

**City of Waltham Massachusetts  
Community Preservation Act  
Historic, Open Space and Recreation  
Funding Application WCPA-1**



**APPLICANT INFORMATION**

Name of Applicant <sup>(1)</sup> City of Waltham

Name of Co-Applicant, if applicable <sup>(1)</sup> \_\_\_\_\_

Contact Name Jeannette A. McCarthy, Mayor

Mailing Address 610 Main St., Waltham, MA 02452

Daytime Phone (i.e. of Proposal Applicant) 781-314-3100

**PROJECT BASICS**

Address of Project (or Assessor's Parcel ID) 100 Robert Treat Paine Dr., Waltham, MA 02452

CPA Category (check all that apply):

☐ Open space

☒ Historic preservation

☐ Open space recreation

☐ Community Housing (You must also complete Application WCPA-2)

CPA Funding Requested \$235,885

Total Cost of Proposed Project \$247,885 (design fees previously appropriated)

**PROJECT DESCRIPTION**

Attach answers to the following questions. Applications will be returned as incomplete if all requested information is not provided. Include supporting materials as necessary.

**GOALS:** What are the goals of the proposed project?

**COMMUNITY NEED:** Why is this project needed? Does it address needs identified in existing City plans?

**COMMUNITY SUPPORT:** What is the nature and level of support for this project? Include letters of support and any petitions.

**TIMELINE:** What is the schedule for project implantation? Include a timeline for all critical items for their

ASSENTED TO:

Page 1

*Jeannette A. McCarthy,*  
Mayor  
3/9/2017

completion.

**CREDENTIALS:** How will the experiences of the Applicant(s) contribute to the success of this project?  
Success Factors: How will the success of this project be measured? Be specific.

**BUDGET:** What is the total budget for this project? How will the CPA funds portion be spent? All items of expenditure must be clearly identified and justified. Detail the hard and soft costs. Identify contingencies.

**OTHER FUNDING:** What additional funding sources are available, committed, or under consideration? Include commitment letters if available. Identify all sources of other funding which have been sought for this project and the status of the requests.

**MAINTENANCE:** If ongoing maintenance is required for your project, how will it be funded? (Note that CPA Funds may not be used for maintenance, but maintenance is an important consideration for all projects.)

## ADDITIONAL INFORMATION

Provide the following additional information, *as applicable*.

**DOCUMENTATION:** Provide written documentation that you have control over the site, such as Purchase and Sale Agreement, option, or deed.

**CONSTRUCTION OR REHABILITATION:** <sup>(2)</sup> For projects with construction or rehabilitation, provide floor plans, elevations including the existing and proposed site plan(s), and any additional drawings or photographs which visually describe the project.

**ZONING:** Provide evidence that the project is in compliance with the current City Zoning Ordinance as Amended, as well as all other laws and regulations. If zoning relief is required, note the parts of the proposal not in compliance with the Zoning Ordinance, and when an application will be made to the Zoning Board of Appeals.

**CITY APPROVALS:** Provide evidence that the appropriate City Boards and Commissions approve of the project (Waltham Historical Commission for Historic, Conservation Commission for Open Space, Park & Recreation Board for Recreation, and Waltham Housing Authority for Community Housing). As an example, a project in a City park would require that the Park & Recreation Board accept the project.

**HAZARDOUS MATERIALS:** Provide evidence that the proposed site is free of hazardous materials or that there is a plan for remediation in place.

**PROFESSIONAL STANDARDS:** Provide evidence that appropriate professional standards will be followed if construction, restoration, or rehabilitation is proposed.

**LEVERAGED ADDITIONAL BENEFITS:** Provide information indicating how this project can be used to achieve additional community benefits.

Notes:

(1) City Property: If the proposal is located on City-owned land, either the Applicant or Co-Applicant must be the City Board, Commission or Department that has custody of the land.

(2) Appraisals: If the requested funds are for a real estate acquisition, an independent appraisal will be required which the Applicant will be required to fund. No funding decisions will be made without an independent appraisal. Additional appraisals may be required for final approval.

**FOR COMMUNITY PRESERVATION COMMITTEE USE ONLY**

Application received on \_\_\_\_\_

Application received by \_\_\_\_\_

Date Project presented to CPC for Submission Acceptance Process \_\_\_\_\_

Was Project accepted for Consideration? \_\_\_\_\_

If accepted for Consideration, Project Public Hearing date \_\_\_\_\_

Following meeting Date for decision to recommend for funding \_\_\_\_\_

Was project recommended for funding to the City Council? \_\_\_\_\_

Was project funded by the City Council? \_\_\_\_\_

If project funded by the City Council, for how much? \_\_\_\_\_

Date funding Contract signed with applicant \_\_\_\_\_

**APPLICATION SUBMISSION REQUIREMENTS**

Proposals for Community Preservation Act funding must be submitted using the City of Waltham's Application forms WCPA-1 and WCPA-2.

If the proposal is exclusively a community housing project, applicants must submit WCPA-2. If the proposal combines community housing with any other funding category, both WCPA-2 and the WCPA-1 must be submitted. Otherwise applicants can submit just WCPA-1.

All information requested on the application forms must be included with the proposal at the time of submission or it will not be accepted for consideration. Applications may not include any handwritten information.

Applications and all supporting documentation must be submitted as hardcopy with eleven (11) copies (including one unbound for reproduction) to the official mailing address as specified in Article VI. If an Application is recommended for funding by the CPC, then an additional 17 copies must be provided for use by the City Council.

Applicants are encouraged to include any maps, diagrams, and/or photographs pertaining to the project. Letters of support for the project from community organizations or other sources may also be submitted.

Applicants will also submit an electronic version of each and every document submitted in their application if available, either on CD or USB flash drive, preferably in Portable Document Format (PDF) or other commonly used file formats (eg. .doc, .docx, .xls, .xlsx, .jpeg).

Applicants should include actual quotes for project costs whenever possible. If not available, estimates may be used, provided the basis of the estimate is fully explained.

Applicants should pursue matching or supplemental funds from state, federal and/or private sources when available.

Applicants should detail who will be responsible for project implementation and management. Their relevant experience should be included in the narrative. Please be sure that project management costs have been included in the overall project budget.

## **Stonehurst, the Robert Treat Paine Estate Emergency Roof Preservation - Construction**

### **GOALS**

The City of Waltham requires immediate funding for the preservation of the most significant building under its stewardship: Stonehurst, the Robert Treat Paine Estate, a National Historic Landmark designed by Henry Hobson Richardson and Frederick Law Olmsted. This project will secure the failing roof at Stonehurst, addressing its most urgent preservation need.

The City is grateful to the Community Preservation Committee for its support in funding the bid documents for this project. Now the City requests additional funding for construction, construction oversight and contingency for unforeseen conditions. The project will result in roof modifications and repairs that will stop active water leaks, prevent further ice and water damage to the interiors, and avert the threat of damage to structural members and collections. By redirecting water and ice from the entrances of Stonehurst, the roof preservation project, when complete, will also improve visitor safety at this popular City-owned site, which is treasured by Waltham residents and revered by architects and preservationists nationwide.

Stonehurst has a complex and inherently problematic roof. The building was constructed in two phases in two completely different styles in 1866 and 1886. The 1886 Shingle-Style portion of the roof (designed by H.H. Richardson) is shallow pitched and wood shingled. It abuts irregular bouldered surfaces, dormers, towers, turrets, as well as a shingle- and lead-coated-copper-clad mansard roof from 1866. With so many vulnerable areas in this complex design, there are many potential paths for ice and water to enter the building.

During the severe weather conditions of the winter of 2015, the main roof installed in 2002 with a federal "Save America's Treasures" grant was put to the test and portions failed. Outside, on the north side, enormous ice dams crept under the wooden roof shingles unprotected by ice and water shield. Inside, ice formed on north-facing windows; water travelled through the ceiling and walls of northern rooms, shorting out historic light fixtures, warping floor boards, loosening plaster ceilings and walls, and peeling painted surfaces.

Furthermore, the roof above the main entrance on the north side, at the juncture of the 1886 and 1866 houses, is overburdened by excessive loads of water fed by the two upper Shingle-Style and mansard roofs. The excessive water in this location is problematic year round, and the six-foot icicles and slick icy walkways that appear here each winter pose serious hazards to our visiting public.

A rubber membrane roof installed over the kitchen ell in the early 1990s failed completely in February 2015. Ceilings in each room within the ell suffered water damage. A fire pull station in this ell, loaded with water, also shorted out, creating a safety hazard. In the summer of 2015, the City hired its contractor to patch holes in the rubber membrane, but the fix is only partial



and temporary. Wooden gutters that are rotten completely through in areas and a balustrade that was constructed and installed economically with inappropriate materials and methods exacerbate water problems on the kitchen ell. Water wicks through the posts of the balustrade into the interiors. The entire balustrade must be removed immediately now that its rails are tumbling off the roof.

With essential funding provided by the CPC, the City has secured the services of a preservation architect to evaluate the existing conditions of the roof, develop recommendations for its repair, and prepare bid documents for construction. The construction project defined in these documents complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and has been reviewed and approved by the Massachusetts Historical Commission (MHC).

This construction project will:

- Reroof the 1886 gable roof with ice and water shield, "breathers," and treated #1 Premium Grade 18" Red Cedar shingles with 5/8" thickness and 5 1/2" exposure to match historic treatment. Reroofing the north side is included in the base bid. Reroofing the south side is Alternate 1.
- Install metal skirting at eaves on 1886 gable roof to help prevent ice dams.
- Replace existing gutters on north side above main entrance to increase gutter capacity and relieve excessive water and ice conditions. Replace canvas roof on the entrance porch.
- Resolder seams in lead-coated copper roofs and gutters.
- Replace entire rubber membrane roof on the kitchen ell. Replace the wooden gutters on the kitchen ell that have completely rotted out. Contingency funding may be needed for repairs to the wall near the roof leak.
- Rebuild the kitchen ell balustrade with secure rails composed of steel encased in wood.
- No work is proposed on the 1866 mansard roof.

See Attachments E & F for Project Plans and Specifications.

## **COMMUNITY NEED**

The preservation, restoration and maintenance of this nationally significant structure owned by the City of Waltham are perpetual and challenging tasks. In order to best approach the numerous and costly physical needs of Stonehurst, a Conservation Assessment Report was prepared in 2000. The preservation of the exterior envelope was identified as the first step in a carefully conceived plan outlined in the Conservation Assessment Report (2000) to stabilize the physical plant, making it safe and accessible to all visitors. Since 2002, \$800,000 in federal, state, municipal and private funds were secured for some of the most urgent roofing, flashing, water management, carpentry and structural needs. However, after over a decade of harsh weather

conditions, this work is aging and the roof is leaking. Once again, exterior preservation—beginning with the roof—ranks at the top of the list of needs for this widely-used and beloved community asset. With Community Preservation Funds appropriated in June 2016, the City has hired a preservation architect to prepare plans and specifications for this project now entering the construction phase.

## **COMMUNITY SUPPORT**

A feature historical attraction of Waltham, Stonehurst is unusual in that it is a nationally significant resource and yet it is municipally-owned and community-based. In September 2000, the City of Waltham's Stonehurst provided an appropriately picturesque setting for the signing of the Community Preservation Act, "one of the most important pieces of environmental legislation in the Commonwealth's history." Stonehurst was chosen above all properties in Massachusetts as a fitting symbol embodying the three goals of the act: historic preservation, affordable housing and open space. The Waltham estate was featured nationwide in episodes of the popular PBS television show, *This Old House*, and in the *Ghostbusters III* movie. There are currently about 24,000 annual visitors, who range from trail hikers and private event guests to scholars, architects, students and history lovers. People can become more involved through the non-profit Robert Treat Paine Historical Trust (DBA Friends of Stonehurst).

Community and organizational leaders developed the Five-Year Strategic Plan for all operations of this property. To fulfill its mission "to ensure that diverse audiences enjoy, appreciate, and draw inspiration from Stonehurst and the legacy of those who created and lived in it," the property is regularly open to the public, and is rented out as a popular event venue for weddings, memorial services, civic banquets, and local non-profit community events. Information panels, guidebooks, and pamphlets are available to all visitors, enhancing their experience regardless of their reason for visiting. Furthermore, because the property is municipally-owned, Stonehurst's relationship to the public school system is unusually close. Every third-grade student in the Waltham Public School System visits the site for a fun and educational field trip that connects to both science and history concepts learned in the classroom. Over 16 years, this program has reached thousands of Waltham students and families. Teachers and students have described it as the best of all Waltham elementary school field trips.

*See Attachment A for Evidence of Community Support and City Approvals.*

## **TIMELINE**

The goal of this timeline is to prevent any new damage from ice dams and therefore complete construction by the fall of 2017. Prompt approval of funding will ensure that the project is completed according to this strict schedule.

Jan 2017	Final design complete
Feb 21, 2017	Bid opening for construction documents, from which Project Budget is based
Mar – early Apr 2017	CPC and City Council review of grant application
Apr 15, 2017	Funding secured for construction
May 15, 2017	Notice to Proceed released
Oct 31, 2017	Project completion

## CREDENTIALS

The responsibilities for the property cross City of Waltham departments—from the Building Department, to the Stonehurst staff within the Planning Department, to the Historical and Conservation Commissions. Each group brings its experience and expertise to the project. The Superintendent of Public Buildings will work with the Director of Building Maintenance, Curator of Stonehurst and Waltham Historical Commission to ensure the project's success.

Following the public procurement process, the City of Waltham hired Karle Packard, AIA, the firm principal of Red Hawk Studio Architects, Inc. with over 35 years of experience focusing on historic renovation and adaptive reuse to design and oversee the project.

Packard has carefully written bidding documents to ensure that the bidders are qualified and experienced in the preservation of wood-shingled roofs of historic properties. His bid documents and construction oversight will ensure the quality of workmanship and materials and compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

After careful reference checks by Packard, the City of Waltham has awarded the bid to Almar LLC, a construction firm which has done a number of successful historic wood shingle roofing projects. According to Packard's bidder evaluation provided to the City on Feb 28, 2017, "These include structures at the Vanderbilt Estate in Hyde Park NY, the Visitor Center at the Saugus Iron Works and the Noah Brooks Tavern in the Minuteman National Historic Park for the National Park Service, and the Rocky Hill Meeting House in Amesbury and Beauport, the Sleeper-McCann House in Gloucester for Historic New England, as well as the Colonel James Barrett farmhouse in Concord for Save Our Heritage. All references were quite complementary, several having returned to the contractor for multiple projects. The contractor 'took pride in their work,' completed project 'on scope and within budget,' and 'corrected unforeseen developments.'"

The project will be successful if it: 1) prevents further roof leaks; and 2) meets preservation standards. In the long term, the project will be successful if annual maintenance is appropriately funded and administered, protecting and sustaining this substantial investment of tax dollars.

*See Attachment B. Credentials.*

## **BUDGET**

### **Stonehurst, the Robert Treat Paine Estate Roof Preservation – Design and Construction**

	<b>Previous CPC Funds</b>	<b>Current CPC Request</b>	<b>Total</b>
Design services bid Red Hawk Studio Architects, Inc. Design Construction oversight	\$12,000	\$ 12,000*	
Construction bid Almar, LLC		\$ 213,223*	
5% Contingency		\$ 10,662	
<b>Total</b>	<b>\$12,000</b>	<b>\$235,885</b>	<b>\$247,885</b>

*\*Please see Bid Forms, on pages 7 and 8.*

**BID PRICE FORM**  
**2 ENVELOPE - BID. PLACE THIS COMPLETED FORM IN A SEPARATE SEALED ENVELOPE**

**Paine Estate Roof Repairs and Replacement, DESIGN**

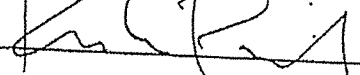
My Company proposes the following all inclusive and not-to-exceed price to provide the services described within this bid document.

**BASE Price**

- |   |                  |
|---|------------------|
| 1. <u>OPTIONAL</u> CONSTRUCTION ADM. (16 hrs. per wk. For 6 wks.) | \$ <u>12,000</u> |
| 2. <u>OPTIONAL</u> CONSTRUCTION ADM. (12 hrs. per wk. For 6 wks.) | \$ <u>12,000</u> |
|   | \$ <u>9,000</u>  |

My company recognizes receipt of addenda # None \_\_\_\_\_

Company Name: Red Hawk Studio Architects, Inc.

Authorized Signature: 

Print Name: Karle Packard

E-Mail Address: kpackard@redhawkstudio.com

Date: Feb. 24, 2016



# FORM OF GENERAL BID (REVISED)

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 Contract Documents 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) 1,2,3.

C. The proposed contract price is:

ONE HUNDRED SEVENTY SEVEN THOUSAND FIFTY NINE dollars \$ 177,059  
(Bid Amount in Words) (Bid Amount In Numbers)

For Alternate No. 1 Add \$ 36,164; Subtract 0.

D. Schedule Of Unit Prices:

Section	Description	Unit	Unit Price
06100	Rough Carpentry	Replace Roof sheathing	4 sq.ft. \$ 35 -
06200	Finish Carpentry	Replacement of Deteriorated gutter	4 lin. ft. \$ 200 -
		Replacement of Deteriorated wood fascia or soffit	4 lin. ft. \$ 100 -
07620	Sheet Metal Flashing and Trim	Replacement of Deteriorated Flashings	4 lin. ft. x 18 in. \$ 200 -
		Replacement of Deteriorated Gutter Linings	4 lin. ft. \$ 200 -
		Solder joints in LCC Roofing	1 lin. ft. \$ 50 -

STONEHURST, THE ROBERT TREAT PAINE ESTATE  
ROOF PRESERVATION

## **OTHER FUNDING**

The City has received \$12,000 from the Waltham CPC for design services for this project plus \$19,850 from the Massachusetts Interlocal Insurance Association (MIIA) for damage to the interiors caused by roof leaks in February 2015. The MIIA funds have been received and are in the City of Waltham's Building Insurance Recovery revolving fund. Because the roof itself was not damaged by the storm, insurance funding is not available for the preservation of the roof. Interior repairs will begin after the roof preservation is complete and the roof is watertight.

In addition, the City of Waltham has submitted an application to the Massachusetts Cultural Facilities Fund to help finance the next phase of exterior preservation. Grant awards will be announced in June 2017.

## **MAINTENANCE**

The City of Waltham Building Department has a maintenance budget for all City buildings, including Stonehurst. The daily operation of Stonehurst is overseen by the Planning Department of the City of Waltham.

## **ADDITIONAL INFORMATION:**

### **DOCUMENTATION**

*Provide written documentation that you have control over the site, such as Purchase and Sale Agreement, option, or deed.*

*See Attachment C.*

### **CONSTRUCTION OR REHABILITATION**

*<sup>(2)</sup> For projects with construction or rehabilitation, provide floor plans, elevations including the existing and proposed site plan(s), and any additional drawings or photographs which visually describe the project.*

Please see the following attachments:

*Attachment E. Project Location and Photos*

*Attachment F. Project Plans*

*Attachment G. Project Specifications*

## **ZONING**

*Provide evidence that the project is in compliance with the current City Zoning Ordinance as Amended, as well as all other laws and regulations. If zoning relief is required, note the parts of the proposal not in compliance with the Zoning Ordinance, and when an application will be made to the Zoning Board of Appeals.*

See Attachment D

## **CITY APPROVALS**

*Provide evidence that the appropriate City Boards and Commissions approve of the project. As an example, a project in a City park would require that the Recreation Board accept the project.*

The City of Waltham Historical Commission and Building Department that oversee the property agree that this project is a top priority.

See Attachment A

## **HAZARDOUS MATERIALS**

*Provide evidence that the proposed site is free of hazardous materials or that there is a plan for remediation in place.*

Stonehurst and the surrounding Storer Conservation Lands were a privately-owned seasonal country estate for residential and agricultural use until 1974 when the property was donated to the City of Waltham. There has been no commercial use of the property at any time in its long and well-documented history. When Stonehurst was constructed in 1886, many hazardous materials did not exist. In 2000, the building was tested for asbestos and none was found. In 2013, a small amount of asbestos was found by a furnace and beneath modern floor tiles and was removed.

## **PROFESSIONAL STANDARDS**

*Provide evidence that appropriate professional standards will be followed if construction, restoration, or rehabilitation is proposed.*

The Massachusetts Historical Commission holds preservation restrictions on this National Historic Landmark property, requiring their review and approval of all major projects. In accordance with these restrictions, the roof preservation project must comply with accepted preservation practice and the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, using appropriate traditional materials and technologies through repair or in kind replacement of historic building fabric. Bid documents that were carefully prepared by the preservation architect Red Hawk Studio Architects, Inc., and reviewed and approved by the

Massachusetts Historical Commission, are designed to ensure that contractors are qualified to perform the work and that these standards are met. This application to the CPC includes funding for the preservation architect to oversee construction, providing the final essential safeguard for meeting professional standards.

*See Attachment A for Massachusetts Historical Commission approval of this project and Attachment B for preservation restrictions recorded in the Middlesex Country Registry of Deeds.*

### **LEVERAGED ADDITIONAL BENEFITS**

*Provide information indicating how this project can be used to achieve additional community benefits.*

Please see "Community Support" above which describes a myriad of community benefits ranging from school programs for local children that are fun, popular, educational, and inspiring to regional and national exposure for the City of Waltham as a steward of a National Historic Landmark in need of additional support. The City's preservation project will take emergency measures to protect the interiors from the elements, demonstrating its continued commitment to the care of this nationally significant property under its stewardship.

CPC support is being used to leverage state funding for the preservation and enhancement of the property. The City has applied to the Massachusetts Cultural Facilities Fund for assistance in funding other pressing exterior preservation needs and enhancements to the drive, walkway, exterior lighting, and visitor entrances.

## **Attachments**

Attachment A.	Evidence of Community Support and City Approvals
Attachment B.	Credentials
Attachment C.	Deed
Attachment D.	Evidence of Zoning Compliance
Attachment E.	Project Location and Photographs
Attachment F.	Project Plans
Attachment G.	Project Specifications

**Attachment A**  
**Evidence of Community Support and City Approvals**

A1	Massachusetts Historical Commission Letter
A2-A3	Waltham Historical Commission letter
A4	City Council and CPC approval for design services relating to this project
A5-A6	"Preserving Our Community: Waltham Hosts Historic Signing of Community Preservation Act," <i>Waltham News Tribune</i> , September 15, 2000





**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

November 3, 2016

Ann Clifford, Curator  
Stonehurst, Robert Treat Paine Estate  
100 Robert Treat Paine Drive  
Waltham, MA 02452

RE: Robert Treat Paine Estate, 100 Robert Treat Paine Drive, Waltham, MA  
Preservation Restriction Review (M.G.L. Ch. 184, ss.31-33)

Dear Ann:

Thank you for submitting the information describing the proposed exterior repairs to the Robert Treat Paine Estate in Waltham. The Robert Treat Paine Estate is listed in the State and National Registers of Historic Places and is also designated as a National Historic Landmark. The Massachusetts Historical Commission holds an active preservation restriction agreement on the Robert Treat Paine Estate as a result of grant funding received.

MHC staff has reviewed the construction documents prepared by Red Hawk Studio Architects of Concord, MA, and dated September 16, 2016. It is understood that the project will address exterior repairs to the Paine House. Specifically, this project will address replacement of the existing wood shingle roofing at the 1866 Richardson Wing (east wing), replacement of the existing membrane roofing and balustrade at the Kitchen Wing (northwest wing) as well as several other minor repairs and replacements. After review of the submitted proposal, the MHC is agreeable to the scope of the project as presented.

These comments are provided to assist in compliance with M.G.L. Chapter 184, ss. 31-33 and the terms of the preservation restriction agreement.

Please notify this office of any substantial project changes. Thank you for your cooperation.

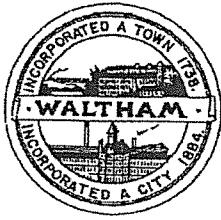
Sincerely,

A handwritten signature in cursive script that reads "Paul Holtz".

Paul Holtz  
Historical Architect  
Co-Director Grants Division  
Massachusetts Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125  
(617) 727-8470 • Fax: (617) 727-5128  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)

Attachment A-1



## Waltham Historical Commission

610 Main Street  
Waltham, MA 02452

March 2, 2017

Ms. Diana Young, Chairperson  
Waltham Community Preservation Committee  
119 School St.  
Waltham, MA 02451

Dear Ms. Young,

The Waltham Historical Commission (WHC) supports and approves of the project to repair and secure the roof of Stonehurst, the Robert Treat Paine Estate. At its meeting on February 13, 2017, the WHC voted in favor of replacing both the north and south sides of the Richardson-designed roof, since replacing the entire roof is not only prudent, but cost effective and necessary.

As the City witnessed in the winter of 2015, the complex and historically detailed roof is quite vulnerable in extreme weather conditions. Leaks in the roof have resulted in thousands of dollars in damage to the interior of the building. The City performed temporary repairs; however, the roof needs much more substantial repairs than the City staff can provide.

The WHC acknowledges that this project and any applications that are presented to your Committee may undergo modifications at some stage throughout the project including adjustments to the cost or scope of work. For this reason the WHC has not approved of the application in a particular form, but more broadly approves of the project and the use of this letter as a required City Approval as described in the CPC Application Form.

It is the understanding of the WHC that this project will have multiple sources of oversight. The Massachusetts Historical Commission has reviewed and approved draft plans and specifications for the project as required by the preservation restriction for this property. While the restoration is underway, and after it is completed, the Waltham Building Department will be providing oversight. Each month the Curator of Stonehurst provides a report to the WHC and during these reports the WHC will also inquire as to the status of the project.

The WHC requests that your Committee provide the funding necessary in order to protect this National Historic Landmark structure and the safety of its visitors.

Sincerely,

A handwritten signature in cursive script that reads "Clarence Darrow Richardson, Jr.".

Clarence Darrow Richardson, Jr., Chair  
On behalf of the Waltham Historical Commission



**CITY OF WALTHAM  
IN THE CITY COUNCIL**

610 Main Street      Waltham Massachusetts 02452

**Order #33464**

**Ordered:**

That the City Council approves the appropriation for \$12,000 for the historic preservation of the roof at the Paine Estate.

Read & Adopted: June 13, 2016



# Preserving our community



STAFF PHOTO BY SHAWN McHUGH  
Gov. Paul Cellucci signing the Community Preservation Act in Waltham, Mass.

By Patrick Golden and David B. Caruso  
CNC STAFF WRITERS

## Waltham hosts historic signing of Community Preservation Act

**W**ALTHAM — Amid the sprawling Robert Treat Paine Estate, Gov. Paul Cellucci yesterday signed into law the Community Preservation Act, which supporters say will help preserve historic places, protect undeveloped land and build more affordable housing, but only with local support.

"The reports of the death of the Community Preservation Act were greatly exaggerated," said Cellucci, twisting an old Mark Twain quote.

The bill had been in works since the early 1990s, and weathered a series of changes before being put to ink.

Modeled after the Cape Cod Land Bank, the Community Preservation Act allows cities and towns to raise local property taxes up to 3 percent to fund land conservation, historic preservation and develop affordable housing. The legislation also calls for the state to kick in matching amounts.

But voters have the final say in determining whether their cities and towns will take part. Town meetings or city councils must agree to put the property tax surcharge on the ballot.

PRESERVATION, Page A7



## FROM THE FRONT PAGE

## Community Preservation

PRESERVATION, From A1

oters must approve it by a simple majority.

Cellucci told state and local officials yesterday he is ready to kick in \$225 million in state money to help with a matching funds program. The bill calls for using new fees on filings the registry of deeds to pay for the matching funds program.

A \$10 to \$20 hike in fees at the registry of deeds could raise at least \$26 million a year in state matching funds that would then be passed on to communities.

Bob Durand, secretary of environmental affairs, said he plans to aggressively recruit communities to participate, while providing help to use towns that need advice on zoning strategies for preserving land.

Communities would be required to spend at least 30 percent of the money received equally on land preservation, historic preservation and affordable housing. The remaining 70 percent can be used as they choose.

"We're talking about preserving our history and our culture. We're talking about preserving open space," said Cellucci.

Several of the officials who spoke yesterday's bill signing ceremony turned it is up to each city and town to make the law work.

Proponents say the law would help

communities protect themselves from building by allowing them the cash to buy land.

"It will provide a powerful new weapon to protect our community from urban sprawl and uncontrolled growth," said Whitney Hatch, regional director for the Trust for Public Land. Hatch said the state loses 44 acres to development each day.

Real estate agents on hand also commended the legislation, calling it a step forward in providing more homes for low- to moderate-income people.

"That's money subsidizing rents, and building affordable units," said Fred Meyer, president of the Massachusetts Association of Realtors.

The question now is how many towns might eventually participate in a program that would require them to raise their own taxes.

In recent years there has been an appetite for more town spending on land preservation projects, even in towns traditionally known for a less-is-more approach to town government.

In Waltham, city officials have started an effort to buy undeveloped land using a portion of its hotel tax money. Officials want to use the money, which could start at as much as \$250,000 annually, to pay off the debt of money borrowed to purchase land.

"I think this is an excellent way to

write legislation to let the voters decide," said Waltham City Councilor Michael Squillante of the Community Preservation Act.

Voters in Stow, a town still laced with winding waterways and hilly forests, passed a \$3 million property tax override in 1998 with the goal of protecting 240 acres of undeveloped woods and fields.

The tax hike passed with a whopping 80 percent of the vote, a victory the town's state senator, Pam Resor, said is evidence of strong community support for preservation efforts.

"I think they see some rapid development on the horizon here, and I suspect they know that they need to implement programs of this type and protect what they have while they have the chance," Resor said.

Other towns have followed suit.

Northborough put \$200,000 into a conservation fund and set up a commission to begin looking at land that might qualify for protection. Hopkinton has been setting aside \$350,000 a year for the past three years, running up a preservation war chest of \$1 million. Shrewsbury voters shelled out \$5 million to buy 18 undeveloped properties and protect around 270 acres. Westborough put \$1 million into its land bank.

The interest in protecting open space has been spurred on by the creeping advance of suburban



STAFF PHOTO BY SHANNON McHUGH-POWER

Environmental Secretary Robert Durand addresses a crowd at Waltham's Robert Treat Paine Estate yesterday after the signing of the Community Preservation Act.

sprawl into the orchards and old farms of the Assabet and Blackstone valleys.

In Hopkinton alone nearly 2,337 homes have been built since 1990, at a pace that has quickened recently to more than 300 new residences a year.

Yet, as a number of small towns have plunged into land planning with renewed vigor, they have run into a number of obstacles, some of which are bound to continue under the Community Preservation Act.



**Attachment B**  
**Credentials**

- B1 Qualifications Statement. Red Hawk Studio Architects
- B2 Resume, Karle S. Packard, AIA
- B3-B4 Bidder Evaluation, Karle S. Packard, AIA to City of Waltham, Feb 28, 2017

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Stonehurst, The Robert Treat Paine Estate  
Roof Preservation – Construction

Application to the Waltham Community Preservation Committee, March 2017

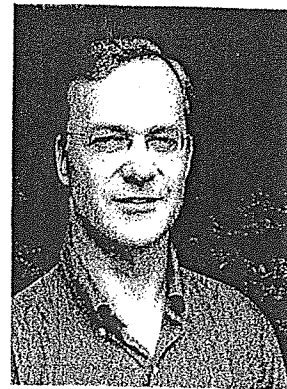
## **RED HAWK STUDIO ARCHITECTS AND OUR TEAM**

**Red Hawk Studio Architects, Inc.**, located on the historic Milldam in Concord, Massachusetts, was founded in 1995 with the goal of providing a flexible approach to problem solving that results in an imaginative and appropriate response to our clients' needs, context, and budget. In this time we have worked on over 75 projects for private sector and public sector clients ranging from individual home additions to multi-family housing and commercial office projects at the scale of \$ 2 million. It is important to note that a project which may be considered minor by a large to medium sized firm, will be a major project in this office and will receive our full attention.

The person working directly on your project will be the firm principal, a senior architect with more than 35 years of experience, Karle Packard, AIA. Historic renovation and adaptive use make up a substantial portion of this experience. Mr. Packard will be the Team Project Manager for all phases of the project. Notable among his recent preservation projects are the 1835 Old Schoolhouse No. 1 in Royalston, 1863 Second Empire style Joseph Simes House in Plymouth, the 1707 Faulkner Homestead and Grounds in Acton, the 1880's Winchester Cemetery Headquarters, the 1903 Oren Sanborn Estate in Winchester, renovations and modifications of three 19<sup>th</sup> century schoolhouse buildings for the Danvers Housing Authority, the 1930 chapel at Valley Cemetery (Manchester, New Hampshire), and several 18<sup>th</sup> and 19<sup>th</sup> century residences, including the home of abolitionist Franklin B. Sanborn in Concord. While an employee of a previous firm he was Project Manager for renovations to the 1894 Tremont Temple and 1896 Brazer Building (both in Boston, Massachusetts), renovations and adaptive use of the Warren School in Newton, which won an MHC Preservation Award, the renovation of the 1910 Probate and Family Courthouse in New Bedford, and the Renovations of the 1931 Newton Police Headquarters. While an employee of the Commonwealth of Massachusetts he was responsible for managing the Historic Structures Report and planning for major renovations to the State House.

**Red Hawk Studio Architects, Inc.** and the other member of our team, **D.G. Jones International, LLC**. (cost consultants), will bring a customized approach and experienced staff to the project.

**D.G. Jones International, LLC** has collaborated with us before on projects such as the Old Schoolhouse No. 1 in Royalston, the Long Store in Littleton, the Simes House in Plymouth, the Faulkner Homestead in Acton, and the Sanborn House and estate in Winchester.



**Principal**  
**Red Hawk Studio Architects, Inc.**  
**Concord, Massachusetts**  
**(1995 to present)**

**Adjunct Instructor in Architecture**  
**Massasoit Community College**  
**Canton, Massachusetts**  
**(2004 to 2005)**

**Associate and Project Manager**  
**Finegold Alexander + Associates, Inc.**  
**(formerly Notter Finegold & Alexander, Inc.)**  
**Boston, Massachusetts**  
**(1985 to 1996)**

**Chief Architect and Study Manager**  
**Office of Programming**  
**Division of Capital Planning and Operations (now DCAM)**  
**Commonwealth of Massachusetts**  
**(1982 to 1984)**

**Mr. Packard has also worked for the following architectural firms and organizations:**

**Archetype, Boston, Ma.**  
**Architectural Resources Cambridge, Cambridge, Ma.**  
**T. Owen Trainor & Associates, Quincy, MA**  
**Davies Bibbins Menders, Architects, Cambridge, Ma.**  
**Charles C. Zehnder, Designer, South Wellfleet, Ma.**  
**Architecture Six, Lake Charles, Louisiana**  
**V.I.S.T.A., staff architect at the North Lake Charles Help Center**  
**American School for Classical Studies, excavation architect at Corinth, Greece**

#### **EDUCATION**

**Harvard University, Master of Architecture in Urban Design**  
**Pratt Institute, Bachelor of Architecture**  
**Columbia College, Bachelor of Arts (Art History major)**

#### **PROFESSIONAL REGISTRATION**

**Registered Architect - Massachusetts and New Hampshire**  
**National Certificate - National Council of Architectural Registration Boards (NCARB)**  
**Licensed Construction Supervisor - Massachusetts**

#### **AWARDS, PROFESSIONAL SOCIETIES, AND CIVIC ACTIVITIES**

**Vietnam Veterans Memorial Competition, entry received Meritorious Design recognition**  
**The Harvard Architecture Review, Issue Four, staff editor**  
**The American Institute of Architects, Boston Society of Architects, and Society of Architectural Historians, member**  
**The Concord Planning Board, Concord, Massachusetts, member (1993 to 1998), Chairman (1996-1997)**  
**HATS Four Town Planning Group, Chair (1997-1999)**  
**Concord Comprehensive Long Range Plan Committee, Concord, Massachusetts, Vice Chairman (2001-2005)**  
**Historic Districts Commission, Concord, Massachusetts, (2003-2010), Chair (2008)**  
**Finance Committee, Concord, Massachusetts (2014-present)**



RED HAWK STUDIO  
ARCHITECTS, INC.

18 Main Street  
Concord  
Massachusetts  
01742

978 369 2340 ph  
978 369 2101 fx

February 28, 2017

City of Waltham  
610 Main Street  
Waltham, MA 02452-5580

Attn: Mr. Joseph P. Pedulla  
Chief Procurement Officer

Re: Stonehurst, the Robert Treat Paine Estate  
Roof Preservation Project  
Bidder Evaluation

Dear Mr. Pedulla:

I have reviewed the qualifications of the low-bidder on this project, MDM Engineering Co., Inc., and contacted several references. The references include work on historic buildings at the Stevens Estate (Osgood Hill) in North Andover, The (Weld) Anderson Carriage House at the Larz Anderson Automobile Museum in Brookline, and the Middleboro Memorial Early Childhood Center, as well as non-historic buildings at the Pioneer Valley Transit Authority facility in Northampton and the Mosier Elementary School in South Hadley.

The references were not uncomplimentary, however there were consistent issues mentioned about paperwork management and adherence to schedule. At the Stevens Estate there was a problem regarding damage to a component of the historic building, which was repaired, but not entirely satisfactorily. In 2011 there was a complaint with the Mass. Attorney General about improper practices in fulfilling prevailing wage requirements which was settled with payment of restitution and penalties.

The main issue is that, except for one residential project over twenty years ago, MDM has provided very little evidence of experience installing wood shingle roofing. In light of the untimely failure of the existing roof at Stonehurst and the evidence of poor installation workmanship and practices, we have tried to make sure that the contractor on the current project will be capable of fulfilling the relatively sensitive requirements for application of wood shingles, so that the installation will be eligible for the specified 40 year warranty. The Technical Specifications and the Instructions for Bidders for the project require that the contractor provide documentation of their experience in wood shingle roofing with the bid (6 years and/or 4 projects). MDM has not complied with this requirement.

Stonehurst  
Bidder Evaluation  
February 28, 2017  
page 2

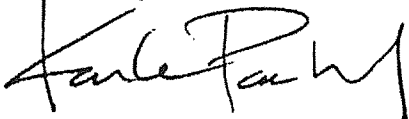
The second lowest bidder, Almar, LLC (formerly known as Custom Copper & Slate), has done a number of historic wood shingle roofing projects. These include structures at the Vanderbilt Estate in Hyde Park NY, the Visitor Center at the Saugus Iron Works, and the Noah Brooks Tavern in the Minuteman National Historic Park for the National Park Service, and the Rocky Hill Meeting House in Amesbury and Beauport, the Sleeper-McCann House in Gloucester for Historic New England, as well as the Colonel James Barrett farmhouse in Concord for Save Our Heritage. All references were quite complimentary, several having returned to the contractor for multiple projects. The contractor "took pride in their work", completed project "on scope and within budget", and "corrected unforeseen developments".

At one point, in 2008, as Custom Copper & Slate, they were cited for OSHA violations and reached a settlement agreement, paying a small fine. Almar's bid for the total project (base bid plus alternate #1) was only \$7,223 above lowest bid price.

The third lowest bidder, Meadows Construction Co., LLC, also had no record of experience with wood shingle roofing. According the reference contacted, their work on the slate roofs at the historic town halls in Tewksbury and Tyngsboro went well.

The longevity of a wood shingle roof, while dependant to some extent on design and materials, depends more on skilled workmanship than other types of roofing, including slate. The results of poor installation can be seen in the condition of the roof at Stonehurst today, less than 15 years after it was installed. Almar LLC is the only bidder of the lowest three with documented experience in wood shingle roofing. The choice is between a contractor who is not really qualified to do this type of work and one who is highly qualified and at a minimal difference in price. In the interests of the City of Waltham, I recommend that the contract be awarded to Almar LLC, as the lowest responsible and eligible bidder meeting the requirements of the bid documents.

Sincerely,



Karle Packard, AIA  
Red Hawk Studio Architects, Inc.

**Attachment C**  
**Deeds**

CI – CI4      Deeds

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Stonehurst, The Robert Treat Paine Estate  
Roof Preservation – Construction

Application to the Waltham Community Preservation Committee, March 2017





# CITY OF WALTHAM

MASSACHUSETTS

ROBERT J. BROPHY  
CITY SOLICITOR

LAW DEPARTMENT

ASSISTANT CITY SOLICITORS

JOHN B. CERVONE  
ROBERT F. PILICY  
PATRICIA A. AZADI  
PATRICIA HARRIS-BANNAN  
JEANNETTE AMANDA MCCARTHY

## Memorandum

To: Waltham Historical Commission

From: Patricia Harris Bannan,  
Assistant City Solicitor

Re: Property owned by the City of Waltham, described in Deed, dated October 31, 1974, recorded at Middlesex South District Registry of Deeds at Book 12720, Page 259, commonly known as the Robert Treat Paine House (hereafter the "Property")

Dated: October 15, 1998

I write in response to a request for a legal opinion, dated October 1, 1998, concerning the ability of the City of Waltham to grant to the Massachusetts Historical Commission a preservation restriction on the Property consistent with the purposes of G.L.c. 184, § 32. A copy of the proposed preservation restriction was forwarded with your request and is attached, as Exhibit A.

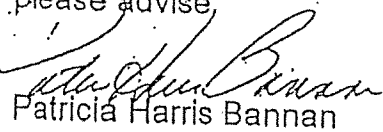
It is the opinion of the Law Department that the City of Waltham is the sole owner in fee simple of the Property. The Property is currently restricted by the following:

1. The terms of the covenants and restrictions contained in the above-referenced deed. A copy of said deed is attached, as Exhibit B; and
2. A Preservation Restriction Agreement, dated December 12, 1986, by and between the Massachusetts Historical Commission and the City of Waltham, hereafter the "December 12, 1986 Agreement". A copy of the December 12, 1986 Agreement is attached, as Exhibit C.

It is the opinion of the Law Department that the proposed preservation restriction is substantially the same as the December 12, 1986 Agreement, and that proposed preservation restriction can be recorded at the Registry of Deeds and will not be subordinate to any other restrictions affecting the Property.

Attachment C-1

This opinion does not address the content of the proposed preservation restriction relative to the rights and obligations of the City of Waltham resulting from a grant of the same. If you have any questions concerning the same, please advise.

  
Patricia Harris Bannan

C:278/1998

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115-

OCT 31-74 PM 2:55 329E\*\*

I, THEODORE L. STORER, of Cambridge, County of Middlesex, Commonwealth of Massachusetts, in full consideration of One Dollar and other valuable consideration, grant to the City of Waltham, a municipal corporation organized according to the laws of the Commonwealth of Massachusetts, all my right, title, and interest in three certain parcels of land situated in said Waltham, County of Middlesex, Commonwealth of Massachusetts, bounded and described as follows:

Parcel A

Beginning at a point of tangency in the northerly line of Beaver Street as relocated by the County Commissioners in 1955; thence running north 61° 42' 30" west 371 feet to a stone wall; thence turning and running in a general northeasterly direction along said stone wall and along the property of Thomas J. and Ellen Howley 1771 feet to a point on said wall; thence running in a general northeasterly direction along said stone wall and along the property of the New Church Institute of Education 103.87 feet to a drill hole in said wall; thence running in a general northeasterly direction along said stone wall and along the property of the New Church Institute of Education 234.97 feet to a drill hole in said wall; thence running in a general northeasterly direction along said stone wall and along the property of Theodore L. Storer 103.87 feet to a drill hole in said wall; thence running in a general northeasterly direction along said stone wall and along the property of Emily L. Storer, et al. 1209.461 feet to a corner in said wall; thence turning and running in a general southeasterly direction along said stone wall and along the property of Theodore L. Storer 280.01 feet to an angle in said wall; thence running in a general southeasterly direction along said stone wall and along the property of Theodore L. Storer 125.01 feet to an angle in said wall at the intersection of another stone wall at the northwest corner of Parcel B, as described below; thence running south 49° 20' 48" east 373.97 feet along said stone wall and along the southwesterly side of Parcel B to an angle in said wall; thence running south 49° 04' 12" east 107.06 feet along said stone wall and along the southwesterly side of Parcel B to

an angle in said wall at the intersection of another stone wall at the southwest corner of Parcel B, as described below; thence running south 49° 02' 10" east 177.98 feet along said stone wall and along the property of Raymond and Arthur DeVincent to an angle in said wall; thence running south 51° 48' 20" east 152.24 feet along said stone wall and along the property of Raymond and Arthur DeVincent to an angle in said wall; thence running south 22° 20' 10" east 64.41 feet along said stone wall and along the property of Raymond and Arthur DeVincent to an angle in said wall; thence running south 31° 06' 20" east 128.05 feet along said stone wall and along the property of Raymond and Arthur DeVincent and along the property of Paul K. and Mary B. Connolly to an angle in said wall; thence running south 40° 00' 40" east 175.07 feet along said stone wall and along the property of Paul K. and Mary B. Connolly to a corner in said wall; thence turning and running south 33° 57' 30" west 68.05 feet along said stone wall and along the property of Helen F. Rufo to an angle in said wall; thence running south 29° 13' 20" west 61.84 feet along said stone wall and along the property of Helen F. Rufo to an angle in said wall; thence running south 20° 38' 00" west 71.43 feet along said stone wall and along the property of Helen F. Rufo to an angle in said wall; thence running south 30° 07' 50" west 74.74 feet along said stone wall and along the property of Helen F. Rufo to an angle in said wall; thence running south 16° 30' 00" west 93.69 feet along said stone wall and along the property of Helen F. Rufo to an angle in said wall; thence running south 31° 43' 50" west 59.67 feet along said stone wall and along the property of Waltham Management Corp. to an angle in said wall; thence running south 37° 12' 40" west 144.26 feet along said stone wall and along the property of Waltham Management Corp. to an angle in said wall; thence running south 28° 41' 10" west 26.23 feet along said stone wall and along the property of Waltham Management Corp. to an angle in said wall; thence running south 19° 55' 40" west 222.11 feet along said stone wall and along the properties of Waltham Management Corp., Charles and Ruth Namiot, Joseph J. and Marjorie Ferro, and Joseph P. and Lena M. Rigoli to an angle in said wall; thence running south 15° 43' 30" west 197.49 feet along said stone wall and along the property of Joseph P. and Lena M. Rigoli to an angle in said wall; thence running south 20° 43' 40" west 311.26 feet along said stone wall and along the property of Joseph P. and Lena M. Rigoli to a corner in said wall; thence turning and running north 60° 54' 10" east 22.58 feet along said wall and along the property of Joseph P. and Lena M. Rigoli to an angle in said wall; thence running north 57° 01' 20" east 10.10 feet along said stone wall and along the property of Joseph P. and Lena M. Rigoli to the westerly line of Forest Street as relocated by the County Commissioners in January 1966; thence turning and running south

31° 45' 02" west 85.51 feet along said westerly line of Forest Street to a point of curvature; thence running in a general southwesterly direction by a curve to the right with a radius of 100.00 feet 92.36 feet to a point of reverse curvature on the westerly line of Beaver Street as relocated by the County Commissioners in 1956; thence running in a general southwesterly direction by a curve to the left with a radius of 1030.00 feet 272.19 feet along the westerly line of said Beaver Street to a point on the property line between the land of Leo and Mary T. Gallitano and the parcel being described; thence turning and running north 47° 30' 24" west 123.74 feet along the property of Leo and Mary T. Gallitano to a point of curvature; thence running in a general northwesterly direction by a curve to the right with a radius of 135.00 feet 85.41 feet along the property of Leo and Mary T. Gallitano to a point of tangency; thence running north 11° 15' 24" west 382.25 feet along the property of Leo and Mary T. Gallitano and along the easterly line of Parcel C, as described below, to the northeast corner of said Parcel C; thence turning and running South 73° 47' 52" west 433.28 feet along the northerly line of Parcel C to the north-west corner of said Parcel C; thence running south 53° 36' 2" west 396.55 feet along the property of Leo and Mary T. Gallitano to a point in the northeasterly line of Beaver Street as relocated by the County Commissioners in 1956; thence turning and running north 29° 14' 57" west 190.34 feet along the northeasterly line of said Beaver Street to a stone bound at a point of curvature; thence turning and running north 32° 28' 34" east 196.00 feet along property now or formerly of Theodore L. Storer to a corner of said property; thence turning and running north 38° 37' 50" west 216.18 feet along property now or formerly of Theodore L. Storer to a corner of said property; thence turning and running South 47° 28' 34" west 204.00 feet to a stone bound at a point of compound curvature on the northerly line of said Beaver Street; thence turning and running in a general northwesterly direction by a curve to the left with a radius of 2374.26 feet 234.58 feet along the northerly line of said Beaver Street to the point of beginning.

Excepting therefrom such portion of the premises as may be owned by Theodore L. Storer and Roscoe W. Brooks, Trustees of the BRAMONT TRUST under a Declaration of Trust dated September 18, 1953, recorded with Suffolk Registry of Deeds in Book 7005, Page 100, conveyed to the said Trustees by deed of Francis P. Sears, Trustee, recorded with Middlesex Deeds at Book 10745, Page 328, such premises to be conveyed to the grantee by deed of even date herewith, except such portion of the premises granted to Leo Gallitano by deed dated June 30, 1967, recorded with Middlesex Deeds at Book 11,348 Page 728.

The above-described parcel is subject to an easement of 70 feet along the easterly boundary of the land of Leo and Mary T. Gallitano, and along the easterly boundary of Parcel C, as described below, from Beaver Street to the northeast corner of said Parcel C.

The building on the above-described parcel, known as the Robert Treat Paine House, is hereby granted subject to the following preservation restriction:

WHEREAS, the Robert Treat Paine House was designed by Henry Hobson Richardson in 1884; and

WHEREAS, Theodora L. Storer and the City of Waltham wish to insure the preservation of the Robert Treat Paine House in accordance with the architectural tradition of Henry Hobson Richardson and of the period;

NOW, THEREFORE, in consideration of the grant herein made, the City of Waltham, for itself and its successors and assigns, covenants and agrees as follows:

1. So long as the Robert Treat Paine House is extant, it shall be preserved and maintained as an historical and architectural asset of the community.

2. The Robert Treat Paine House shall be preserved and maintained in good condition without change in the exterior architectural characteristics.

3. To the extent possible, consistent with its use for public purposes, the interior architectural characteristics of the Robert Treat Paine House shall be preserved and maintained in accordance with the period and architectural tradition of the structure.

4. No changes or substantial repair to the exterior architectural features or to the interior features and detail shall be made unless the plans therefor are first submitted to the Waltham Historical Commission and approved by the Commission; which approval shall not be unreasonably withheld; and the Commission shall be deemed to have approved the plans unless within thirty (30) days from the date of submission, the Commission notifies the City of Waltham or its successor in writing of its objection thereto with reasons. In case of disapproval, the City of Waltham or its successor may within thirty (30) days after the notice of the disapproval request a review of the disapproval by a person of competence and experience in architectural preservation, designated by the Massachusetts Historical Commission or its chairman or acting chairman. The finding of this review shall be in writing within sixty (60) days after the request, and shall be binding on the City of Waltham or its successor and the Waltham Historical Commission.

For purposes of this requirement, ordinary and necessary repairs and maintenance which do not materially affect the exterior or interior architectural features of the Robert Treat Paine House shall not be considered alterations.

5. The City of Waltham covenants that upon any conveyance by it of the Robert Treat Paine House, the City will cause the grantee to execute and deliver to the Waltham Historical Commission a covenant to observe and perform the covenants set forth above. Upon delivery of such covenants, the liability of the original covenantor shall cease except as to any breaches occurring during its ownership.

6. The obligations set forth above in Paragraphs 1 to 5, inclusive, shall cease if the Robert Treat Paine House, exclusive of contents, shall be destroyed by fire or other casualty to the extent of fifty percent (50%) or more of its insurable value at the time; and all said obligations shall be subject to modification to the extent necessary to permit compliance with the requirements of public health and safety provisions.

7. These covenants shall remain in effect until 2100 A.D., or if approved by the Massachusetts Historical Commission, without limit of time.

Parcel B:

Beginning at the northwest corner of Parcel B, as described in the above description of Parcel A; thence running north 40° 07' 25" east 313.66 feet along a stone wall and along the property of Theodore L. Storer to an angle in said wall; thence running north 40° 07' 50" east 332.89 feet along said stone wall and along the property of Theodore L. Storer to a corner; thence turning and running south 49° 55' 16" east 469.30 feet along the property of the City of Waltham to a corner; thence turning and running south 39° 05' 55" west 652.00 feet along a stone wall and along the property of Raymond and Arthur DeVincent to the southwest corner of Parcel B, as described in the above description of Parcel A; thence turning and running north 49° 04' 12" west 107.66 feet along a formerly described stonewall to an angle in said wall; thence running north 49° 20' 48" west 373.97 feet along said stonewall to the point of beginning.

The above-described parcel contains 7.079 acres.

Parcel C:

Beginning at the northeast corner of Parcel C, as described in the above description of Parcel A; thence running south 11° 15' 21" east 122.55 feet to a corner; thence turning and running north 87° 40' 52" west 365.78 feet along the property of Leo and Mary T. Gallitano to an angle; thence running south 78° 15' 00" west 76.10 feet along the property of Leo and Mary T. Gallitano to the northwest corner of Parcel C, as described above; thence turning and running north 73° 47' 52" east 433.28 feet to the point of beginning.

The above-described parcel contains 23,065 square feet.



All of the above described parcels are conveyed subject to the following restrictions, which restrictions are imposed for the benefit of other premises in which the grantor has interests and for the benefit of conservation purposes in accordance with the provisions of General Laws, Chapter 40, section 8c, and which restrictions shall be enforceable by the Conservation Commission of the City of Waltham.

1. No building, outdoor advertising display, mobile home, permanent utility pole in greater number than one or other temporary or permanent structure (other than a fence of a design acceptable to the Conservation Commission of the City of Waltham) shall be placed, constructed, or permitted to remain on the restricted parcel. It is expressly provided, however, that notwithstanding any provisions herein after set forth, the City of Waltham may make use of the premises for any and all recreational activities including, but not being limited to, tennis, golf, and other similar outdoor recreational activities. Preparation of the premises for such activities and facilities customarily attendant to the same, may be allowed. Nothing shall be deemed to permit the construction of an arena, stadium, or similar facility on the premises.

2. Except as herein provided:

(a) No soil, loam, peat, gravel, sand, rock, or other mineral substance, and no ash, refuse, trash, vehicle bodies, or parts, rubbish, debris, building rubble, junk, waste or other non-earth material shall be placed, parked, stored, or dumped on the restricted parcel.

(b) No loam, peat, gravel, sand, rock, or other natural deposit shall be excavated or removed from said parcel.

(c) No trees, grasses, or other vegetation shall be cut or removed or otherwise destroyed. This is not intended to prevent the ordinary cutting of grass, trimming of trees and the removal of the same when such is deemed expedient or necessary.

(d) No water shall be permitted to run-off from paved areas in, near, or bordering the restricted area in such manner as would cause erosions and gullying.

3. The foregoing restrictions are authorized by General Laws, Chapter 184, sections 31-33, for the purpose of maintaining said parcel predominantly in a naturally scenic, green and open condition forever in order to protect the natural and watershed resources of said City. The restriction shall be administered by the Conservation Commission of said City, established under General Laws, Chapter 40, Section 8c.

4. The conservation restriction hereby conveyed grants any right to enter and use said parcel which is deemed by the Conservation Commission to be consistent with the purpose of maintaining a natural area of woodland within the City of Waltham and other permitted uses.

5. Notwithstanding the foregoing, the City of Waltham by its Conservation Commission or the designees of such Commission shall have the right to plant, selectively cut or prune trees, brush or other vegetation within and along the whole length and width of the area restricted.

6. The foregoing restrictions and provisions shall pertain to that parcel of land taken by the City of Waltham by Order of the City Council, No. 23606, adopted April 22, 1974 and recorded with Middlesex South District Registry of Deeds on May 13, 1974 in Book 12,629 page 286.

IN WITNESS WHEREOF, I hereunto set my hand and seal this 15th day of October, 1974.

Theodore L. Storer  
Theodore L. Storer

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, SS:

Boston

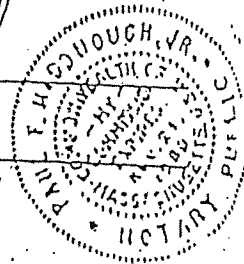
October, 15

, 1974

Then personally appeared the above named Theodore L. Storer and acknowledged the foregoing instrument to be his free act and deed before me

Walter J. McLaughlin  
Notary Public

My commission expires: November 21, 1980



## PRESERVATION RESTRICTION AGREEMENT

between the COMMONWEALTH OF MASSACHUSETTS  
by and through the MASSACHUSETTS HISTORICAL COMMISSION and  
City of Waltham

The parties to this Agreement are the Commonwealth of Massachusetts, by  
and through the Massachusetts Historical Commission located at 80 Boylston  
Street, Boston, Massachusetts, hereinafter referred to as the Commission,  
and the City of Waltham, acting through its Mayor,

located at City Hall, 610 Main Street, Waltham, Massachusetts 02154,  
hereinafter referred to as the Grantor.

WHEREAS, the Grantor is the owner in fee simple of certain real property  
with improvements thereon described as Parcel A in a deed dated October 15,  
1974, from Theodore L. Storer to the City of Waltham  
recorded with the Middlesex Registry of Deeds at  
Book 12720, Page 259, which is known as Robert Treat Paine House  
and which is located at 577 Beaver Street Massachusetts,  
hereinafter referred to as the Premises; and

WHEREAS, the Grantor wishes to impose certain restrictions, obligations  
and duties upon it as the owner of the Premises and on the successors to its  
right, title and interest therein, with respect to maintenance, protection, and  
preservation of the Premises in order to protect the architectural,  
archaeological and historical integrity thereof; and

WHEREAS, the preservation of the Premises is important to the public for  
the enjoyment and appreciation of its architectural, archaeological and  
historical heritage and will serve the public interest in a manner consistent  
with the purposes of M.G.L. chapter 184, section 32, hereinafter referred to as  
the Act; and

WHEREAS, the Commission is a government body organized under the laws of  
the Commonwealth of Massachusetts and is authorized to accept these preservation  
restrictions under the Act;

NOW, THEREFORE, for good and valuable consideration, the Grantor conveys  
to the Commission the following Preservation Restrictions which shall apply in  
perpetuity to the Premises.

These Preservation Restrictions are set forth so as to ensure the  
preservation of the architectural, archaeological and historical integrity of the  
Premises.

These preservation restrictions are set forth so as to ensure the preservation of those characteristics which contribute to the architectural, archaeological and historical integrity of the Premises which have been listed on the National Register of Historic Places under the provisions of the National Historic Preservation Act of 1966.

Characteristics which contribute to the architectural, archaeological and historical integrity of the Premises include, but are not limited to, the artifacts, features, materials, appearance, and workmanship of the Premises, including those characteristics which originally qualified the Premises for listing in the National Register of Historic Places.

The terms of the Preservation Restriction are as follows:

1. Maintenance of Premises: the Grantor agrees to assume the total cost of continued maintenance, repair and administration of the Premises so as to preserve the architectural, archaeological and historical integrity of the Premises in a manner satisfactory to the Commission. The Grantor may seek financial assistance from any source available to it. The Commission does not assume any obligation for maintaining, repairing, or administering the Premises.

2. Inspection: The Grantor agrees that the Commission shall have the right to enter the Premises upon reasonable notice for the purpose of inspecting the Premises to determine whether the Grantor is in compliance with the terms of this Preservation Restriction.

3. Alterations: The Grantor agrees that no alterations shall be made to the Premises, including interiors, unless (a) clearly of minor nature and not affecting the characteristics which contribute to the architectural, archaeological or historical integrity of the Premises, or (b) the Commission has previously determined that it will not impair such characteristics after reviewing plans and specifications submitted by the Grantor, or (c) required by casualty or other emergency promptly reported to the Commission. Ordinary maintenance and repair of the Premises may be made without the written permission of the Commission. For purposes of this section, what constitutes alterations of a minor nature and ordinary maintenance and repair is set forth in Exhibit A which is attached to and made part of this Preservation Restriction.

4. Assignment: The Commission may assign this Preservation Restriction to another government body or to any charitable corporation or trust among the purposes of which is the maintenance and preservation of historic properties.

thereof shall not affect the validity and enforceability of this Preservation Restriction according to its terms. The invalidity or unenforceability of any part of this Preservation Restriction shall not affect the validity and enforceability of any other part of this Preservation Restriction.

6. Recording: The Grantor agrees to record this Preservation Restriction with the appropriate Registry of Deeds. A copy of the recorded Preservation Restriction shall then be filed with Commission.

7. Other Provisions:

(a). The Premises may not be subdivided without the prior written approval of the Commission.

The burden of these preservation restrictions enumerated in paragraphs 1 through 7, inclusive, shall run with the land and be binding upon future owners of an interest therein.

No deed stamps are required for the recording of this instrument.

WITNESS the execution hereof an instrument under seal this 22<sup>nd</sup> day of December, 1986

William F. Stanley  
William F. Stanley  
Mayor - City of Waltham

COMMONWEALTH OF MASSACHUSETTS

Waltham County, ss.

December 12, 1986

Then personally appeared before me the above-named William F. Stanley and acknowledged the foregoing to be the free act and deed of the City of Waltham, before me.

John J. O'Neil  
Notary Public

My Commission Expires: September 22, 1990

APPROVAL BY THE MASSACHUSETTS HISTORICAL COMMISSION

The undersigned executive director of the Massachusetts Historical Commission, empowered to act for the Massachusetts Historical Commission, hereby certifies that the foregoing Preservation Restriction has been approved pursuant to Massachusetts General Laws, Chapter 184, Section 32.

Valerie A. Talmage  
Valerie A. Talmage  
Executive Director  
Massachusetts Historical  
Commission

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

September 9, 1986

The personally appeared the above named Valerie Talmage and acknowledged the foregoing approval to be the free act and deed of the Massachusetts Historical Commission, before me

Ella N. Fitzgerald  
Notary Public

My Commission Expires: 11/3/89

RESTRICTION GUIDELINES

The purpose of the Restriction Guidelines is to clarify paragraph three of the terms of the preservation restriction which deals with alterations to the premises. Under this section permission from the Massachusetts Historical Commission is required for any alterations which are not of a minor nature, part of ordinary maintenance and repair, or which involves structural stabilization.

In an effort to explain what constitutes a minor alteration and what types of changes should be reviewed by the MHC, the following list has been developed. By no means is this list comprehensive - it is only a sampling of some of the more common alterations which may be contemplated by building owners.

PAINT

Minor - Exterior or interior hand scraping and repainting of non-decorative and non-significant surfaces as part of periodic maintenance.

Major - Painting or fully stripping decorative surfaces or distinctive stylistic features including murals, stencilling, wallpaper, ornamental woodwork, stone, decorative or significant original plaster.

WINDOWS AND DOORS

Minor - Regular maintenance including caulking, painting and necessary replazing. Repair or in-kind replacement of existing individual decayed window parts.

Major - Wholesale replacement of units; change in fenestration or materials; alteration of profile or setback of windows. The addition of storm windows is also considered a major change, however, with notification it is commonly acceptable.

EXTERIOR

Minor - Spot repair of existing cladding and roofing including in-kind replacement of clapboards, shingles, slates, etc.

Major - Large scale repair or replacement of cladding or roofing. Change involving inappropriate removal or addition of materials or building elements (i.e. removal of chimneys or cornice detailing; installation of architectural detail which does not have a historical basis); altering or demolishing building additions; spot repainting of masonry.

Minor - Routine maintenance of outbuildings and landscape including lawn mowing, pruning, planting, painting, and repair.

Major - Moving or subdividing buildings or property; altering of property; altering or removing significant landscape features such as gardens, vistas, walks, plantings; ground disturbance affecting archaeological resources.

#### WALLS/PARTITIONS

Minor - Making fully reversible changes (i.e. sealing off doors in situ, leaving doors and door openings fully exposed) to the spatial arrangement of a non-significant portion of the building.

Major - Creating new openings in walls or permanently sealing off existing openings; adding permanent partitions which obscure significant original room arrangement; demolishing existing walls; removing or altering stylistic features; altering primary staircases.

#### HEATING/AIR CONDITIONING/ELECTRICAL/PLUMBING SYSTEMS

Minor - Repair of existing systems.

Major - Installing or upgrading systems which will result in major appearance changes (i.e. dropped ceilings, disfigured walls or floors, exposed wiring, ducts, and piping); the removal of substantial quantities of original plaster or other materials in the course of construction.

Changes classified as major alterations are not necessarily unacceptable. Under the preservation restriction such changes must be reviewed by the MHC and their impact on the historic integrity of the premise assessed.

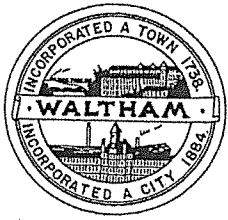
It is the responsibility of the property owner to notify the MHC in writing when any reviewable alterations are contemplated. Substantial alterations may necessitate review of plans and specifications.

The intent of the preservation restriction is to enable the Commission to review proposed alterations and assess their impact on the integrity of the structure, not to preclude future change. MHC staff will attempt to work with property owners to develop mutually satisfactory solutions which are in the best interests of the property.



**Attachment D**  
**Evidence of Zoning Compliance**

DI Letter from Patrick Powell, Zoning Enforcement Officer



*CITY OF WALTHAM*  
MASSACHUSETTS

Waltham Building Department  
William L. Forte  
Inspector of Buildings  
Superintendent of Public Buildings

March 7, 2016

Re: 100 Robert Treat Paine Drive – “The Paine Estate”

To Whom It May Concern:

To the best of my knowledge and belief there are no outstanding Building or Zoning Code violations at the above noted address.

Please call if you have any questions;

Sincerely,

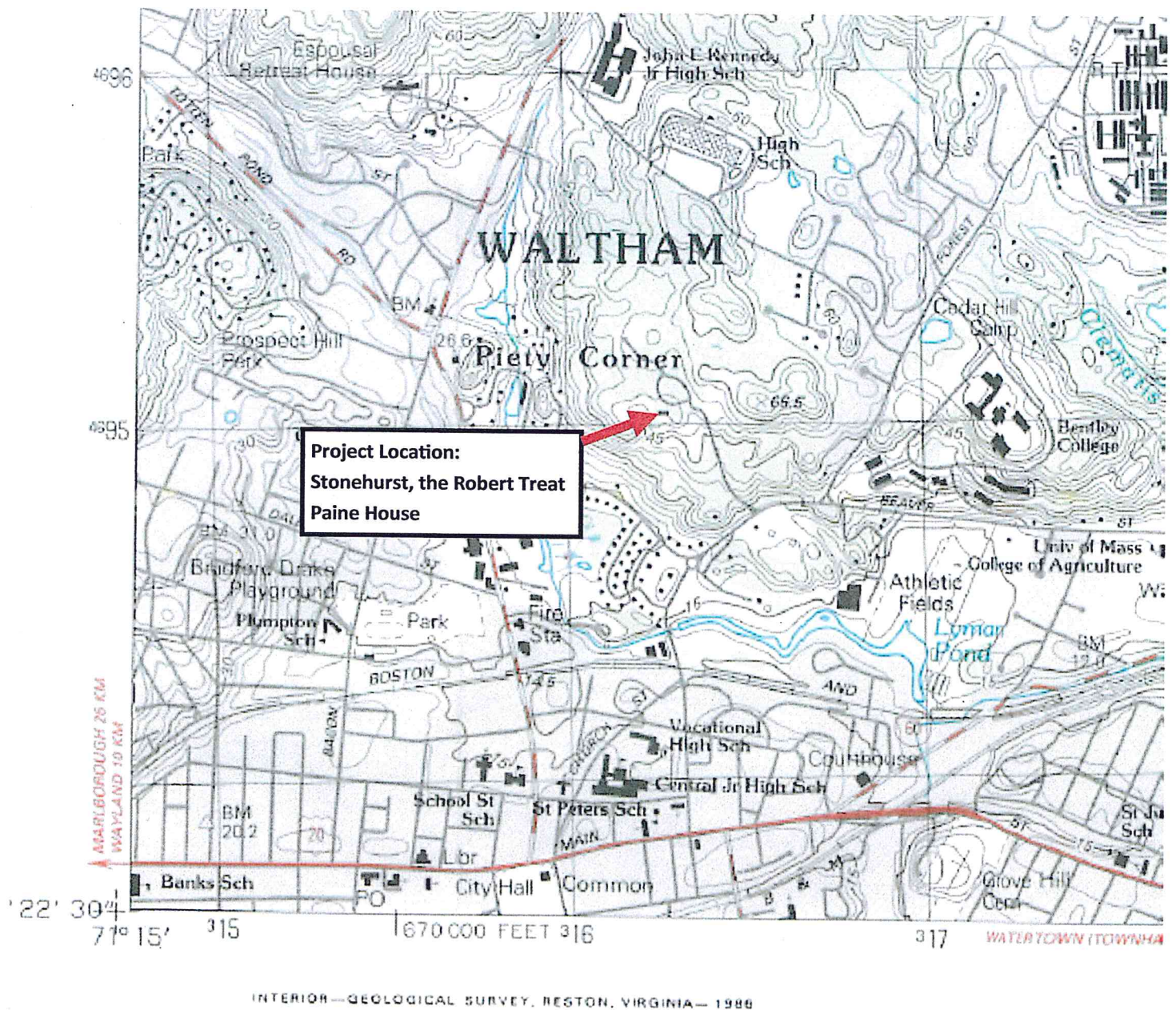
Patrick Powell  
Senior Building Inspector

**Attachment E**  
**Project Location and Photographs**

E1	Project Location
E2 – E9	Project Photographs

## Project Location

U.S.G.S. Topographic Map, Boston North, 1985







East elevation of Stonehurst. Photo by Bret Morgan.



South elevation of Stonehurst. Photo by Thomas P. Lang.





Stonehurst from the southeast. Photo by Thomas P. Lang.



Stonehurst from the northeast. Photo by Thomas P. Lang.





North elevation of Stonehurst, west end, showing kitchen ell.



Stonehurst from the northwest, showing kitchen ell.

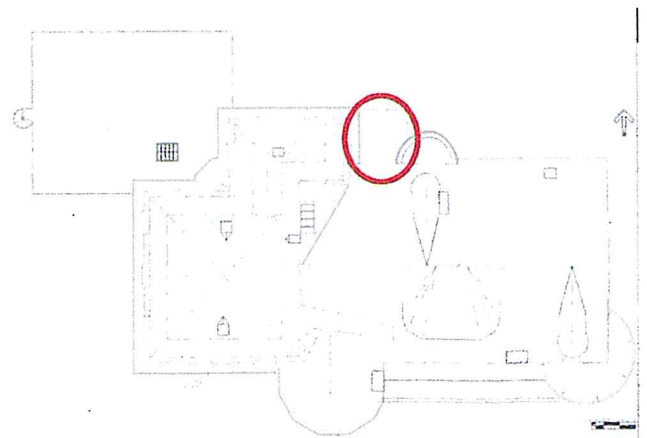




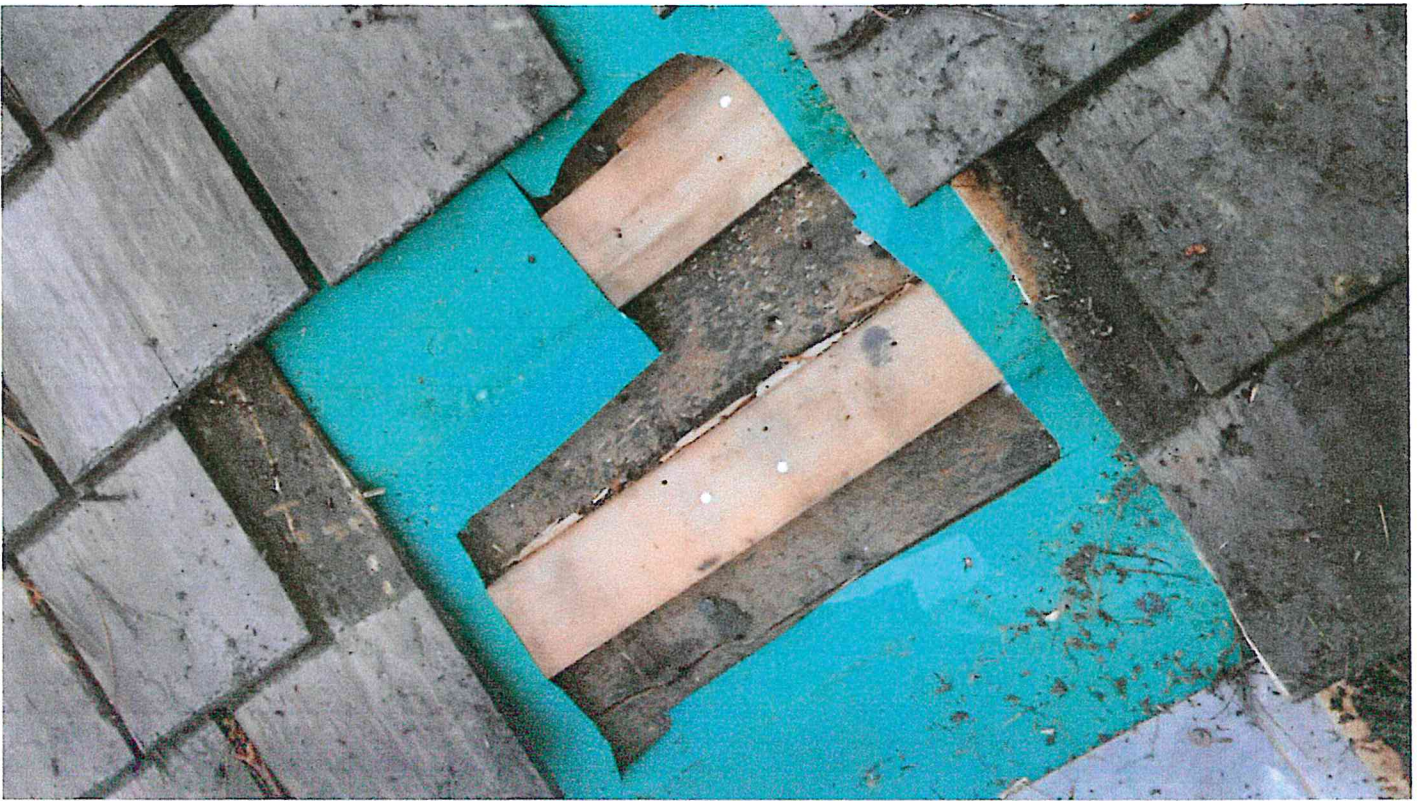
Roof above main entrance to Stonehurst where the shallow pitch of the Richardson roof meets the mansard roof.



Typical conditions at the main entrance to Stonehurst in winter.





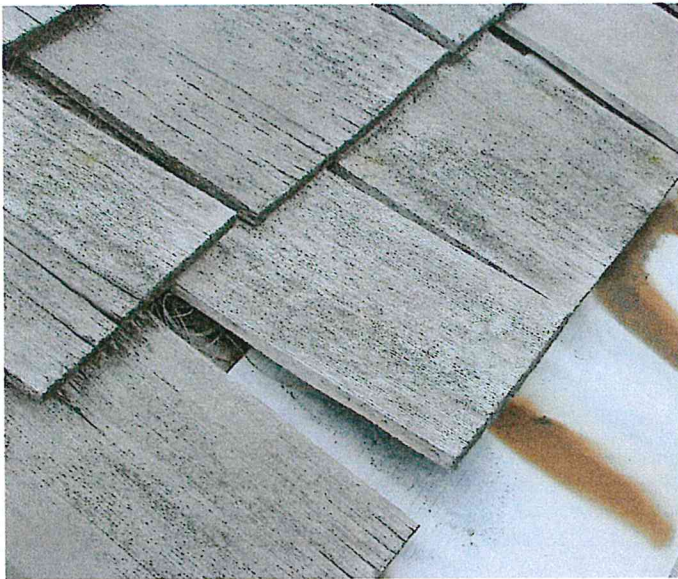
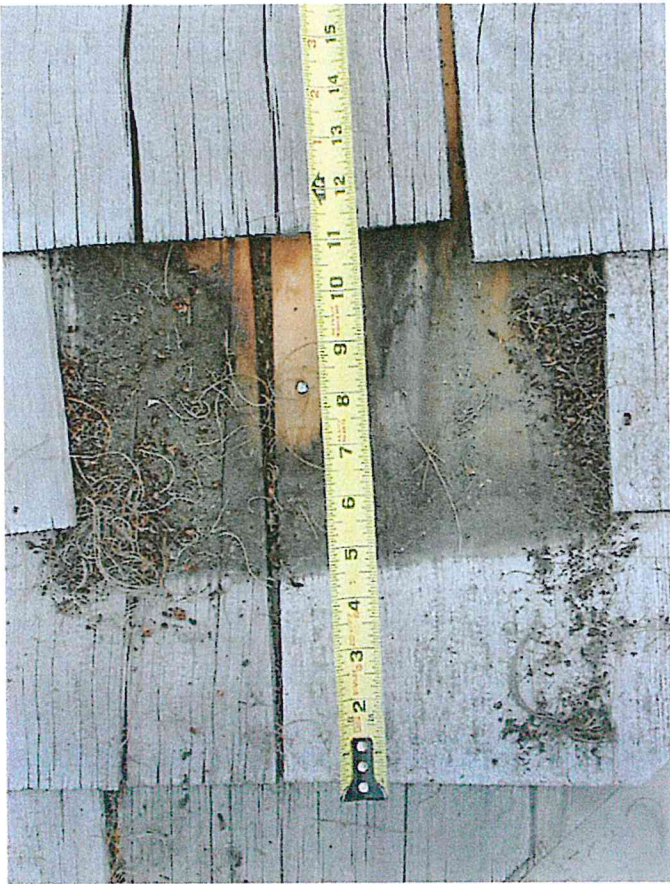


Investigation of roof conditions and construction, showing shingles installed directly over spun polypropylene, above battens.



Typical condition of shingles





Typical condition of shingles





Typical condition of lead-coated copper seams.

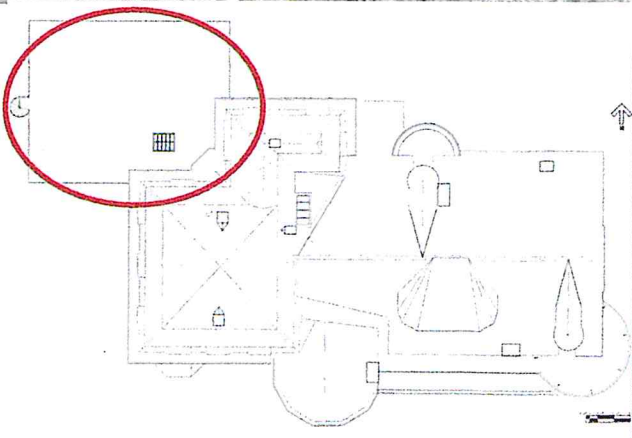




Membrane roof over kitchen ell.



Base of post on kitchen-ell roof balustrade.



**Attachment F**  
**Project Plans**

F1 – F4      “Roof Preservation of Stonehurst, the Robert Treat Paine House” Project Plans  
Red Hawk Studio, Architects, Inc., 1/6/2017

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Stonehurst, The Robert Treat Paine Estate  
Roof Preservation – Construction

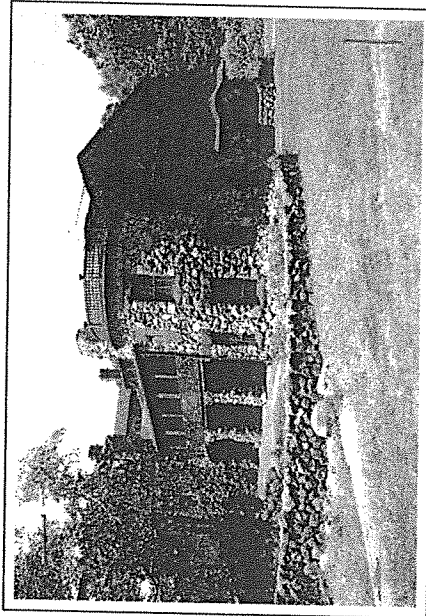
Application to the Waltham Community Preservation Committee, March 2017

List of Abbreviations:

ADJ.	Adjacent
CEILING	Ceiling
D.ELEV.	Dimension Elevation
ELEV.	Elevation
EQ.	Equal
EXIST., EXISTG	Existing
EXST.	Existing
FT.	Foot
HT.	Height
INCH	inch
LCC	Lead Coated Copper
MIN	Minimum
MAX	Maximum
NOT IN CONTRACT	Not in Contract
NTS	Not to Scale
OC	On Center
PT	Pressure Treated
PTD	Painted
REQ.	Required
SQ	Square Feet
STL	Steel
UNEQ.	Unless Noted
UNO	Unless Otherwise
VERIF	Verify in Field
WD	Wood

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 comply with match materials, profiles, and dimensions of existing construction unless noted otherwise. Include all decorative details including moldings, brackets, modillions, etc.

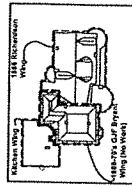


# Roof Preservation of STONEHURST, THE ROBERT TREAT PAINE HOUSE

100 Robert Treat Paine Dr.  
Waltham,  
Massachusetts

RED  
HAWK  
STUDIO  
ARCHITECTS, INC.

18 Main Street  
Concord  
Massachusetts 01742  
978 360 2340



Key Plan

date: January 6, 2017

Revisions

NONE

Title Sheet

T1.0


no scale

LIST OF DRAWINGS  
T1.0 Title Sheet  
A1.1 Floor 2 Roof Plan  
A1.2 Roof Plan  
A2.1 Sections & Details



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

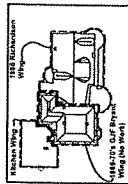
100 Robert Treat Paine L  
Waltham,  
Massachusetts



**RED  
HAWK  
STUDIO**  
ARCHITECTS, INC.

18 Main Street  
Concord,  
Massachusetts  
01742

978 369 2340



### Key Plan

**DEMOLITION NOTES:**

- REMOVE ALL EXISTING MEMBRANE, DECK INSULATION, & BOARD UNDERLAYMENT • KITCHEN MINS 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

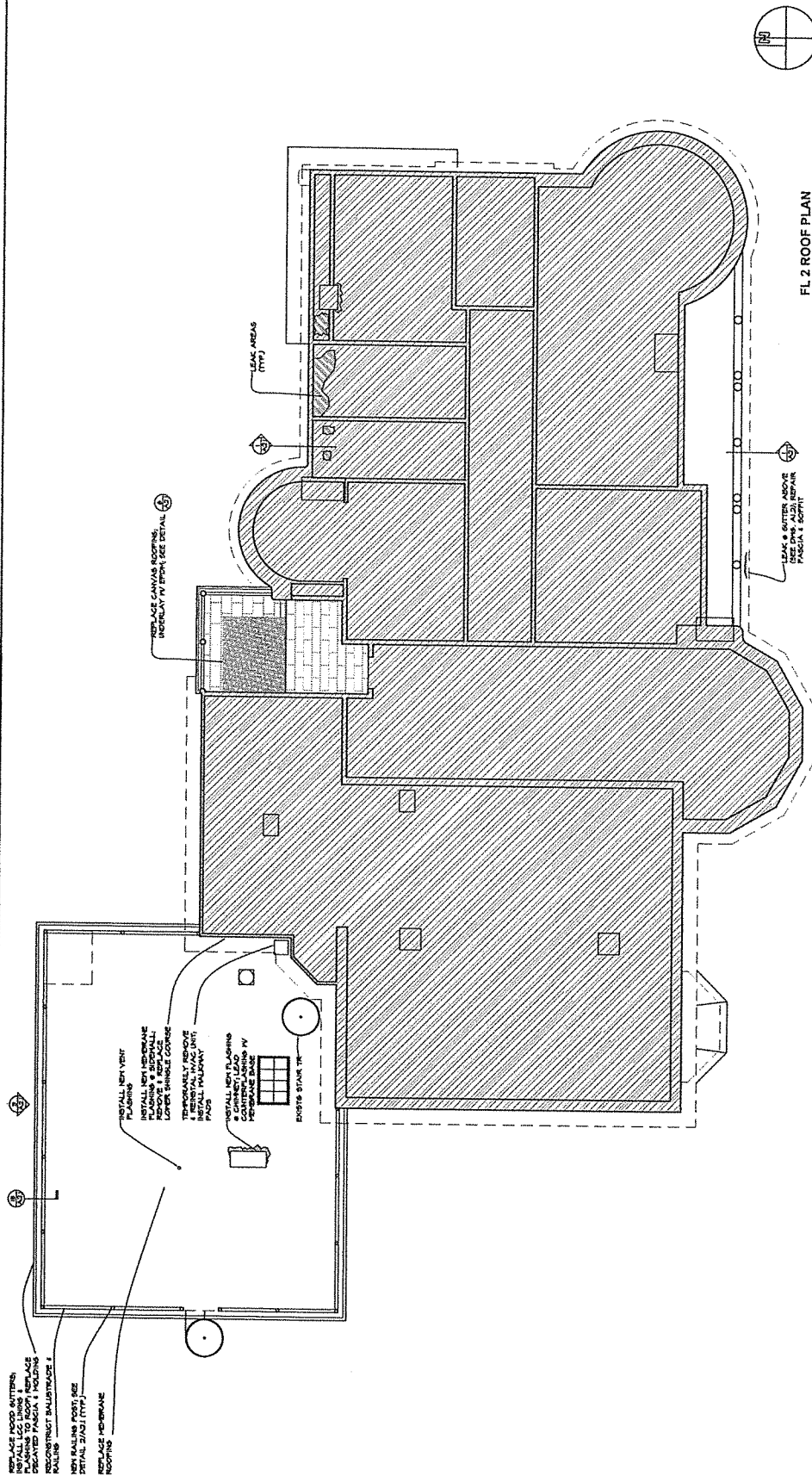
## Revisions

NONO

### Fl 2 Roof Plan

# A1.1

scale: as noted




FL 2 ROOF PLAN  
scale: 3/16"=1'-0"



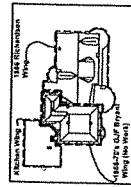
**Renovations to  
STONEHURST,  
THE ROBERT  
TREAT PAINE  
HOUSE**

100 Robert Treat Paine I  
Waltham,  
Massachusetts



**RED  
HAWK  
STUDIO**  
ARCHITECTS, INC.

18 Main Street  
Concord,  
Massachusetts 01742  
878 369 2349



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

DEMOLITION NOTES:  
- REMOVE ALL EXISTING  
WOOD SHINGLES, BA  
UNDERLAYMENT & NAIL  
AREA.

date: January 6, 2017

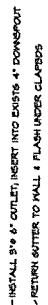
## Revisions

NON-F

### Roof Plan

## A1.2

scale: 3/16"=1'-0"



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

INSTALL 24" HIGH LCC SKIRTINGS

HEM LCC DROP EDGE • RACE

REPLACE ALL SHINGLES •  
NORTH SIDE OF RICHARDSON  
ADDITION. INSTALL CEDAR  
SHINGLES (SEE DETAILS); BASE  
SHINGLES

REPLACE INTERMEDIATE LCC.  
FLASHING STRIP W/ 12" LCC 4"

REPLACE ALL SHINGLES @ SOUTH  
SIDE OF RICHARDSON ADDITION;  
INSTALL CEDAR SHINGLES (SEE

DETAILS: ALTERNATE 2

REPLACE INTERMEDIATE LOG

CLEAN & SOLDER JOINTS IN LCC  
ROOFING & TOWER

---NO WORK @ HANGARD  
FLOORS

REPLACE ALL SHINGLES  
@ THIS AREA, INSTALL  
CEDAR SHINGLES (SEE  
DETAILS); BLAKE DID

REPLACE EXIST. BUTTERFLY  
LCC BUTTER (PROFILE TO  
EXIST). PAINT. EXIST. C

REMOVE • REINSTALL EXISTS  
CONICAL CAPS • DOWNEDS

CLEAN • SOLDER JOINTS IN  
LCC ROOFING • TONERS

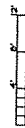
CLEAN & SOLDER JOINTS IN  
GUTTERS (TYP)

CLEAN & SOLID JOINTS IN  
LCC ROOFING & TONERS -

**BUTTERS**

INCLUDED IN BASE BID,  
ASSUME REPLACEMENT OF IDS  
SW OR DEGRADED SHEATHING  
WITH MATCHING SPURGE  
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.

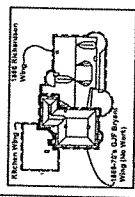


# Renovations to STONEHURST, THE ROBERT TREAT PAINE HOUSE

100 Robert Treat Paine  
Waltham,  
Massachusetts

RED  
HAWK  
STUDIO  
ARCHITECTS, INC.

18 Oak Street  
Boston, MA 02112  
617.347.1246



Key Plan

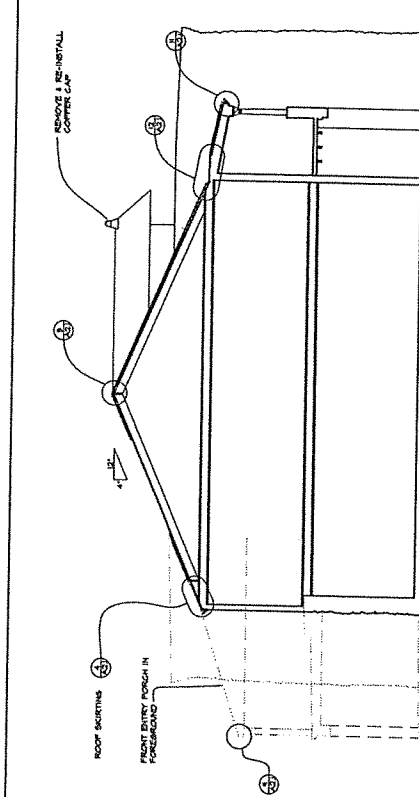
date: January 6, 2017

Revisions  
NONE

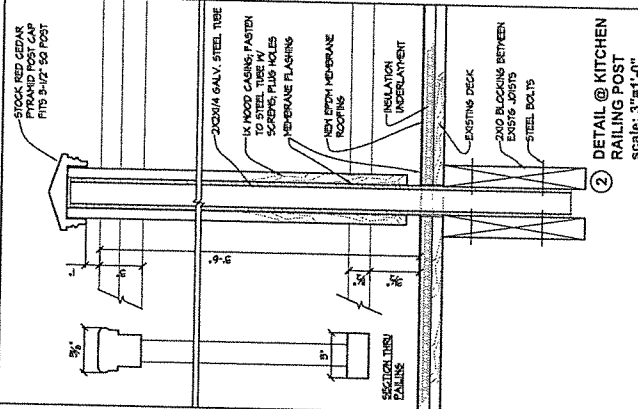
Section & Details

## A2.1

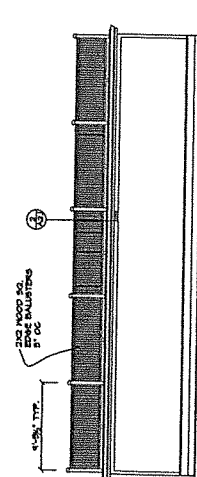
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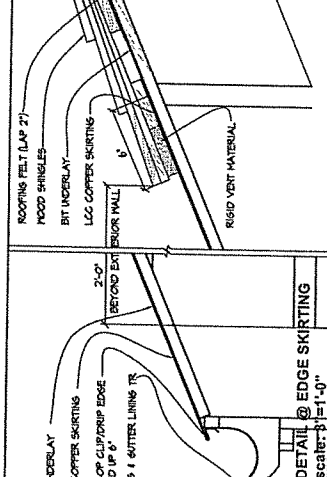
1 BUILDING SECTION  
scale: 3/16"=1'-0"



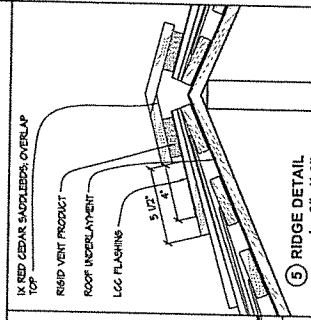
2 DETAIL @ KITCHEN  
RAILING POST  
scale: 3/16"=1'-0"



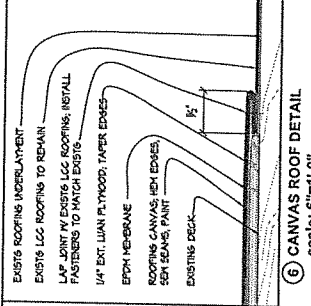
3 ELEVATION OF RAILING @  
KITCHEN WING  
scale: 3/16"=1'-0"



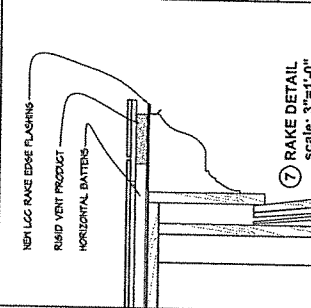
4 DETAIL @ EDGE SKIRTING  
scale: 3/16"=1'-0"



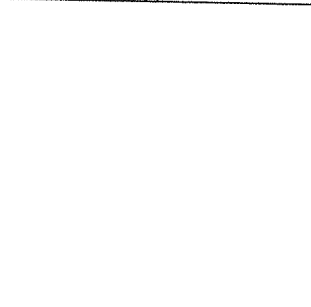
5 RIDGE DETAIL  
scale: 3/16"=1'-0"



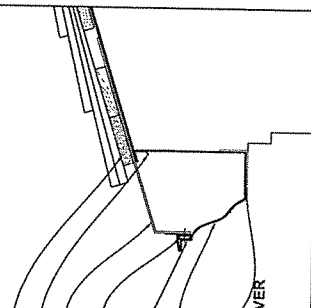
6 CANVAS ROOF DETAIL  
scale: 6"=1'-0"



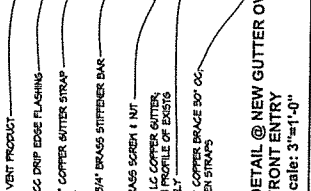
7 RAKE DETAIL  
scale: 3/16"=1'-0"



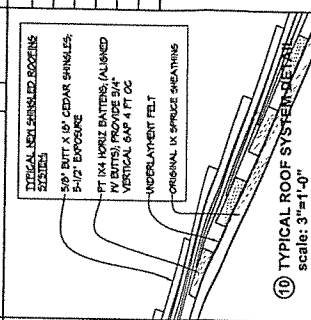
8 SOUTH SIDE EAVE DETAIL  
scale: 3/16"=1'-0"



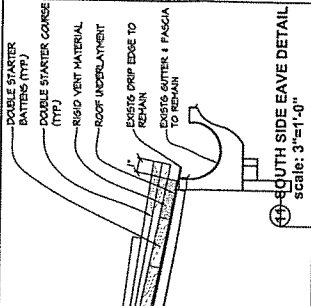
9 DETAIL @ NEW GUTTER OVER  
FRONT ENTRY  
scale: 3/16"=1'-0"



10 TYPICAL ROOF SYSTEM DETAIL  
scale: 3/16"=1'-0"



11 DETAIL @ S. SIDE LCC WALKWAY  
scale: 3/16"=1'-0"



12 DETAIL @ KITCHEN NEW GUTTER  
scale: 3/16"=1'-0"

**Attachment G**  
**Project Specifications**

G-1 – G- 71    Technical Specifications excerpt from City of Waltham Invitation to Bid  
Stonehurst, the Robert Treat Paine Estate Roof Preservation, 2017

## 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**

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## 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.

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- 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.

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#### CONDUCT OF WORK / 01050-2



#### 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.

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- 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

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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:

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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 an 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 Architect's 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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## **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. c30 §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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**PROJECT CLOSE-OUT / 01700-3**

**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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SELECTIVE DEMOLITION / 02070-4

**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".

ASI: 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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#### MISCELLANEOUS METAL / 05500-2

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 A501, in sizes as indicated on the Drawings, galvanized when used on exterior, ASTM A53 or A106.
- C. Steel bolts and nuts shall conform to ASTM A307.
- 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 film 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, Zirc 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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#### MISCELLANEOUS METAL / 05500-4

- 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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### **MISCELLANEOUS METAL / 05500-5**

G. All materials and workmanship under this Section shall be subject to inspection in the mill, shop or field by the Architect<sup>1</sup> 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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### MISCELLANEOUS METAL / 05500-6

- 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**

## **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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#### ROUGH CARPENTRY / 06100-2

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**

- 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 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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**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](http://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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#### **WOOD SHINGLE ROOFING / 07310-3**

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](mailto:sales@grcedar.com)
    - b. Anbrook Industries Ltd, PO Box 3044, Sumas, WA 98295-3044 [www.anbrook.com](http://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](http://www.waldun.com) (phone 800 4waldun)
    - d. Watkins Sawmill - [www.watkinsawmills.com](http://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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#### **WOOD SHINGLE ROOFING / 07310-4**

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](http://www.dciproducts.com); email: [info@dciproducts.com](mailto: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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ROOF PRESERVATION**

**WOOD SHINGLE ROOFING / 07310-5**

- 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**

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

### **WOOD SHINGLE ROOFING / 07310-6**



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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**WOOD SHINGLE ROOFING / 07310-7**

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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**WOOD SHINGLE ROOFING / 07310-8**

**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**

**STONEHURST, THE ROBERT TREAT PAINE ESTATE  
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**WOOD SHINGLE ROOFING / 07310-9**

**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**

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

**MEMBRANE ROOFING / 07530-1**

- 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.

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

#### **MEMBRANE ROOFING / 07530-2**

- 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**

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

#### **MEMBRANE ROOFING / 07530-3**



- 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**

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

#### **MEMBRANE ROOFING / 07530-4**

- 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.

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

**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

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

### **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**

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

### **MEMBRANE ROOFING / 07530-7**

**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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**ROOF PRESERVATION**

**SHEET METAL FLASHING AND TRIM / 07620-1**

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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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**

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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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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-Ia, -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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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**

**Attachment G-63**



## 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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- 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.

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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.

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## 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.

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- 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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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

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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**

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