealant specified.

2.01 MATERIALS

A. Sealants shall be chemically-curing elastomeric type, of base polymer specified below, complying with ASTM C 920 requirements, including those for Type, Grade, Class and Use.

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SEALANTS / 07900-1

Provide Use Type M (mortar), G (glass), A (aluminum), or O (materials other than foregoing), as applicable for field condition.

- B. Sealant for joints in exterior vertical surfaces: one or two-part non-sag polyurethane, complying with ASTM C 920, Type M or S, Grade NS, Class 25 or higher, Use NT. Acceptable products include:
 - Bostik Chem-Calk 500, 900 or 2639
 - Mameco Vulkem 116, 227, 921 or 922
 - W. R. Meadows Dualthane
 - Pecora Dynatrol I or II
 - Products Research & Chemical Corp. Permapol RC-I or RC-2
 - Sika Corp. Sikaflex-1a, -iSM or -2c NS
 - Sonneborn NP-I or NP-2
 - Tremco Dymonic or Dymeric

- C. Sealant at joints in horizontal surfaces: one or two-part pourable self-levelling polyurethane, complying with ASTM C 920, Type M or S, Grade P, Class 25, Use T. Acceptable products include:
 - Bostik Chem-Calk 550 or 950
 - Mameco Vulkem 45, 245 or 255
 - W.R. Meadows Pourthane
 - Pecora NR-200 and NR-201 Urexpan
 - Products Research and Chemical PRC 280
 - Sikaflex-2c SL
 - Sonneborn Sonolastic SL-I or Paving Joint Sealant
 - Tremco THC-900.

- D. Sealant colors shall be selected by Architect from manufacturer's standard range. If not specifically selected, color shall match adjacent materials as closely as possible.

- E. Provide non-staining sealant backing materials and accessories as recommended by sealant manufacturer, including joint cleaner, primer-sealer, bond-breaker tape and masking tape. Where no other joint back-up exists, provide a compressible closed-cell polyethylene foam backer rod, 25 to 50 percent greater in diameter than joint width.

3.01 JOB CONDITIONS

- A. Material storage and installation procedures shall conform to general provisions of Section 01600, Products and Installation. Install sealants in accordance with applicable ASTM specifications including ASTM C 804 (solvent-release curing sealants) and ASTM C 790 (latex sealants).

- B. If possible, install sealants within a 40-to-85 degree F temperature range. Do not install sealants at temperatures below 40 degrees F unless specifically permitted by manufacturers. At temperatures below 40 degrees F, take particular precautions to provide clean, dry, frost-free surfaces.

3.02 PREPARATION

- A. Thoroughly clean joints of foreign materials which would prevent good sealant bond, such as dirt, loose mortar, oil, wax, coatings and sealing compounds. Blow debris out of joints with oil-free compressed air where necessary. Mask adjacent surfaces with tape.

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SEALANTS / 07900-2

B. Clean metals before applying sealant with solvent-based xylol, toluol or MEK, carefully wiped off with dry clean cloths. Do not use solvents that leave an oil deposit, such as mineral spirits or kerosene.

3.03 INSTALLATION

A. Push compressible back-up material specified under PRODUCTS into position, using a smooth blunt-pointed tool, placed straight and accurately to depth. Do not stretch or puncture compressible backup during installation. Back-up material shall be continuous, with no voids.

B. Sealant depth shall be equal to joint width in joints 1/4-to-1/2 in. wide, with maximum depth not to exceed 5/8 in. when joint width exceeds 1/2 in. No joint shall be smaller than 1/4" x 1/4".

C. Where recommended by sealant manufacturer, apply a primer or surface conditioner to obtain satisfactory adhesion to substrate at sides of joints. Primer shall be as manufactured or specifically recommended by sealant manufacturer.

D. Where sealant must be installed directly against metal, concrete, masonry or mortar (without compressible backer), prime backer surface with a suitable bond-breaker such as polyethylene tape so that sealant does not bond to back-up.

E. Thoroughly mix two-part sealants. Use sealant within time limits specified by manufacturer. Discard materials not used within prescribed time.

F. Apply sealants using hand or power gun with nozzle of proper size and sufficient pressure to completely fill joints. Push, do not pull, gun along joint. Sealant shall completely fill joint void.

G. Tool sealants to slightly concave surface. Remove masking tape immediately after tooling. Immediately clean excess sealant from adjacent surfaces. Protect horizontal joints with masked construction paper and allow to cure 72 hours minimum.

H. At job completion, provide a minimum of one new cartridge of each type and color of sealant used, for maintenance purposes.

++ END OF SECTION 07900 ++

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SEALANTS / 07900-3

DIVISION 8. NOT USED

DIVISION 9. FINISHES

SECTION 09900

PAINTING

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include GENERAL CONDITIONS and applicable parts of Division 1 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- D. Follow recommendations of National Park Service Preservation Brief #10 -Exterior Paint Problems on Historic Woodwork.
- E. Assume existing paint is contains lead. Take suitable precautions to protect workers and prevent spread of paint dust to adjacent properties.
- F. Paint new wood elements with one coat oil-based primer and two coats exterior latex paint.
- G. Paint existing wood elements one coat exterior latex paint.
- H. Provide sample on-site to match Architect's color selection.

1.02 SCOPE OF THE WORK

- A. Provide all materials, equipment, labor and services required to do all painting work required for the Work, as indicated on the Drawings, as specified herein, or both. Scope of work under this Section includes field finishing exposed to-view surfaces of all newly installed materials customarily receiving field finish, including (but not necessarily limited to the following:
 - 1. Finish carpentry items scheduled for clear or painted finish.
 - 2. Paint or stain all existing previously painted or stained surfaces that are part of the work not less than one coat.
 - 3. Spot prime factory-primed and previously painted items as required.
 - 4. Paint all existing exterior surfaces indicated to be painted. See Drawings and Finish Schedule for location of surfaces to be finished where not indicated herein.
 - 5. Paint all materials that are part of the work customarily receiving field finish except items indicated to be left unpainted
- B. Provide not less than one prime coat and two coats of finish paint at all new surfaces except as otherwise indicated.
- C. Prime all surfaces not factory primed. Properly prepare all new and existing surfaces indicated for finish painting.

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PAINTING / 09900-1

- D. Spot prime factory-primed and previously painted items as required.
- F. Provide all staging, scaffolding and rigging required for this work.
- G. See Drawings and Finish Schedule for location of surfaces to be finished where not indicated herein.
- I. Following do not require field finishing, unless otherwise noted on drawings:
 - Factory-finished items, exterior masonry and concrete, sheet metal for roofing and flashing and other items indicated to be left unpainted.
 - Materials and equipment specified with shop-applied or integral finish.
 - Surfaces of finished metals such as anodized aluminum, copper, stainless steel, bronze and chrome.
 - Galvanized sheet steel.
 - Mechanical and electrical equipment; except that equipment (i.e. convactor covers, panelboards, piping, conduit and ductwork) mounted in or on painted surfaces, and exposed-to-view equipment mounted on roof or on site, shall be field-painted.
 - Do not paint over any code-required labels, such as UL and FM, or any equipment identification, performance rating, nomenclature plate, etc.
- J. Materials and application shall conform to governmental VOC/VOS regulations in effect at time work is being done.

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Removal of existing finishes – SELECTIVE DEMOLITION 02070.
- B. Canvas Roofing- **SINGLE PLY MEMBRANE ROOFING 07531**

1.04 SAMPLES AND DATA

- A. Submit samples of all materials specified herein in accordance with requirements of Division 1.
- B. List: Submit paint and coating materials list giving the manufacturer's name, product name and product number for each material.
- C. Data: Submit manufacturer's technical data sheet for each paint and coating, giving descriptive data, curing time, mixing, thinning, and application instructions.
- D. Timing: Samples of all colors, stains, and finishes shall be prepared in advance of requirements so as not to delay work, and shall be submitted to the Architect for approval before any work is commenced.
- E. Panels: 8" x 10" x 18 gauge metal panels for painted metal surfaces; and 8" x 10" x 1/4" wood panels for painted wood finish.

1.05 COLORS

- A. The Architect will furnish a schedule of colors for each area and surface not otherwise indicated.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

PAINTING / 09900-2

All colors shall be mixed in accordance with the manufacturer's instructions.

B. Colors of priming coats (and body coats where specified) shall be lighter than those of finish coat.

C. Architect will select colors from Moore's Moor-o-Matic Color System. Do not job-mix or tint colors without Architect's approval.

D. Colors shall be pure, non-fading pigments, mildew-proof, sunproof, finely ground in approved medium. Colors used on concrete, masonry, gypsum board, stucco and plaster surfaces (as applicable) shall be limeproof.

E. Provide all facilities for comparison and adjustment of colors, and place final samples for approval directly on the surface to be finished. Machine mixing by the manufacturer's representative will be permitted where advantageous, but only after final approval of colors by the Architect.

F. After final approval of all colors, submit to the Owner color chips of all paints and coatings used, with manufacturer's name and his designation of the paint and color for the purpose of future re-ordering. Color chips shall total at least six (6) square inches for each color.

1.06 STORAGE AND USE OF MATERIALS

A. All materials shall be brought to the building and stored in an approved location in manufacturer's original sealed containers, bearing the manufacturer's standard label, indicating type and color. Materials shall be delivered in sufficient quantities in advance of the time needed in order that work will not be delayed in any way.

B. All materials shall be stored in designated spaces in a manner which meets the requirements of applicable codes and fire regulations. When not in use, such spaces shall be kept locked and inaccessible to those not employed under this Section. Each space shall be provided with a fire extinguisher of carbon dioxide or dry chemical type bearing the label of the National Board of Fire Underwriters and tag of recent inspection.

C. Do not use building sanitary system for mixing or disposal of refuse material. Carry water to mixing rooms and dump waste material in a refuse receptacle. Remove oily rags and waste each day.

1.07 QUALITY ASSURANCE

A. Where manufacturer makes more than one grade of any material specified, use the highest grade of each type, whether or not the material is mentioned by trade name in these Specifications.

B. Include on labels of all containers the manufacturer's name, the product name and number, the color and the batch number.

C. No claim by the Painting Subcontractor concerning the unsuitability of any material specified or his ability to produce first class work with same will be entertained after Contract is signed.

2.00 MATERIALS

2.01 PAINT

A. Manufacturers: Standard paints and finishes used for the project shall be as manufactured by:
1. Sherwin Williams Co., Cleveland, OH

B. Canvas Roof Paint shall be manufactured by:
Apco Paint Co. Schaumburg, Illinois

C. Manufacturers names are to indicate quality and type of materials and not to limit competition.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

PAINTING / 09900-3

2.02 COMPATIBILITY OF COATINGS

- A. Ensure that all paints and coatings to be applied in the field are compatible with coatings used for shop-primed items and items which have been primed-coated by other trades. Shop Drawings and manufacturer's data sheets generally indicate types of priming materials used. Such information may be obtained from the Architect upon request.
- B. Determine that the materials specified in the Painting Schedule are compatible with shop coats to which these materials are to be applied, and bring to the Architect's attention any condition which may require a change in the specifications before proceeding with work. Failure to do so shall be construed as acceptance of the coatings specified. Perform all corrective measures, at no additional cost to the Owner, for any defects in work resulting from the use of such materials.
- C. Existing Coatings: Determine by tests, samples or other approved methods that new coatings to be applied are compatible with existing previously applied coatings. Do all preparatory work to prepare previous coatings to receive new work, including spot priming, intercoating, sanding and paint removal to assure permanent adhesion of new coatings to existing work.
- D. Where primer is called for, use primer recommended by manufacturer for particular combination of substrate and finish coat, such as block filler at concrete masonry, latex or PVA at gypsum board. Verify compatibility of primer where painting over existing painted surfaces.
- B. Where painting over shop-applied primers, verify that finish paint proposed for field application is compatible with shop primers actually used.

3.00 **EXECUTION**

3.01 INSPECTION AND ACCEPTANCE OF SURFACES

- A. Inspect all surfaces to assure that they are in proper condition to receive work under this Section. Do not commence work until all surfaces are in a satisfactory condition.
- B. Assume existing paint is contains lead. Take suitable precautions to protect workers and prevent spread of paint dust to adjacent properties.
- C. If surfaces are not clean, smooth and thoroughly dry or if they cannot be put in proper condition to receive paint, notify the Contractor requesting necessary correction.
- D. See Section 02070 for methods of removing existing finishes.
- E. Commencement of work in any space will be construed as acceptance of the surfaces as being satisfactory. All defects in painting work resulting from such accepted surfaces shall be corrected under this Section at no additional cost to the Owner.

3.02 PROTECTION

- A. Furnish and lay drop cloths in all rooms and areas where painting and finishing is being done to adequately protect flooring and other work from damage during painting work.
- B. Remove canopies of lighting fixtures, electrical switch plates and similar equipment, set them carefully away and cover adequately to protect fixtures. Replace the canopies, plates, and other items, in as good condition as when found after painting is completed.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

PAINTING / 09900-4

C. At completion of work of each area remove all paint spots, oil and stain from all surfaces, including finish hardware. Do not use abrasive paper or abrasive cleaner on hardware or similar finished surfaces.

D. Perform no work in rain, dew or fog; when the temperature is below 50 degrees F; or before other finish materials have thoroughly dried out.

3.03 PREPARATION

A. General: Prepare all new and existing surfaces as required to properly receive paint and finish materials. See Section 02070 for methods of removing existing finishes. All surfaces to receive paint shall be smooth and free of sandpaper scratches, mill marks, and other imperfections and, except for coats applied in shop, shall be inspected by the Architect before application of prime and finish coats.

1. Remove blisters and other imperfections in previous coats caused by foreign substances and paint skins from all painted surfaces before the subsequent coat is applied. Wood and metal surfaces shall be rubbed down before finishing and between coats with sandpaper or steel wool, leaving perfectly clean surface. Smooth finished surfaces shall be sanded before finishing and between coats as required to smooth out rough areas and to assure smooth, even finish.
2. Remove all foreign matter which would otherwise prevent adhesion of the applied finishes. Remove all grease and dirt with solvent before applying paint.
3. All knots, pitch streaks and sappy spots in wood shall be touched up with knot sealer before applying first coat. Use orange shellac for dark and white shellac for light painted surfaces.
4. Fill nail holes, cracks, and the like with putty or plastic wood after primer or first coat of finish is dry. On natural finished wood, tint putty to match finished wood.
5. All scratches, cuts, cracks and abrasions in plaster and wallboard surfaces shall be cut out as required, filled with approved patching compound flush with adjoining surfaces and when dry shall be sanded and sealed before application of priming coat.
6. Clean only metal surfaces by wire brushing, power grinding and sanding all mill scale, rust, slag from field welds, loose paint, abraded surfaces of shop coats, grease, oil, dirt and other foreign matter from ferrous surfaces, then properly wash with approved cleaning agent. After cleaning, the surfaces shall be etched, pickled, primed, or otherwise prepared as recommended by the paint manufacturer. Use only rust-inhibiting type primer for ferrous metal priming.
7. Do all required preparatory work to assure permanent adhesion of new coatings to previously coated surfaces as described above.

B. Exterior Surface Conditions Generally Requiring No Paint Removal:

1. To remove dirt, Soot, Pollution, Cobwebs, Insect Cocoons, etc. wash with a strong, direct stream of water from the nozzle of a garden hose. Scrub stubborn dirt and soot off using 1/2 cup of household detergent in a gallon of water with a medium soft bristle brush. Rinse the cleaned surface thoroughly.
2. To remove exterior mildew apply a solution consisting of one cup non-ammoniated detergent, one quart household bleach, and one gallon water. Scrub surface with the solution using a medium soft brush. For particularly stubborn spots, an additional quart of bleach may be added. After the area is mildew-free, rinse with a direct stream of water from the nozzle of a garden hose, and permit to dry thoroughly.

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PAINTING / 09900-5

3. To remove excessive chalking clean chalk off with a solution of 1/2 cup household detergent to one gallon water, using a medium soft bristle brush. After scrubbing to remove the chalk, rinse with a direct stream of water from the nozzle of a garden hose and allow to dry thoroughly.
 4. Where staining occurs, locate the source of the stain. Remediate rusting of nail heads or oxidizing iron, steel, or copper anchorage devices or other metal objects adjacent to a painted surface by hand sanding object and coating with a rust-inhibitive primer followed by two finish coats. Exposed nail heads should be countersunk, spot primed, and the holes filled with a high quality wood filler. Apply a stainblocking primer such as "Kilz" where discoloration occurs due to knotholes in wood. If stain bleeds through apply additional coats. Each primer coat should be allowed to dry at least 48 hours.
- C. Exterior Surface Conditions Generally Requiring Limited Paint Removal (See Section 02070 for methods of removing existing finishes):
1. Where crazing or surface cracking or wrinkling occurs treat by hand or mechanically sanding the surface to provide as even a surface as possible, before repainting.
 2. Where intercoat peeling occurs the peeling top coat should be scraped and hand sanded. Mechanical sanding may be done using an orbital sander only.
 3. For blistering caused by moisture, cut blister open. If another layer of paint is visible, then treat for solvent blistering (see below). If bare wood is revealed, then moisture is probably to blame.
- D. Exterior Surface Conditions Generally Requiring Total Paint Removal (See Section 02070 for methods of removing existing finishes):
1. Surface conditions are such that the majority of paint will have to be removed prior to repainting include Peeling, Cracking/Alligatoring, Intercoat peeling, Solvent blistering, wrinkling, extensive blistering, and extensively deteriorated paint over large areas.

3.04 WORKMANSHIP

- A. Materials shall be applied by skilled mechanics under proper supervision. All paint shall be evenly spread and thoroughly brushed out using rollers and paint brushes. Finished surfaces shall be uniform in gloss, finish and color, and shall be free from brush marks.
- B. Apply all materials under adequate illumination and in an atmosphere substantially free of airborne dust.
- C. Before application, materials in containers shall be thoroughly stirred, unless otherwise directed by the manufacturer, to ensure uniformity of color and mass, and all paint skins or other materials which could cause lumps or roughness shall be strained out. Materials shall be applied without the addition of any ingredients and without reducing or thinning.
- D. Painting and finishing shall be carefully done and left perfect. No paint spots shall be left on glass, hardware or other finished work. Do not paint around hardware or removable wall receptacle plates. Such items shall be removed prior to painting.
- E. Workmanship shall be of the very best quality, with all materials evenly spread and smoothly flowed on without runs or sagging. Properly prepare all surfaces before painting to ensure a smooth and

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PAINTING / 09900-6

uniform surface without variations of gloss, suction or other blemishes.

3.05 APPLICATION

- A. All materials shall be applied in strict accordance with the manufacturer's printed instructions and in accordance with the best trade practices. Each coat shall be inspected by the Architect before succeeding coat is applied.
- B. No painter's finish shall be applied until the preceding coat is thoroughly dry, and in no case in less than seven (7) days for exterior work and two (2) days for interior work. Where manufacturer's literature indicates a longer drying time, the more stringent requirement shall apply.
- C. Touch up finish coats of factory finished items that become damaged before completion of the building. Sand damaged areas smooth and apply primer before applying finish coat. Where spot touch up cannot be done neatly and blended smooth with other finish material, repaint entire surface or panel.
- D. All paint shall be applied by brush or roller except as otherwise indicated or specifically approved by the Architect.
- E. Apply coatings only when air and surface temperatures are above 50 degrees F and below 110 degrees F, and with relative humidity below 85 percent. Surface temperature shall be at least 5 degrees above dew point.
- F. Paint surfaces behind movable equipment and furnishings same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only, before final installation of equipment.

3.06 CLEAN UP

- A. Upon completion of work of this Section, remove all paint and coating spatters from glass, prefinished surfaces, bright metals, and from other surfaces that have not been painted or finished under this Section. Remove all painter's materials and debris and leave the surrounding area and the work in a clean condition.
- B. Final Inspection: Protect all painted and finished surfaces against damage until the date of Substantial Completion of the Work. The Architect will inspect all painted work. Painting Subcontractor will be required to repaint, refinish, or retouch any areas which do not comply with the requirements of this Section.
- C. Retouching work required after painted and finished surfaces have been accepted shall be paid for by the Contractor.

3.07 EXTERIOR PAINTING SCHEDULE

- A. Ferrous Metal:

First Coat (for galvanized metal only): Exterior galvanized metal primer product of the finish coat manufacturer.

First Coat (for non-galvanized bare metal only): Exterior zinc-rich metal primer product of the finish coat manufacturer.

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

PAINTING / 09900-7

Two Coats:

Moore Impervo enamel
equal by Sherwin-Williams

B. Painted exterior wood:

one coat oil based primer - Moore Fresh Start or equal

two coats acrylic alkyd house and trim paint, per FS TT-P-91 1.5-to-2.0 dry mils film thickness per coat.

Acceptable products include Benjamin Moore Moore-glo or Sherwin-Williams Gloss House & Trim Paint.

3.08 MAINTENANCE SUPPLY

A. Furnish at least two (2) gallons of each type and color of paint and finish as maintenance supply for future use.

B. Deliver in unopened sealed containers with manufacturer's label indicating contents clearly legible. Store in building in maintenance area where directed.

END OF SECTION

**STONEHURST, THE ROBERT TREAT PAINE ESTATE
ROOF PRESERVATION**

PAINTING / 09900-8

DRAWINGS

LIST OF DRAWINGS

- T1.0 Title Sheet
- A1.1 Floor 2 Roof Plan
- A1.2 Roof Plan
- A2.1 Sections & Details

STONEHURST, THE ROBERT TREAT PAINE ESTATE ROOF PRESERVATION

LIST OF DRAWINGS
1 of 1

List of Abbreviations:

ADJ.	Adjacent
CLG.	Ceiling
DIM.	Dimension
ELEV.	Elevation
EQ.	Equal
EXIST., EXISTG	Existing
FL.	Floor
FT.	Foot
HT.	Height
IN	Inch
LCC	Lead Coated Copper
MIN	Minimum
MAX	Maximum
NIC	Not in Contract
NTS	Not to Scale
OC	On Center
PT	Pressure Treated
PTD	Painted
REQ.	Required
SF	Square Feet
STL	Steel
TYP	Typical
UNEQ.	Unequal
UNO	Unless noted otherwise
VIF	Verify in Field
W/	With
WD	Wood



Roof Preservation of STONEHURST, THE ROBERT TREAT PAINE HOUSE

**100 Robert Treat Paine Dr.
Waltham,
Massachusetts**

General Notes:

1. Dimensions are given to finished surfaces unless noted otherwise.
2. Noted dimensions on drawings shall take precedence. Notify Architect of any discrepancies. The Contractor shall verify existing dimensions in the field.
3. Notify Architect where existing substrates are unsuitable for installation of new materials.
4. Construction to match existing or restore existing shall completely match materials, profiles, and dimensions of existing construction unless noted otherwise. Include all decorative details including moldings, brackets, modillions, etc.

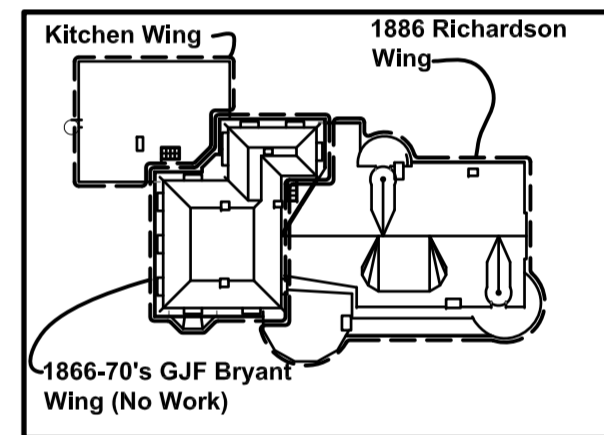
LIST OF DRAWINGS

- T1.0 Title Sheet
- A1.1 Floor 2 Roof Plan
- A1.2 Roof Plan
- A2.1 Sections & Details

**RED
HAWK
STUDIO**
ARCHITECTS, INC.



18 Main Street
Concord,
Massachusetts
01742
978 369 2340



Key Plan

date: january 6, 2017

Revisions

NONE

Title Sheet

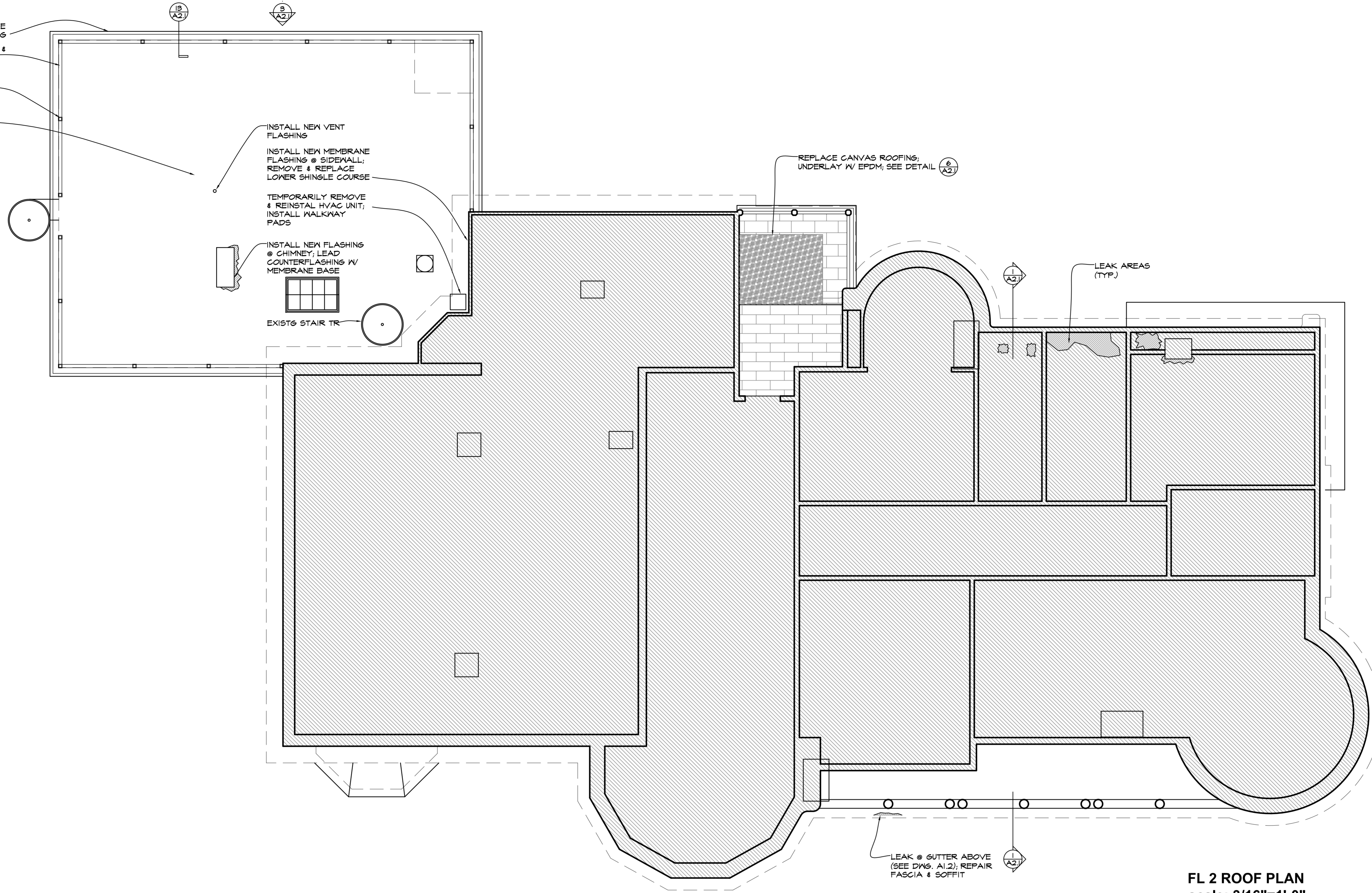
T1.0

no scale

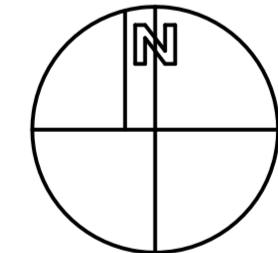
REPLACE WOOD GUTTERS;
INSTALL LCC LINING &
FLASHING TO ROOF; REPLACE
DECAYED FASCIA & MOLDING
RECONSTRUCT BALUSTRADE &
RAILING

NEW RAILING POST; SEE
DETAIL 2/A2.1 (TYP.)

REPLACE MEMBRANE
ROOFING



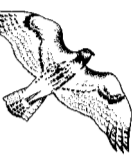
FL 2 ROOF PLAN
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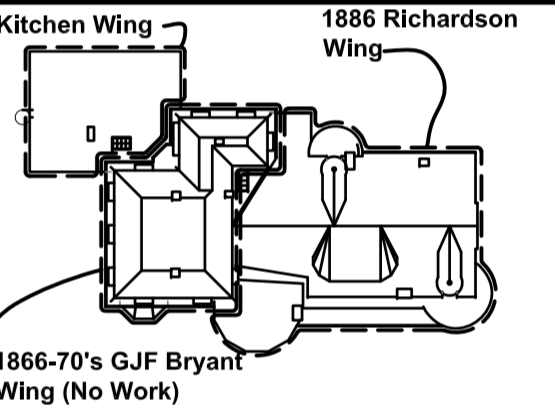
**Renovations to
STONEHURST,
THE ROBERT
TREAT PAINE
HOUSE**

100 Robert Treat Paine Dr.
Waltham,
Massachusetts

**RED
HAWK
STUDIO**
ARCHITECTS, INC.



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Concord,
Massachusetts
01742
978 369 2340



Key Plan
DEMOLITION NOTES:
- REMOVE ALL EXISTING
MEMBRANE, DECK INSULATION,
& BOARD UNDERLAYMENT @
KITCHEN WING WORK AREA.

- REMOVE EXISTING CANVAS
ROOFING, & BOARD
UNDERLAYMENT @ FRONT
PORCH WORK AREA.

- REMOVE PROTRUDING NAILS
THAT REMAIN IN PLACE BY
PULLING.

date: january 6, 2017

Revisions

NONE

Fl 2 Roof Plan

A1.1

scale: as noted

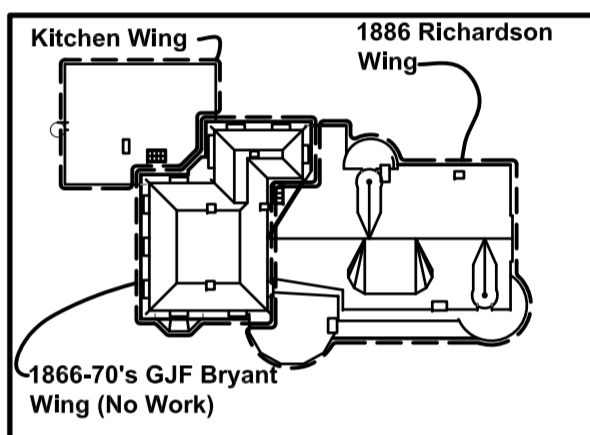
**Renovations to
STONEHURST,
THE ROBERT
TREAT PAINE
HOUSE**

100 Robert Treat Paine Dr.
Waltham,
Massachusetts

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HAWK
STUDIO**
ARCHITECTS, INC.



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Massachusetts
01742
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Key Plan

BID ALTERNATES:
- ALL WORK IS INCLUDED IN THE BASE BID UNLESS NOTED OTHERWISE AS AN ALTERNATE.

DEMOLITION NOTES:
- REMOVE ALL EXISTING WOOD SHINGLES, BATTENS & UNDERLAYMENT @ WORK AREA.
- REMOVE PROTRUDING NAILS THAT REMAIN IN PLACE BY PULLING.

date: january 6, 2017

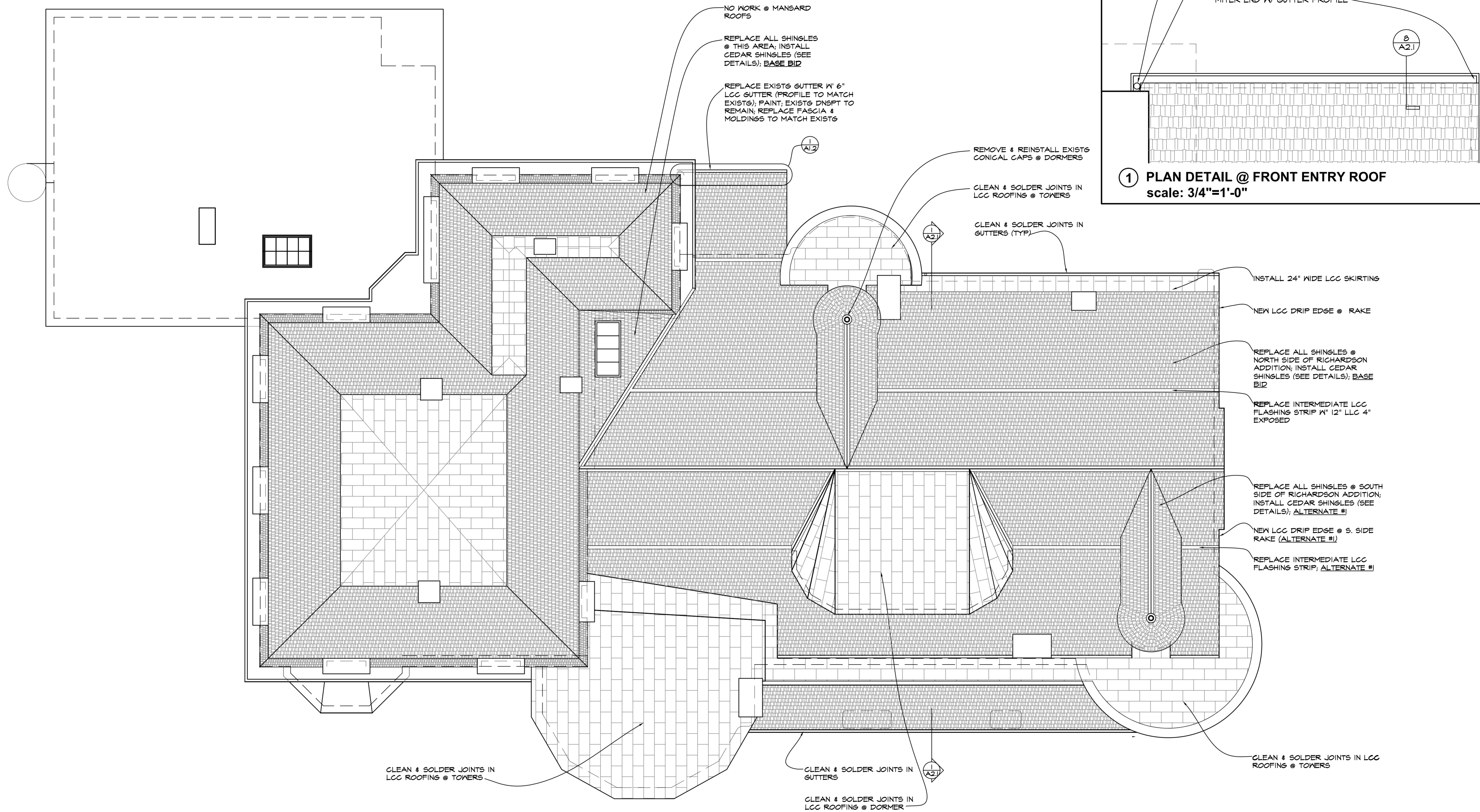
Revisions

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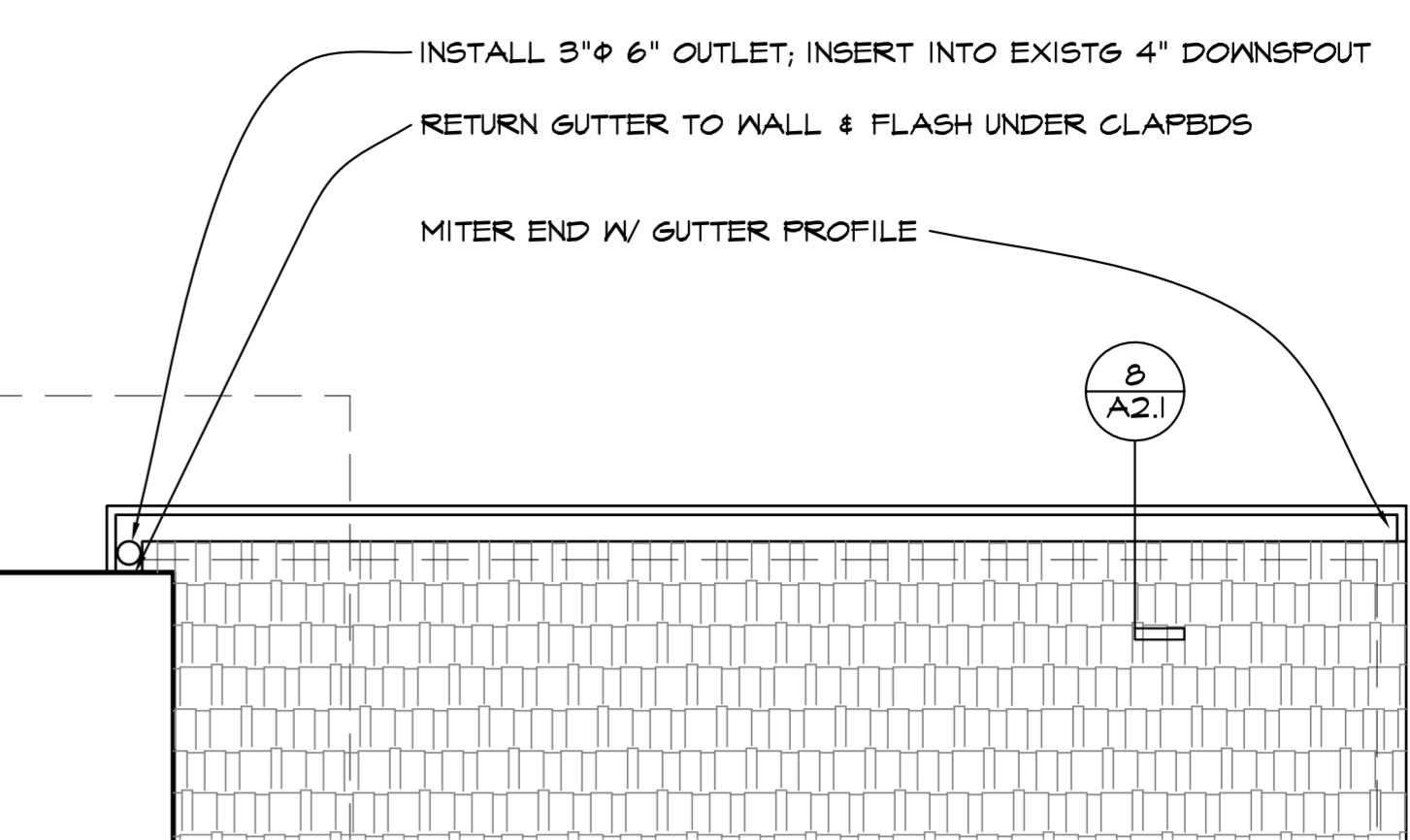
Roof Plan

A1.2

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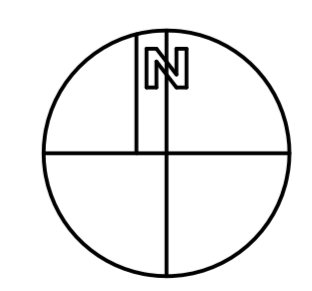
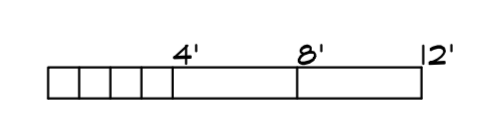


1 PLAN DETAIL @ FRONT ENTRY ROOF
scale: 3/4"=1'-0"



INCLUDED IN BASE BID:
ASSUME REPLACEMENT OF 185 SF OF DECAYED SHEATHING WITH MATCHING SPRUCE SHEATHING; TO BE ADJUSTED BY UNIT PRICE.

INCLUDED IN ALTERNATE #1:
ASSUME REPLACEMENT OF 145 SF OF DECAYED SHEATHING WITH MATCHING SPRUCE SHEATHING; TO BE ADJUSTED BY UNIT PRICE.



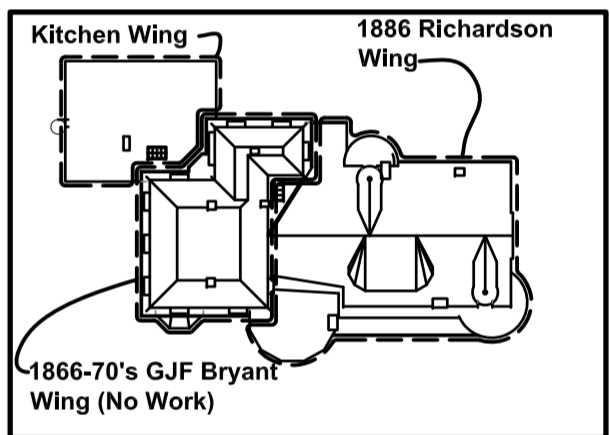
**Renovations to
STONEHURST,
THE ROBERT
TREAT PAINE
HOUSE**

100 Robert Treat Paine Dr.
Waltham,
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HAWK
STUDIO**
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Key Plan

date: january 6, 2017

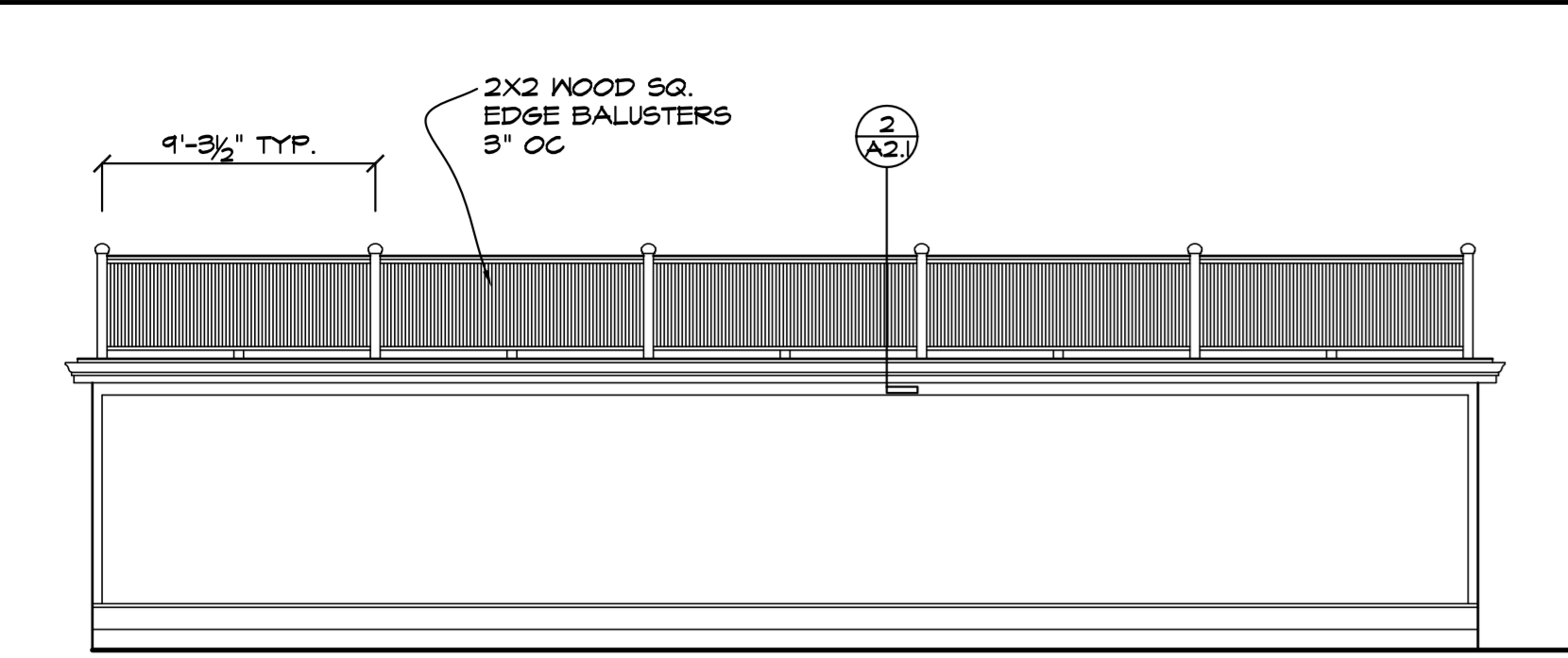
Revisions

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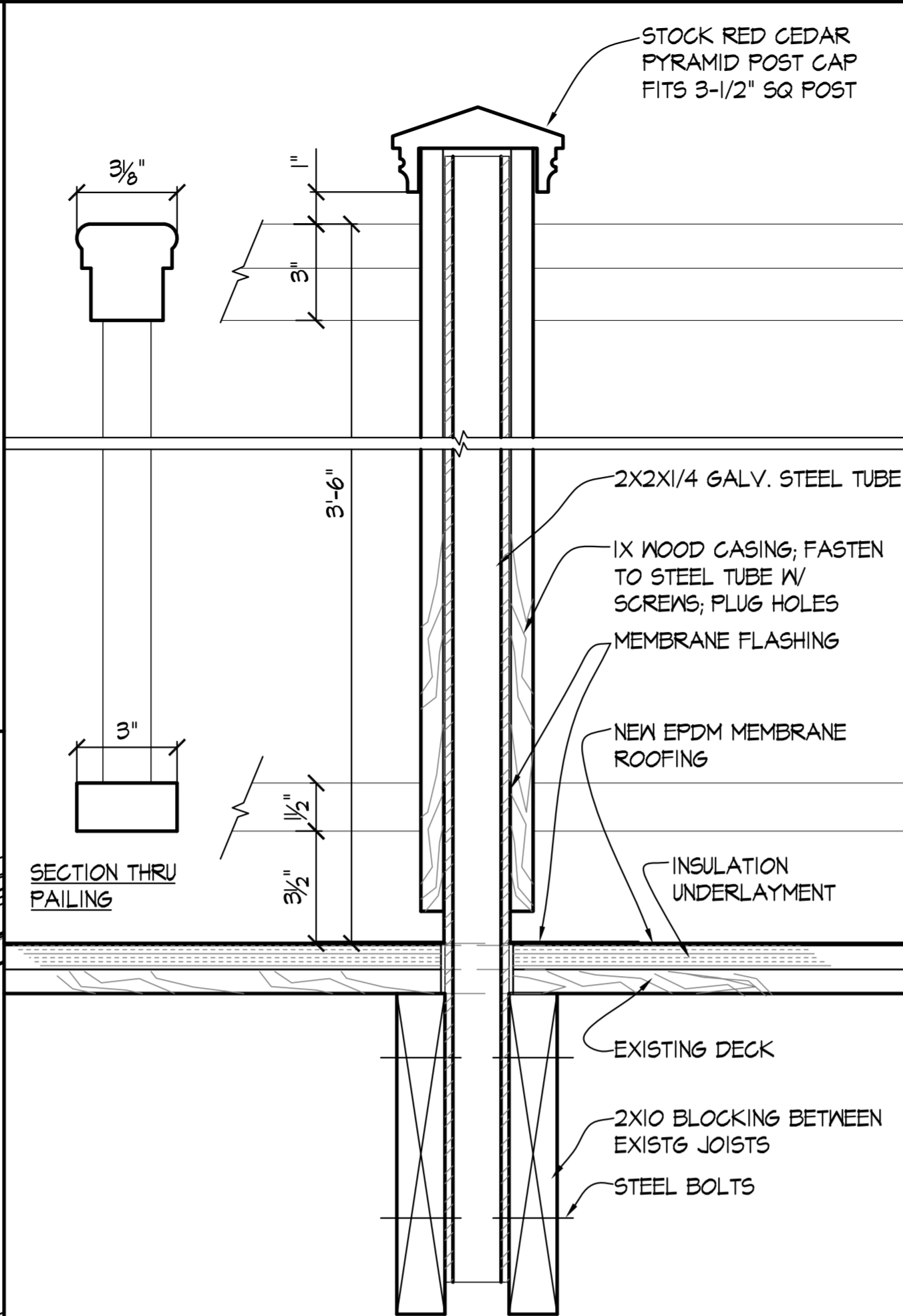
Section & Details

A2.1

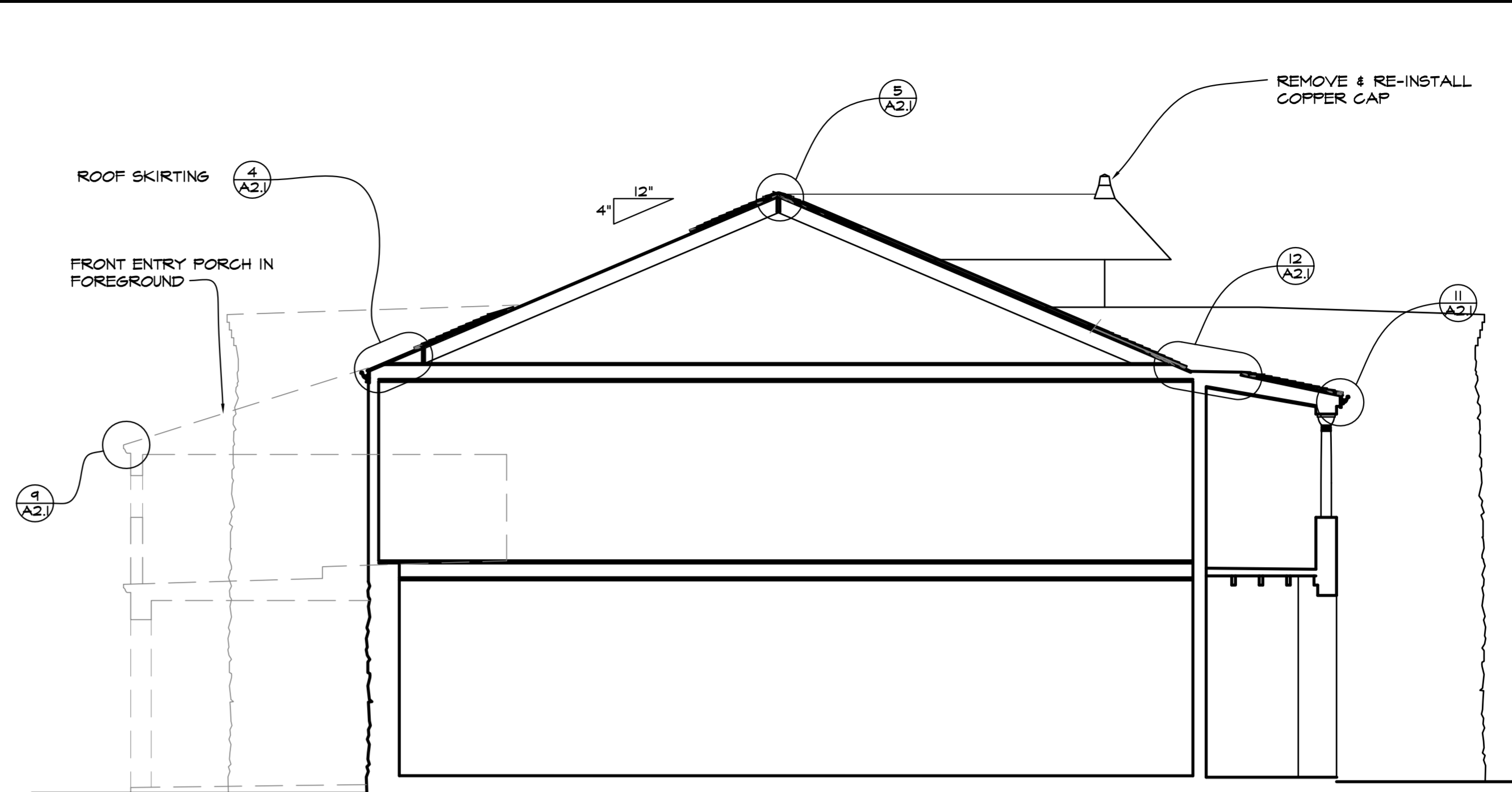
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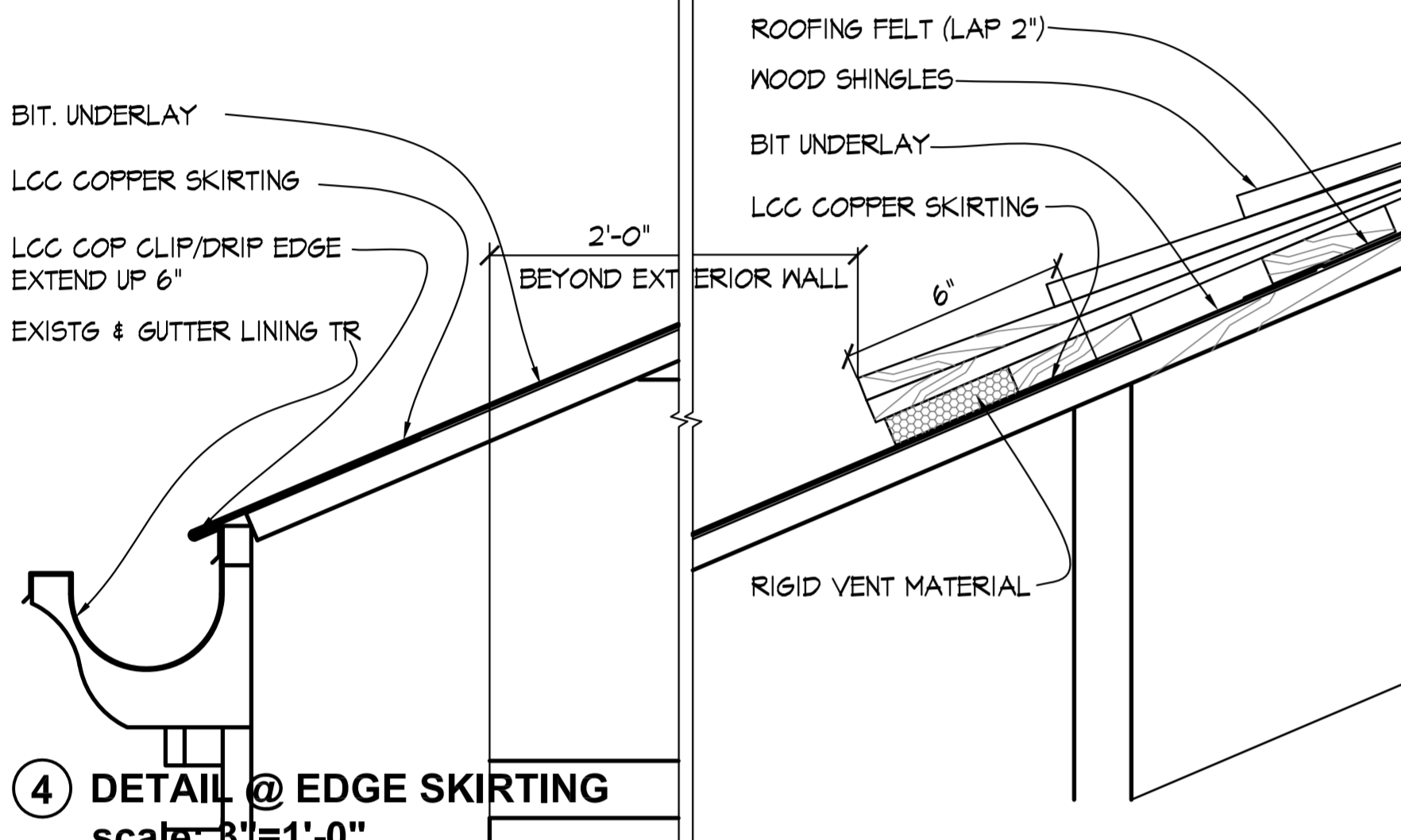
**3 ELEVATION OF RAILING @
KITCHEN WING**
scale: 3/16"=1'-0"



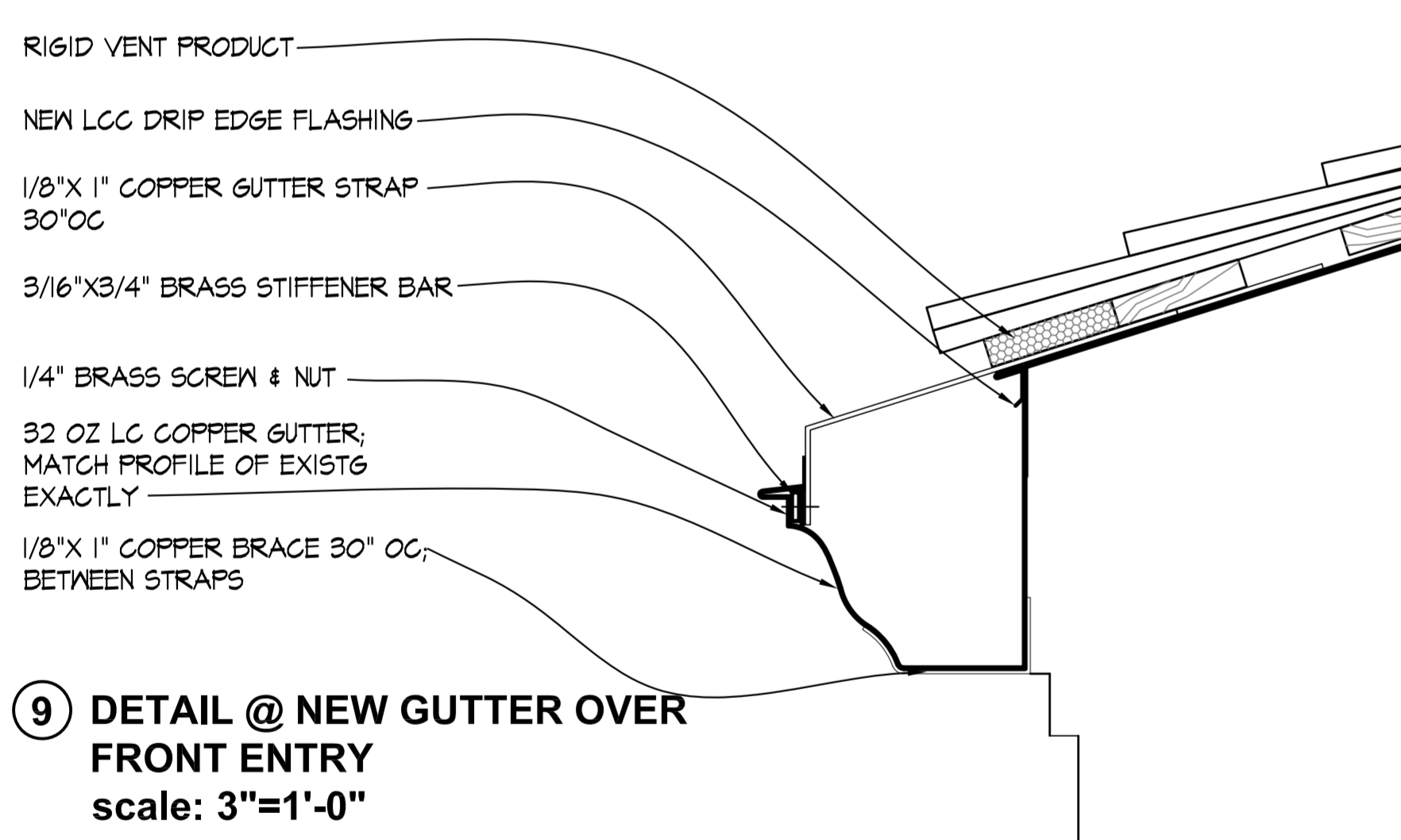
**2 DETAIL @ KITCHEN
RAILING POST**
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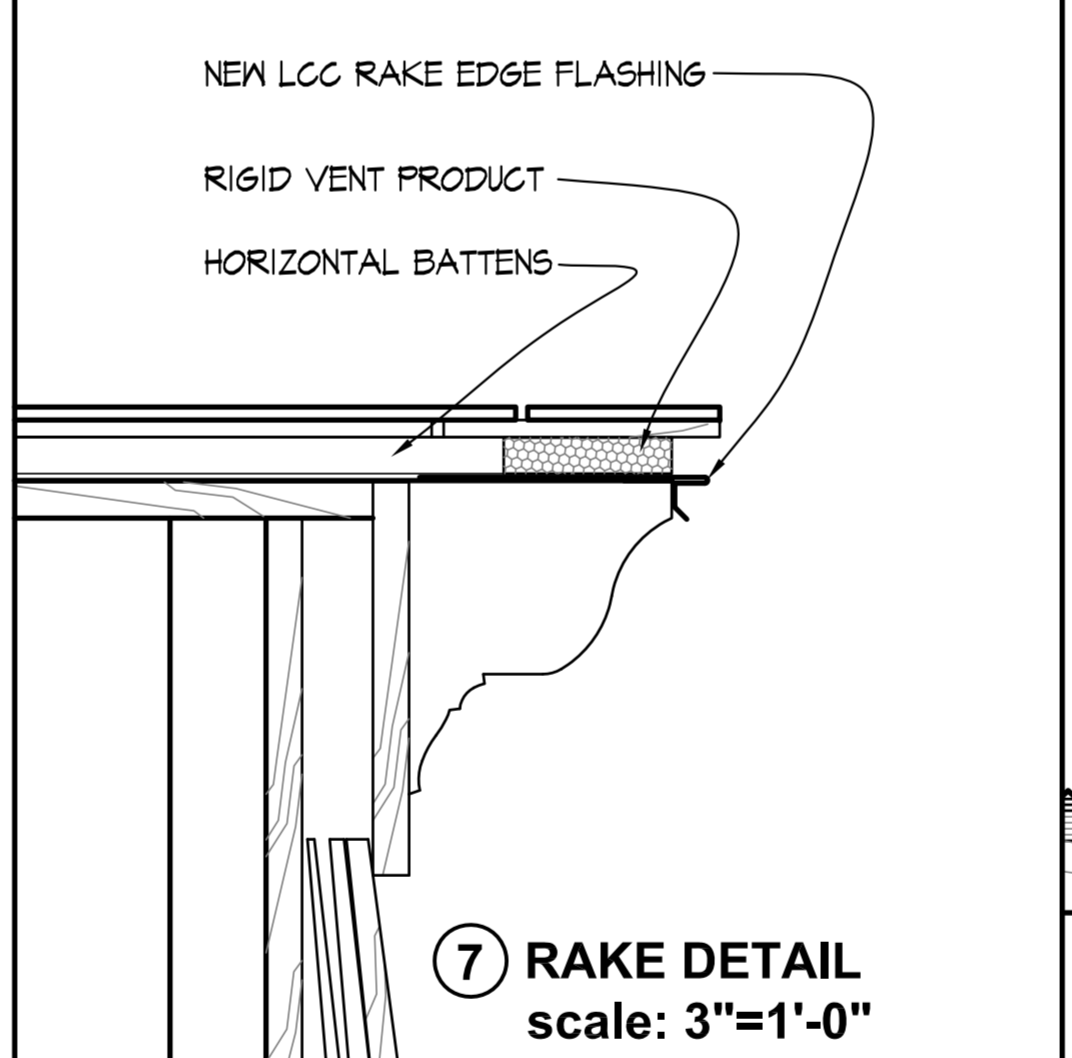
1 BUILDING SECTION
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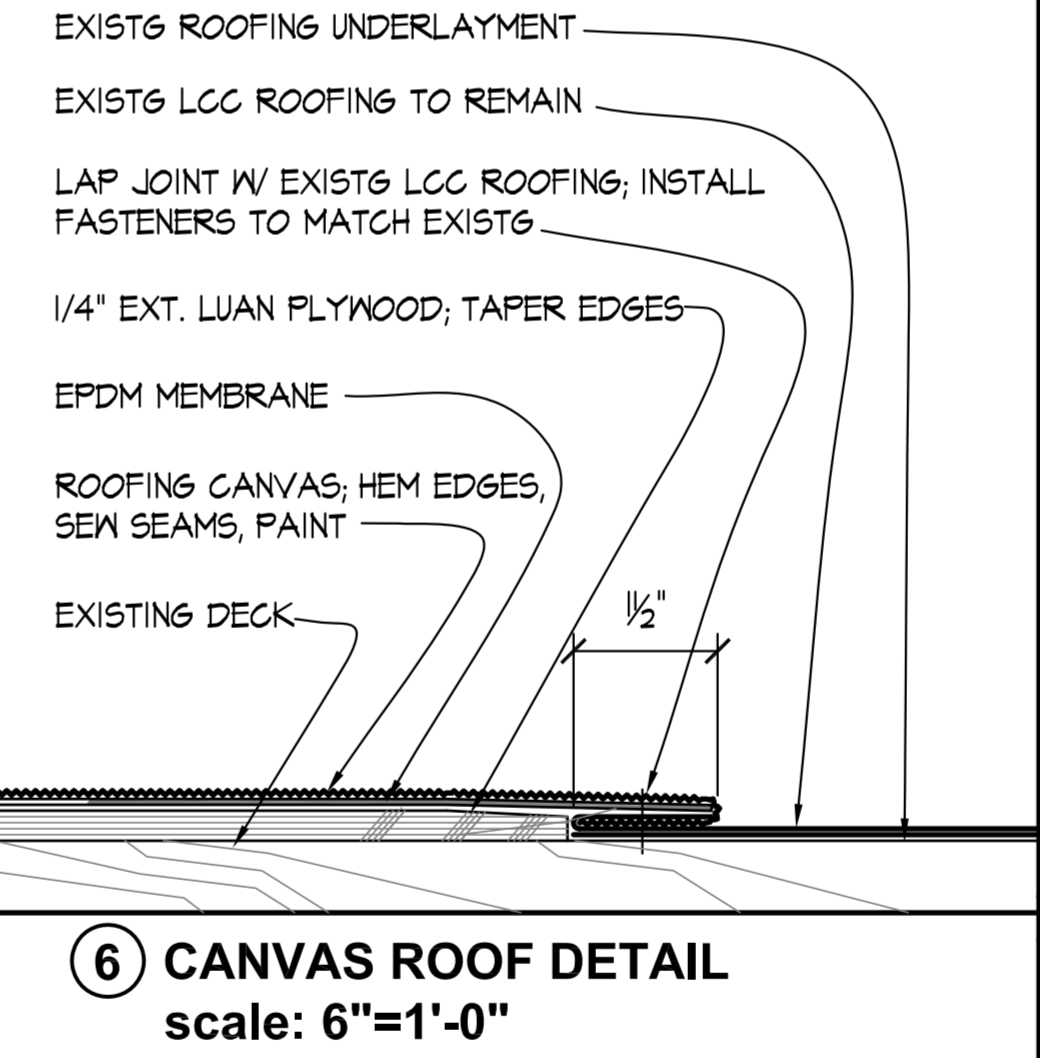
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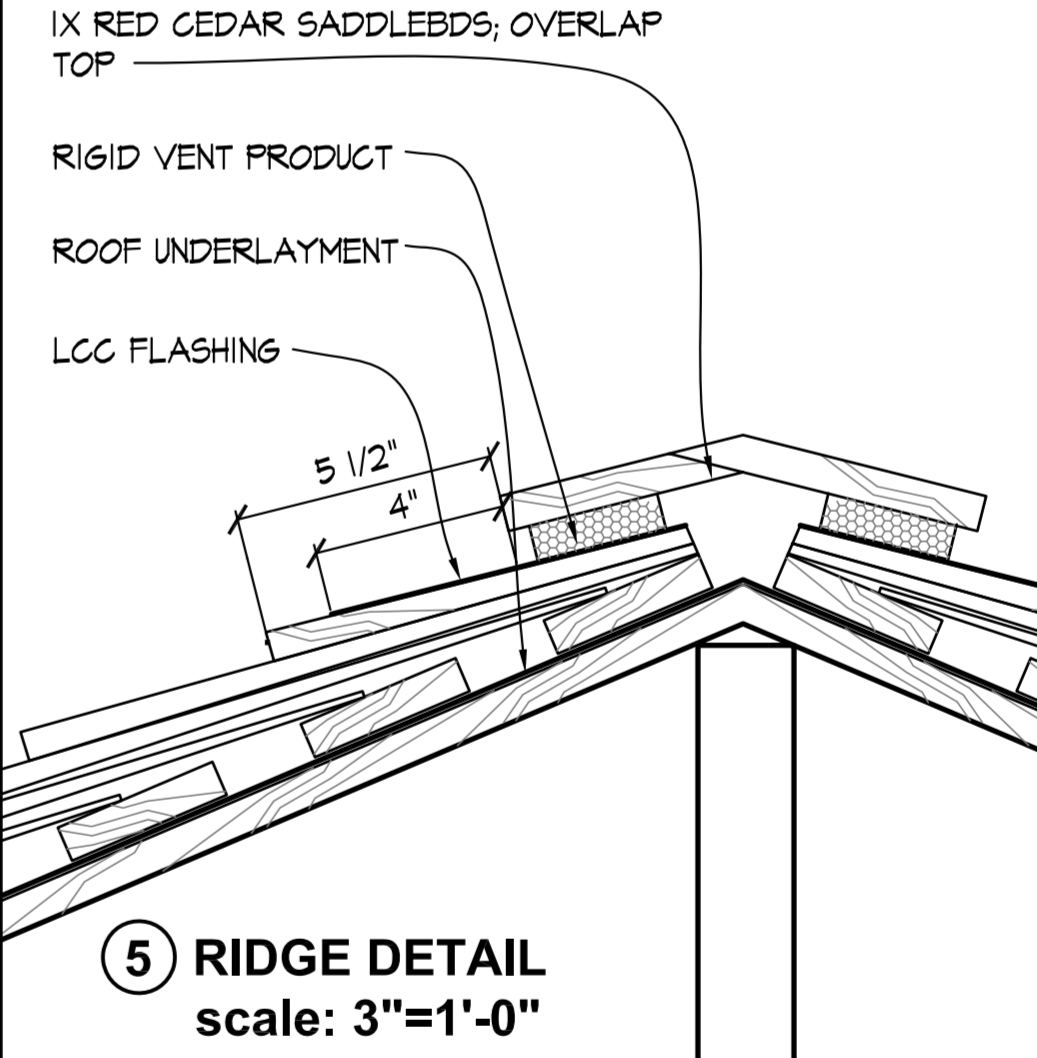
**9 DETAIL @ NEW GUTTER OVER
FRONT ENTRY**
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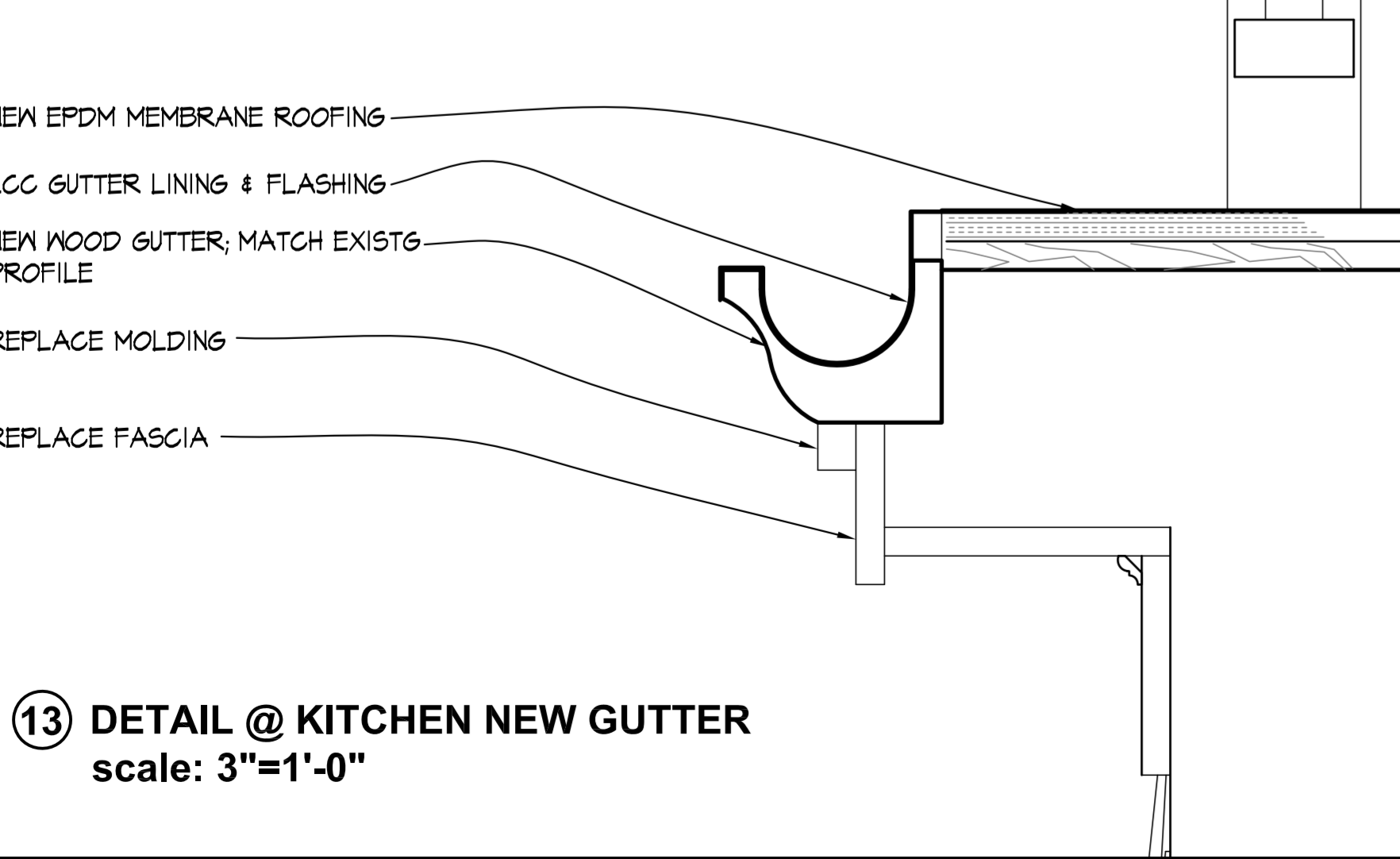
7 RAKE DETAIL
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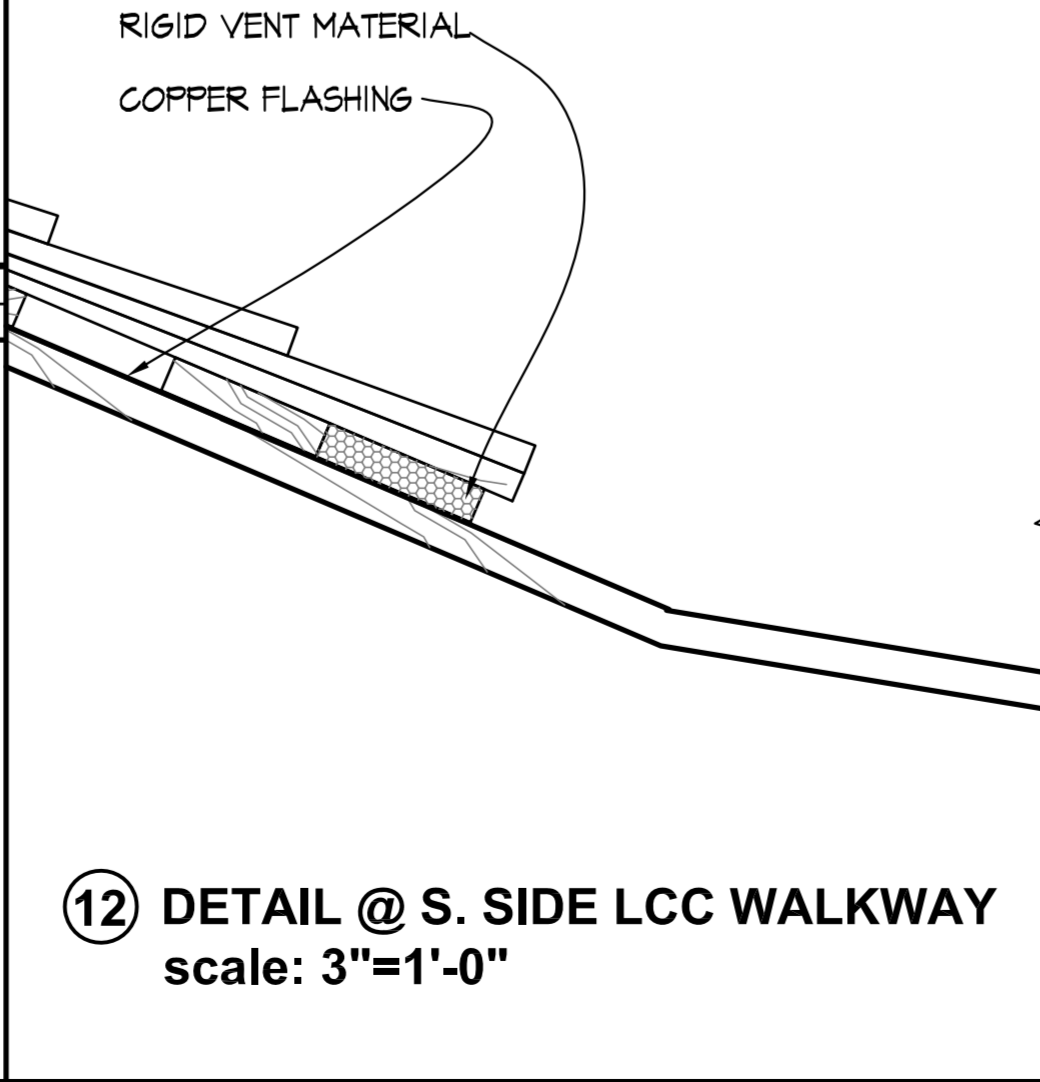
6 CANVAS ROOF DETAIL
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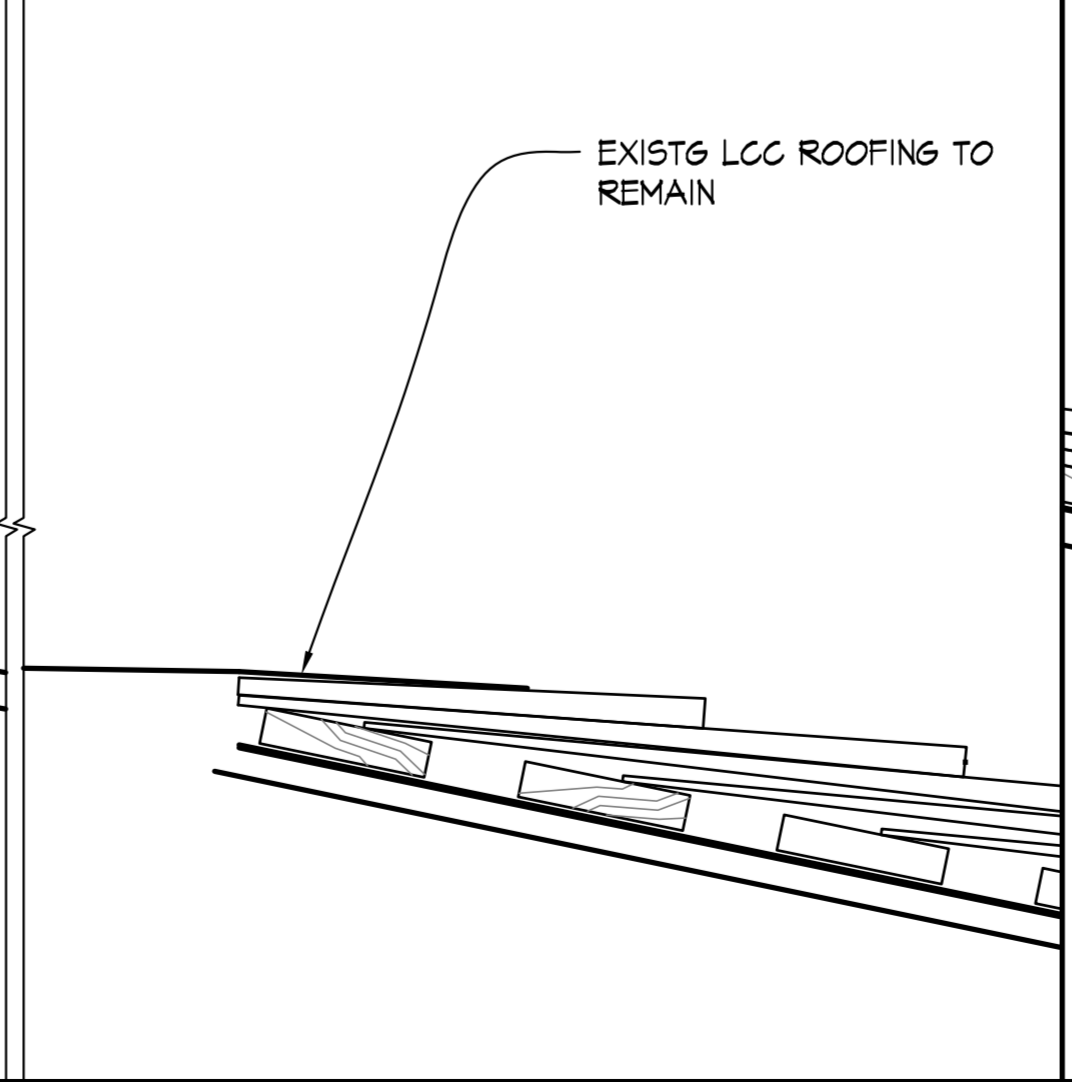
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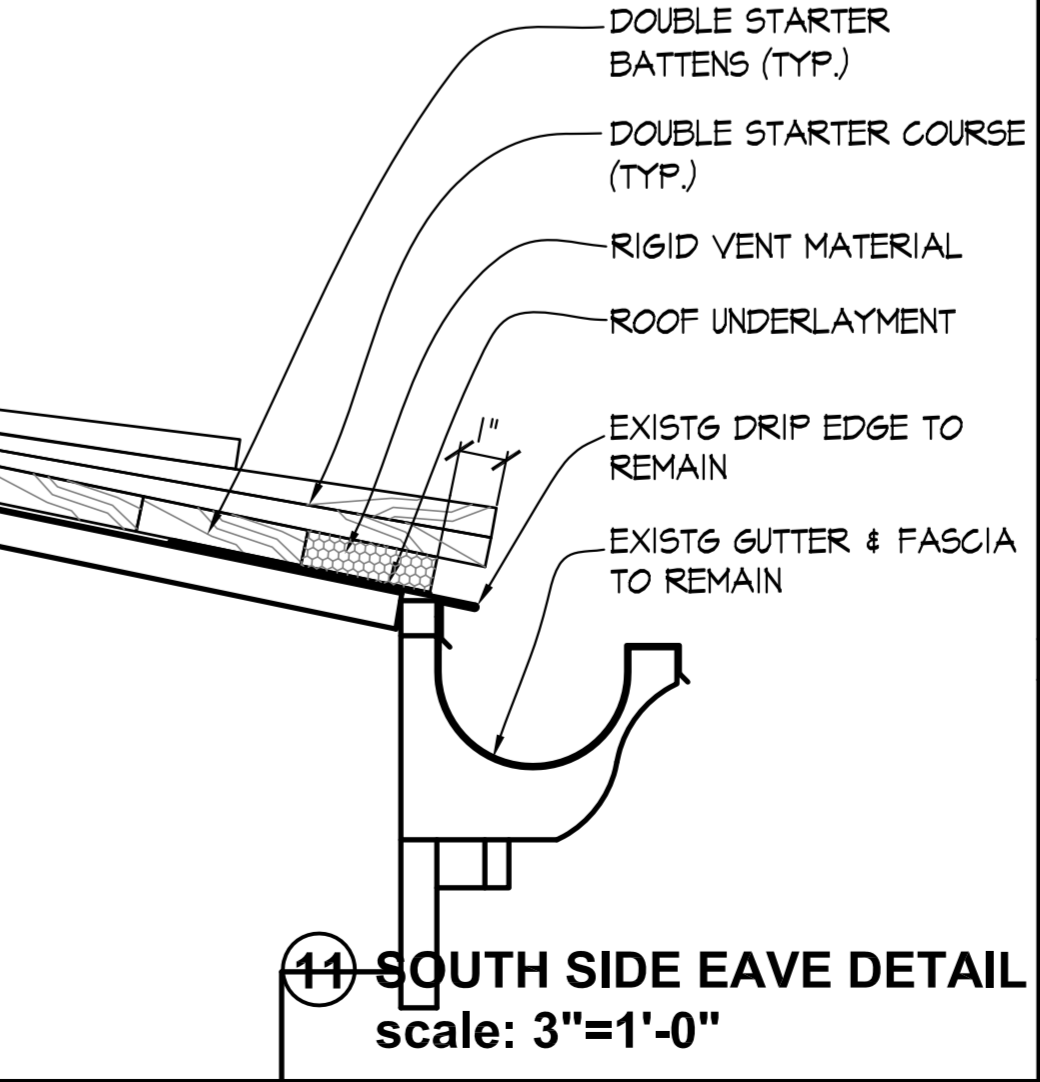
13 DETAIL @ KITCHEN NEW GUTTER
scale: 3"=1'-0"



12 DETAIL @ S. SIDE LCC WALKWAY
scale: 3"=1'-0"



14 SOUTH SIDE EAVE DETAIL
scale: 3"=1'-0"



10 TYPICAL ROOF SYSTEM DETAIL
scale: 3"=1'-0"