



**Architectural Preservation Studio, PC**  
Architecture, Historic Preservation, & Building Envelope Consulting



58 Pine Street, New Canaan, CT 06840  
203.594.9735 / [www.preservationstudio.com](http://www.preservationstudio.com)

# TOWN OF WETHERSFIELD SOLOMON WELLES HOUSE

220 HARTFORD AVENUE, WETHERSFIELD, CT

## INVITATION TO BID #2019-06 SPECIFICATION FOR ROOFING REPLACEMENT



**FOR:**

TOWN OF WETHERSFIELD  
100 MARSH STREET  
WETHERSFIELD, CT 06109

**PREPARED BY:**

ARCHITECTURAL PRESERVATION STUDIO, PC (APS)

**PROJECT NO:**

P18-031

**ISSUED:**

JANUARY 11, 2019

Specifications  
for  
Town of Wethersfield  
Solomon Welles House  
Roofing Replacement  
Wethersfield, CT  
Invitation to Bid #2019-06  
Table of Contents

Wethersfield Documents

- |   |        |
|---|--------|
| 1. Fair Employment Practices, Non-Collusive Affidavit, Insurance Requirements, Local Preference Ordinance, Noise Control, Tree Protection, Supplementary Conditions, No Bid Response Form | 1 - 26 |
| 2. Prevailing Wage Rates  |        |

Specifications

- |   |        |
|---|--------|
| 1. Section 00100 - Instructions to Bidders            | 1 - 5  |
| 2. Section 01010 - Summary of Work                    | 1 - 9  |
| 3. Section 01030 - Bid Form                           | 1 - 6  |
| 4. Section 02075 - Roof Removal                       | 1 - 6  |
| 5. Section 04500 - Masonry Repairs                    | 1 - 7  |
| 6. Section 06200 - Architectural Woodwork Restoration | 1 - 11 |
| 7. Section 07310 - Asphalt Shingle Roofing            | 1 - 9  |
| 8. Section 07320 - Wood Shingle Roofing               | 1 - 9  |
| 8. Section 07550 - Modified Bitumen Membrane Roofing  | 1 - 11 |
| 9. Section 07600 - Flashing and Sheetmetal            | 1 - 9  |
| 10. Section 07900 - Joint Sealers                     | 1 - 5  |

Schedule of Drawings

- |       |  |
|-------|--|
| T-001 | Title Sheet, Notes, Location Map and Scope |
| A-101 | Roof Plan                                  |
| A-201 | West and South Elevations                  |
| A-202 | East and North Elevations                  |
| A-301 | Wood Shingle Roofing Details               |
| A-302 | Dormer Details                             |
| A-303 | Misc. Wood Shingle Details                 |
| A-304 | Built-Up Roofing Details                   |

Attachment 2

FAIR EMPLOYMENT PRACTICES FOR QUALIFICATIONS OF BIDDERS  
TOWN OF WETHERSFIELD, CONNECTICUT

THIS QUESTIONNAIRE ON FAIR EMPLOYMENT PRACTICES FOR THE QUALIFICATIONS OF BIDDERS IS PART OF THIS BID DOCUMENT AND MUST BE RETURNED WITH YOUR BID. FAILURE TO COMPLETE THIS FORM MAY BE SUFFICIENT CAUSE FOR REJECTION OF YOUR BID. IT WILL BE NECESSARY TO SUBMIT THIS FORM ON AN ANNUAL BASIS IN ORDER FOR THE TOWN TO MAINTAIN AND UP-TO-DATE FILE ON YOUR PROGRESS IN EQUAL OPPORTUNITY EMPLOYMENT. AS REQUIRED BY FEDERAL AND STATE LAWS AND REGULATIONS, THE TOWN MAY REQUEST ADDITIONAL EQUAL EMPLOYMENT OPPORTUNITY INFORMATION FROM YOU.

“FAIR” OR “EQUAL EMPLOYMENT” MEANS THE PRACTICE OF NOT DISCRIMINATING AMONG PERSONS ON THE BASIS OF RACE, COLOR, SEX, NATIONAL ORIGIN OR AGE.

THIS QUESTIONNAIRE WILL BE EVALUATED BY THE PURCHASING AGENT AND HIS RECOMMENDATIONS WILL BE A FACTOR IN DETERMINING WHETHER YOUR FIRM IS TO BE RETAINED ON THE TOWN’S BID LIST.

SECTION PLEASE ANSWER ALL THE FOLLOWING QUESTIONS:

- A NAME OF FIRM \_\_\_\_\_
- ADDRESS \_\_\_\_\_
- TELEPHONE NUMBER \_\_\_\_\_
- NATURE OF BUSINESS \_\_\_\_\_
- NUMBER OF FULL TIME EMPLOYEES \_\_\_\_\_
- PERSON FILLING OUT FORM \_\_\_\_\_
- TITLE \_\_\_\_\_

SECTION DO YOU HAVE A WRITTEN EQUAL EMPLOYMENT POLICY? YES \_\_\_ NO \_\_\_

- B IF YES, PLEASE ATTACH COPY
- IF NO, DO YOU PLAN TO ADOPT ONE IN THE NEAR FUTURE? YES \_\_\_ NO \_\_\_

SECTION DO YOU HAVE A WRITTEN AFFIRMATIVE ACTION POLICY? YES \_\_\_ NO \_\_\_

- C IF YES, PLEASE ATTACH COPY
- IF NO, DO YOU PLAN TO ADOPT ONE IN THE NEAR FUTURE? YES \_\_\_ NO \_\_\_

SECTION DO YOU UTILIZE AFFIRMATIVE ACTION IN EMPLOYMENT PRACTICES, SUCH AS ADVERTISING ALL POSITIONS WITH THE EQUAL OPPORTUNITY CLAUSE, MAKING SPECIAL EFFORTS TO RECRUIT MINORITY AND FEMALE JOB APPLICANTS AND REVIEWING JOB-TESTING PROCESURES TO ENSURE THAT NO DISCRIMINATORY BIASES EXIST.

D

SECTION PLEASE FILL OUT THE DATA REQUESTED IN THE FOLLOWING TABLE FOR ALL FULL-TIME EMPLOYEES OF YOUR ORGANIZATION. THE STATISTICS USED MUST BE NO OLDER THAN 3 MONTHS FROM THE TIME THIS BID IS SUBMITTED.

E

Attachment 2

EMPLOYMENT STATUS AS OF \_\_\_\_\_

MALE						FEMALE					
WHITE (NON HISPANIC)	BLACK (NON HISPANIC)	HISPANIC	ASIAN/PACIFIC ISLANDER	AMERICAN INDIAN	TOTAL MALE	WHITE (NON HISPANIC)	BLACK (NON HISPANIC)	HISPANIC	ASIAN/PACIFIC ISLANDER	AMERICAN INDIAN	TOTAL FEMALE

OFFICERS/ MANAGERS												
PROFESSIONALS												
TECHNICIANS												
SALES WORKERS												
OFFICE/ CLERICAL												
CRAFTSMEN (SKILLED)												
OPERATORS (SEMI-SKILLED)												
LABORERS (UNSKILLED)												
SERVICE WORKERS												

SECTION \_\_\_\_\_ NAME OF OFFICER OF FIRM \_\_\_\_\_

F \_\_\_\_\_ SIGNATURE OF OFFICER \_\_\_\_\_

DATE \_\_\_\_\_

**TOWN OF WETHERSFIELD  
Department of Finance**

**NON COLLUSIVE AFFIDAVIT OF PROPOSER**

The undersigned proposer, having fully informed themselves regarding the accuracy of the statements made herein certifies that;

- (1) the proposer developed the bid independently and submitted it without collusion with, and without any agreement, understanding, or planned common course of action with any other entity designed to limit independent bidding or competition, and
- (2) the proposer, its employees and agents have not communicated the contents of the bid to any person not an employee or agent of the proposer and will not communicate the proposal to any such person prior to the official opening of the proposal.

The undersigned proposer further certifies that this statement is executed for the purpose of inducing the Town of Wethersfield to consider the proposal and make an award in accordance therewith.

\_\_\_\_\_  
Legal Name of Proposer/Firm

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

\_\_\_\_\_  
Signature and Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Title Person

Subscribed and sworn to me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary Public  
My Commission Expires

\_\_\_\_\_

## APPENDIX I

### TOWN OF WETHERSFIELD

#### **INSURANCE AND INDEMNITY REQUIREMENTS**

The Contractor shall be responsible for maintaining insurance coverage in force for the life of this contract of the kinds and adequate amounts to secure the Contractor's obligations under this contract with an insurance company or companies with an AM Best Rating of A-: VII or better licensed to write insurance in Connecticut and acceptable to the Town of Wethersfield. Where no insurer so licensed in Connecticut will provide the required coverage, the insurer shall, at minimum, be approved to do business in Connecticut (listed on the current "White List" of the Connecticut Insurance Department).

As to all insurance required, the insurer shall provide the Purchasing Assistant, Town of Wethersfield, with Certificates of Insurance prior to the execution of this contract, describing the coverage and providing that the insurer shall give the Town of Wethersfield written notice at least thirty (30) days in advance of any termination, expiration, or any and all changes in coverage.

Deductibles and self-insurance shall be declared in the Certificate of Insurance and are subject to the approval of the Town of Wethersfield.

Such insurance or renewals or replacements thereof shall remain in force during the Contractor's responsibility under this Agreement. The kinds and amounts of such insurance coverage shall not be less than the kinds and amounts designated herein, and the Contractor agrees that the stipulation herein of the kinds and minimum amounts of insurance coverage, or the acceptance by the Town of Wethersfield of Certificates of Insurance indicating the kinds and limits of coverage shall in no way limit the liability of the Contractor to any such kinds and amounts of insurance coverage.

1. To the fullest extent permitted by law, Contractor shall indemnify, defend and save harmless the Town from loss, expense, damage or injury caused or occasioned, directly or indirectly, by its failure to comply with any of the following:
  - a. The furnishing and paying for all necessary permits, licenses and inspection fees as called for in the plans, specifications and addenda as being his responsibility.
  - b. The payment of all royalty and license fees and the defense of all suits or claims for infringement of any patent rights pertaining to work furnished by the Contractor.
  - c. The payment of any loss or damage arising from any defects in materials or workmanship for a period, and to the extent, as set forth in the plans, specifications and addenda, or for a period of one year from date of acceptance, whichever is greater.
  - d. The payment for any physical loss and damage resulting from fraud committed by or misuse of intellectual property, invasion of privacy, network security (virus transmission, client loss of use, and failure to prevent identity theft) and cyber liability.

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

Further, to the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from any breach or failure of the Contractor or the Contractor's Subcontractors to comply with the terms and conditions of the Contract Documents but only to the extent caused by the acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section.

To the fullest extent permitted by law, the Contractor shall provide a defense to the Owner, for any claims concerning, arising out of, or relating to the Contractor's or the Contractor's Subcontractor's operations concerning, the Project whether or not such claim has in part its origin in a claim that the Owner's conduct was in part responsible for said damage, loss or expense. The duty to defend the Owner extends to situations where there is no duty to indemnify or save the Owner, harmless for that portion of the claim, loss or damage attributable to the Owner's conduct.

2. The Contractor shall procure and maintain, at its own expense, the following insurance:

a. Worker's Compensation with minimum statutory limits on Employer's Liability Part B and Occupational Disease. Workers Compensation shall include waiver of subrogation in favor of the Town and alternate employer endorsement.

b. General Liability Insurance on an occurrence basis with minimum limits of:

\$1,000,000 Bodily Injury Per Occurrence

\$1,000,000 Property Damage

or

\$1,000,000 Combined Single Limit

The Town shall be listed as an additional insured on all applicable policies.

Coverage shall include Broad Form Property Damage, Contractual Liability and Completed Operations coverage, Professional Liability where applicable and such other insurance as the Town may require. The Town requires that these aggregate limits be maintained by the Contractor as required. Contractors insurance shall be primary and non-contributory and include waiver of subrogation in favor of the Town. Any insurance available to the Town shall be secondary and non-contributory. It is the responsibility of the Contractor or his representative to notify the Town if ever or whenever the policy limits go below those required above. If the aggregate limits include defense costs, the Town should be so notified. It is the responsibility of the Contractor and his insuring agent to provide the Town with current certificates throughout the contract period, keeping the required limits in full force and effect. The Town of Wethersfield reserves the right to modify or change the requirements at any time if it is in the best interest of the Town to do so.

c. Auto Liability Insurance with minimum limits of:

\$1,000,000 Bodily Injury

\$1,000,000 Property Damage

or

\$1,000,000 Combined Single Limit

All insurance shall be evidenced by a certificate of insurance showing the Contractor's insurance is in force and the carrier shall notify the Town that the policies will not be canceled with less than 30 days written notice to the Contractor. Contractors Insurance shall be primary and non-contributory and

include waiver of subrogation.

3. On purchase orders where the cost of the work, or contract price, exceeds \$100,000 or is hazardous in nature, there shall also be a \$4,000,000 umbrella or excess liability layer over the underlying described above. In such case there shall also be required an Owners and Contractors Protective Liability policy issued naming the Town as named insured, with a \$1,000,000 per occurrence limit.

The wording for additional insured shall read as follows:

The Town of Wethersfield, The Wethersfield Board of Education (where appropriate), and its respective officers, agents and servants.

4. Professional Liability, \$5,000,000 limit (Architects, Engineers, Attorneys including Town Council, Accountants, Actuaries, Agent of Record).

Additional Coverage and Limits may be required based upon the particular services contracted.

5. Property Insurance

- a. Town shall purchase and maintain property insurance upon the Work at the site of the full insurable value thereof. This insurance shall include the interests of the Town, Contractor, Subcontractor and Architect in the Work; shall insure against the perils of fire and extended coverage; shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage; shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architect, attorney and other professionals). Contractor shall purchase and maintain similar property insurance on portions of the Work stored on or off site or in transit when such portions of the Work are to be included in an application for payment. It is understood that Contractor is solely responsible for damage to its tools and equipment, and maintaining associated insurance coverage on it.
- b. Town shall purchase and maintain such boiler and machinery insurance as may be required by law. This insurance shall only include the interest of the Town.
- c. The risk of loss within the Town's property deductible amount shall be borne by the Contractor if the loss is caused by Contractor.
- d. If Contractor requests in writing that other special insurance be included in the property insurance policy, Town shall, if possible, include such insurance, and the cost thereof shall be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the site, Town will in writing advise Contractor whether such other insurance has been procured by the Town.

6. Waiver of Rights: The Contractor and the Contractor's Subcontractors and their respective insurers waive all rights against (1) the Owner and , and (2) the Architect, Architect's consultants, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Contract or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner. The Owner and their insurers shall retain all rights of subrogation.



7. Receipt and Application of Proceeds: Town as trustee shall have power to adjust and settle any loss with the insurers. Any insured loss under the policies of insurance shall be adjusted with Owner and made payable to Town as trustee for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause. Town shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order.

#### Other Conditions

##### Claims Made Coverage Guidelines - General or Professional Liability

The Town requires that the Certificate of Insurance include the retroactive date of the policy. Retroactive dates must be either before or coincident with the Contract's inception.

The Town requires prompt and immediate notice of the following:

1. Erosion of any aggregate limits.
2. Advance of any retroactive dates.
3. Cancellation or non renewal. Prior 30 day notice.

The Town requires that any extended reporting period premium be paid by the named insured. The reporting of possible claims to the Town of Wethersfield is necessary and the Town retains the right to require that the extended reporting period be invoked by the Contractor at his/her expense. The Town requires that if any excess coverage is secured to meet the requirements that the retroactive dates be concurrent with the primary policy and that the retro dates be either before or coincident with the inception of the Contract. If the retroactive date is moved, or if the policy is canceled or not renewed, the Contractor must invoke the tail coverage option, at no expense to the Town but rather at the expense of the Contractor, in order to adequately assure that the policy meets the above requirements.

If, at any time, any of the said policies shall be or become unsatisfactory to the Town, as to form or substance, or if a surety issuing any such shall become unsatisfactory to the Town, the Bidder shall promptly obtain a new policy, submit same to the Purchasing Agent for approval and submit a certificate thereof as hereinabove required. Upon the failure of the Bidder to furnish, deliver or maintain same, this contract, at the election of the Town, may be forthwith declared suspended, discontinued or terminated. Failure of the Bidder in the above shall not relieve same from any/all liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the Bidder concerning indemnification.

In the event that claims in excess of these amounts are filed by reason of any operations under this contract, the amount of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the Bidder until such time as the Bidder shall furnish such additional security covering such claims as may be determined by the Town.

Note: Proof of insurance in accordance with these specifications must accompany bid submission.

16. MOTOR VEHICLE – A vehicle as defined in Subdivisions (30) and (31) of Section 14-1, Connecticut General Statutes, Revision of 1958, as amended.
17. MUFFLER – A device for abating sound such as escaping gases.
18. NIGHTTIME HOURS – The hours between 10:00 p.m. and 7:00 a.m. Sunday evening through Saturday morning and between 10:00 p.m. and 9:00 a.m. Saturday evening through Sunday morning.
19. NOISE LEVEL – The sound-pressure level as measured with a sound-level meter using the A-weighting network. The sound level is designated “db(A)” or “db(a)”.
20. PERSON – Any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency or political or administrative subdivision of the state or other legal entity of any kind.
21. PREMISES – Any building, structure, land or portion thereof, including all appurtenances, owned or controlled by a person. A noise emitter’s premises including contiguous publicly dedicated street and highway rights-of-way, all road rights-of way and waters of the state.
22. PROPERTY LINE – That real or imaginary line along the ground surface and its vertical extension which separates real property owned or controlled by any person from contiguous real property owned and controlled by another person and which separates real property from the public right-of-way.
23. PUBLIC RIGHT-OF-WAY – Any street, avenue, boulevard, highway, sidewalk, alley, park, waterway, railroad or similar place which is owned or controlled by a government entity.
24. RECREATIONAL VEHICLE – Any internal-combustion-engine-powered vehicle which is being used for recreational purposes.
25. RESIDENTIAL ZONES – Those areas so designated under Special Resident Zone (SR), AA Residence Zone, A-1 Residence Zone, A Residence Zone, B Residence Zone, C Residence Zone, Planned Development – Medium Density Residence Zone (PD-MDR), Planned Development – High Density Residence Zone (PD-HDR) and Planned Development – Elderly Housing Zone (PD-EH) of the Zoning Regulations of the Town of Wethersfield.
26. SOUND – A transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alterations in pressure or position of the particles in the medium and which, in air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.
27. SOUND LEVEL METER – An instrument used to measure sound levels. A “sound-level-meter” shall conform, as a minimum, to the American National Standards Institute operational specifications for sound level meters §1.4-1971 (Type S2A).
28. SOUND-PRESSURE LEVEL – Twenty (20) times the logarithm to the base 10 of the ratio of the pressure of a sound to the reference pressure of a sound to the reference pressure of twenty (20) micronewtons per square meter (20x10<sup>6</sup> newtons/meters<sup>2</sup>) or two ten-thousandths (0.0002) dyne per square centimeter, and is expressed in decibels (db).

§ 105-4 Noise Measurement Procedure

For the purpose of determining noise levels as set forth in this chapter, the following guidelines shall be applicable.

- A. A person conducting sound measurements shall have been trained in the techniques and principles of sound-measuring equipment and instrumentation.
- B. Instruments used to determine sound-level measurement shall be sound-level meters as defined in this chapter.
- C. The following steps should be taken when preparing to take sound level-measurements:
  1. The instrument manufacturer’s specific instructions for the preparation and use of the instrument shall be followed.
  2. Measurements to determine compliance with § 105-5 shall be taken at a point that is located more or less (1) foot beyond the property line of the noise emitter’s premises and within the noise receptor’s premise.
  3. The recommended practices for determining statistical noise levels shall be those as outlined in the document entitled “Connecticut Noise Survey Data Form No. 101”.

§ 105-5 Noise Levels

It shall be unlawful for any person to emit or cause to be emitted any noise beyond the property lines of his/her premises in excess of the following noise levels:

Zone in Which Noise Receptor is Located

Zone in Which Noise Emitted is Located	Industrial [db(A)]	Business [db(A)]	Residential Daytime Hours[db(A)]	Residential Nighttime Hours[db(A)]
Industrial	70	66	61	51
Business	62	62	55	45
Residential	62	55	55	45

§ 105-6 Background and Impulse Noise

- A. In those individual cases where the background noise levels caused by sources not subject to this chapter exceed the standards contained herein, a source shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise levels by five (5) db(A), provided that no source subject to the provisions of this chapter shall emit noise in excess of eighty (80) db(A) at any time and provided that this section does not decrease the permissible levels of other sections of this chapter.
- B. No person shall cause or allow the emission of impulse noise in excess of eighty (80) db peak sound-pressure level during nighttime hours to any residential zone.
- C. No person shall cause or allow the emission of impulse noise in excess of one hundred (100) db peak sound-pressure level at any time to any zone.

§ 105-7 Exceptions

- A. This chapter shall not apply to noise emitted by or related to:
  - 1. Natural phenomena.
  - 2. Any bell or chime from any building clock, school or church.
  - 3. Any siren, whistle or bell lawfully used by emergency vehicles or any other alarm systems used in an emergency situation.
  - 4. A public emergency sound signal.
  - 5. Warning devices required by the Occupational Safety and Health Administration or other state or federal safety regulation
  - 6. Farming equipment or farming activity.
  - 7. An emergency.
  - 8. Snow removal equipment.
- B. The following shall be exempt from this chapter, subject to special conditions as specified.
  - 1. Noise generated by construction equipment which is operated during daytime hours, provided that the operation of construction equipment during nighttime hours shall not exceed the maximum noise levels as specified in § 105-5.
  - 2. Noise from domestic power equipment operated during daytime hours.
  - 3. Noise from demolition work conducted during daytime hours, provided that when considered emergency work, demolition shall be exempted at all times from the noise levels set in this chapter.
  - 4. Noise created by any aircraft flight operations which are specifically preempted by Federal Aviation Administration.
  - 5. Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the town, including but not limited to parades, sporting events, concerts and fireworks displays.
  - 6. Noise created by blasting other than that conducted in connection with construction activities shall be exempted, provided that the blasting is conducted between 8:00 a.m. and 5:00 p.m. local time, at specified hours previously announced to the local public and provided that a permit for such blasting has been obtained from local authorities,
  - 7. Noise created by leaf, refuse and solid waste collection, provided that the activity is conducted during the hours specified in this Code or, if no hours are specified or are specifically prohibited, then during daytime hours. [Amended 9-7-1993]
  - 8. Noise created by fire or intrusion alarm shall, from time of activation of the audible signal, emit noise for a period of time not exceeding ten (10) minutes when such alarm is attached to a vehicle or thirty (30) minutes when attached to any building or structure.
  - 9. Public-address systems used in election campaign activities during daylight hours only.

§ 105-8 Vehicle Noise Restrictions

The following activities are prohibited:

- A. Motor vehicle noise. All motor vehicles operated within the limits of the Town of Wethersfield shall be subject to the noise levels set forth in the regulations authorized in Section 14-80a of the Connecticut General Statutes.
- B. Motor vehicle sound-amplifying devices. No sound-amplifying devices on or within motor vehicles shall emit noise in excess of the noise levels as specified in §105-5.
- C. Recreational vehicles noise. No person shall create or cause to be created any unreasonably loud or disturbing noise due to the operation of a recreational vehicle. A noise shall be deemed to be unreasonably loud and a violation of this chapter when the noise so generated exceeds the noise level standards set forth in §105-5.

§ 105-9 Penalties For Offenses

Any person in violation of any of the provisions of this chapter shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined in an amount not to exceed fifty dollars (\$50). Each day that such

violation continues after the time for correction of the violation given in an order shall constitute a continuing violation, and the amount of the fine shall be doubled for each day said violation continues, said fine not to exceed four hundred dollars (\$400) per day.

§ 105-10 Variances

- A. Any person living or doing business in Wethersfield may apply to the Chief of Police for a variance from one (1) or more of the provisions of this chapter which are more stringent than the Connecticut Department of Environmental Protection regulations for the control of noise, provided that the applicant supplies all of the following information to the Chief of Police at least twenty (20) days prior to the start of the activity for which the variance is sought:
  - 1. The location and nature of the activity
  - 2. The time period and hours of operation of said activity.
  - 3. The nature and intensity of the noise that will be generated.
- B. No variance from this chapter shall be granted unless it has been demonstrated that:
  - 1. The proposed activity will not violate any provisions of the Connecticut Department of Environmental Protection regulations;
  - 2. The noise levels generated by the proposed activity will not constitute a danger to the public health; and
  - 3. Compliance with this chapter constitutes an unreasonable hardship on the applicant.
- C. The application for a variance shall be reviewed and approved or rejected at least five (5) days prior to the start of the proposed activity. Approval or rejection shall be made in writing and shall state the condition(s) of approval, if any, or the reason(s) for rejection.
- D. Failure to rule on an application within the designated time shall constitute approval of the variance.

§ 105-11 More Stringent Provisions to Apply

All provisions of the Zoning Regulations of the Town of Wethersfield which are more stringent than those set forth herein shall remain in force. If, for any reason, any word, clause, paragraph or section of this chapter shall be held to make the same unconstitutional or be superseded by any State laws or regulations, this chapter shall not thereby be invalidated, and the remainder of the chapter shall continue in effect.

## APPENDIX II

### ORDINANCE PROVIDING FOR LOCAL PREFERENCE

#### TOWN BASED BUSINESS

**The term “town based business” shall mean a business with a principal business located within the Town of Wethersfield.** A business shall not be considered a town based business, unless evidence submitted with each bid submitted by said business to establish that said business has a bona fide principal place of business in Wethersfield. Such evidence may include evidence of ownership of or a long term lease of the real estate from which the principal place of business is operated, or payment of property taxes on the personal property of the business to be used in performance of the bid.

#### LOWEST RESPONSIBLE BIDDERS

On any project the lowest responsible bidder shall be determined in the following order:

Provided that such town based resident bidder shall have met all other requirements set forth in this article, any town based resident bidder which has submitted a bid not more than ten (10) percent higher than the lowest most responsible bid may be awarded the bid provided such town based bidder agrees to accept the award of the bid at the amount of the lowest most responsible bid.

If more than one town based resident bidder has submitted a bid not more than ten (10) percent higher than the lowest responsible bid, the lowest responsible bidder shall be that one of the town based resident bidders which had submitted the lowest bid.

#### IMPLEMENTATION OF LOCAL BIDDER PREFERENCE

Any local vendor meeting the requirements of a local vendor as defined in the above ordinance responding to the solicitation shall be required to submit a signed Local Bidder Affidavit form with their bid submittal. Failure to submit an affidavit form, approved by the Town of Wethersfield, may result in your disqualification as a local vendor and ineligibility for contract award.

#### RESTRICTION OF USE OF LOCAL BIDDER PREFERENCE

This section shall not apply in those instances where the bid requested involves a cooperation purchasing arrangement between the town and other municipalities or the State of Connecticut.

APPENDIX III

AFFIDAVIT PURSUANT TO THE  
ORDINANCE PROVIDING FOR LOCAL PREFERENCE

**(It is not necessary to submit this form unless you are a Wethersfield Town-based Business)**

The undersigned, being duly sworn, disposes and says as follows:

1. That he/she is over the age of eighteen (18) years of age;
2. That he/she believes in and understands the obligations of an oath;
3. That he/she is submitting a bid as a “town based business”, pursuant to those conditions delineated in the Town of Wethersfield’s Ordinance Providing for Local Preference.

\_\_\_\_\_  
Name of Local Bidder  
(Please Print)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Local Bidder

Appendix IV  
Chapter 105  
NOISE CONTROL

- § 105-1 Title
- § 105-2 Purpose
- § 105-3 Definitions
- § 105-4 Noise Measurement Procedures
- § 105-5 Noise Levels
- § 105-6 Background and Impulse Noise
- § 105-7 Exceptions
- § 105-8 Vehicle Noise Restrictions
- § 105-9 Penalties For Offenses
- § 105-10 Variances
- § 105-11 More Stringent Provisions to Apply

[HISTORY: Adopted by Town Council of the Town of Wethersfield as Secs. 3-4-1 through 3-4-12 of the Code of 1972 Section 105-3 amended at time of adoption of Code; see Ch. 1, General Provisions, Art. II. Other amendments noted where applicable.]

GENERAL REFERENCES

Noise to attract sales – See Ch. 116.

§ 105-1 Title

The short title of this chapter shall be the “Town of Wethersfield Noise Control Ordinance”.

§ 105-2 Purpose

It is recognized that people have a right to and should be ensured an environment free from excessive sound and vibration that may jeopardize their health, safety or welfare or degrade the quality of their lives. This chapter is enacted to protect, preserve and promote the health, safety, welfare and quality of life for the citizens of Wethersfield through the reduction, control and prevention of noise.

§ 105-3 Definition

1. BACKGROUND NOISE – Noise of a measurable intensity which exists at a point as a result of a combination of many distant sources individually indistinguishable. In statistical terms, it is the level which is exceeded ninety (90%) of the time (L90) in which the measurement is taken.
2. BUSINESS ZONE: - Those areas so designated under Business Zone No. 1 (B-1), Business Zone No. 2 (B-2), Planned Development – Office Zone (PD-O) and Planned Development – Business Zone – (PD-B) of the Zoning Regulations of the Town of Wethersfield.
3. CHIEF OF POLICE – The Chief of Police of the Town of Wethersfield or a duly authorized officer subject to his order.
4. CONSTRUCTION – The assembly, erection, substantial repair, alteration, demolition or site preparation for or of public rights-of- way, buildings or other structures, utilities or property.
5. CONSTRUCTION EQUIPMENT – Any equipment or device operated by fuel or electric power used in construction or demolition work.
6. DAYTIME HOURS – The hours between 7:00 a.m. and 10:00 p.m. Monday through Saturday and the hours between 9:00 a.m. and 10:00 p.m. on Sunday.
7. DECIBEL – A unit of measurement of the sound level, the symbol for which is “db.”.
8. DEMOLITION – Any dismantling, intentional destruction or removal of structures, utilities, public or private right-of way surfaces or similar property.
9. DOMESTIC POWER EQUIPMENT – Includes but not limited to power saws, drills, grinders, lawn and garden tools and other domestic power equipment intended for use in residential areas by a homeowner.
10. EMERGENCY VEHICLE – Any motor vehicle authorized by any local authority to have sound warning devices, such as sirens and bells, which can lawfully be used when responding to an emergency.
11. EMERGENCY WORK – Work made necessary to restore property to a safe condition following an emergency or work required to protect persons or property from exposure to imminent changes.
12. EXCESSIVE NOISE – Any sound, the intensity of which exceeds the standards set forth in §105-5.
13. IMPULSE NOISE – Sound of short duration, usually less than one (1) second, with an abrupt onset and rapid delay.
14. INDUSTRIAL ZONE – Those areas so designated under the Industrial Zone (I) and Industrial Park Zone (IP) of the Zoning Regulations of the Town of Wethersfield.
15. INTRUSION ALARM – A device with an audible signal and which, when activated, indicates an intrusion by an unauthorized person.

## **Appendix V TREE PROTECTION**

### **1. PURPOSE**

- (a) The purpose of these specifications is to provide guidelines for the preservation of beneficial urban or community trees during the construction and installation of underground utilities and/or road or sidewalk improvements.

### **2. GENERAL**

- (a) Trees located near construction and excavation projects are impacted in two major areas; above ground impacts are trunk injuries and broken branches. Corrective treatments are directed to the trunk or branches as needed. However, damage to a tree's root system is not obvious and not easily treated. The underground portions of a tree are just as important as the above ground parts. The roots of a healthy tree will extend anywhere between one and one-half to three times the tree's height. This distance can be considered as the tree's root zone. Anytime construction enters within the drip line of a tree, you are operating in the Critical Root Zone of that tree. Trenching within the drip line of a tree can sever 30% - 50% of the trees root system, depending how close it is to the tree's trunk. Soil compaction by heavy equipment and general operations will further diminish the tree's ability to sustain itself. The following specifications are provided to preserve street trees during construction and to reduce tree mortality due to construction and to reduce tree mortality due to construction impacts.
- (b) Wood products with pentachlorophenol and creosote are not permitted near trees.
- (c) Alkaline clays or limestone should not be used as fill or paving near trees.
- (d) Concrete should be mixed in thick plastic tarp or outside the site.

### **3. IMPLEMENTATION**

- (a) Protection and repair of impacts to above ground portions of street trees.
  1. Prior to beginning any construction activities a CT Licensed Arborist or tree service should remove all trees designated for removal and, where appropriate, the Arborist or tree service should prune tree branches for Crown Elevation and Safety Pruning. The minimum pruning height may be increased if large trenching equipment may damage higher limbs and branches. This will reduce the possibility of breaking or damaging limbs with equipment during construction. Also, at this time, the Arborist or tree service should prune (thin) all trees identified to be significantly impacted by the construction and designated for protection. This will reduce leaf surface and help to compensate for root loss. The extent of pruning should be proportional to the amount of root system impacted. If the trees to be pruned are on private property, approval of the property owner must be obtained prior to the work.
  2. During construction, extreme care should be exercised to avoid equipment damage to the tree trunks and lower branches. Damaged or broken branches and tree trunk injuries should be reported to the Engineer and be professionally treated as soon as possible.
  3. Where designated by the Engineer and prior to construction, trees requiring protection shall be fenced off and/or the trunks protected from equipment damage.
  4. All pruning or treatment for damaged trees shall be approved by the Engineer.
- (b) Root Zone Protection:
  1. Before beginning any construction activities, trees to be retained shall be protected with fencing. The purpose of the fencing is to prevent root damage to soil compaction. Soil compaction can be caused by heavy equipment, truck traffic, and stockpiling fill or other construction materials on the root system of a tree. As much of the tree's root zone as possible should be fenced off. The minimum area to be fenced off would be that area within the drip line of the tree; otherwise known as the Critical Root Zone. The fencing should be highly visible, of sturdy construction, and at least four feet high. Fences may be snow fence, synthetic fabric, or plastic fence. If traffic over tree roots is unavoidable, contractor shall furnish and spread several inches of wood chips on the soil or install a root system bridge.
  2. Any excavation within the Critical Root Zone will be done carefully so as to minimize damage to tree roots. No more than 25% of roots within drip line of tree shall be disturbed. In no case are tree roots to be ripped, torn or crushed during excavation. Bulldozers and backhoes are not acceptable means for root cutting. Instead, all tree roots with a diameter of one-half (1/2) inch or larger shall be cut cleanly with sharp lopping



shears. Tree roots too large for lopping shears may be cut with a power cutoff saw equipped with a fiber masonry blade. Roots must be protected from sunlight and drying action, and covered with soil, mulch or damp burlap. Following such root pruning, backfill adjacent to the roots shall be good-quality topsoil mixed with an equal amount of peat moss. Excavated roots will be backfilled with soil as soon as possible following pruning to prevent moisture stress; and in no case will roots be left exposed longer than the end of the work day on which they were first uncovered.

3. Immediately after construction, all existing affected trees within the project area shall be fertilized by high pressure liquid injection method with a slow release (5-30-30) organic fertilizer mixed with an organic root growth enhancer, at rate of 75 gallons per 1,000 square feet root area (12 lb. fertilizer per 100 gallons of water). Trees shall be regularly watered if rainfall is inadequate during construction.

(c) Tree Removal and Replacement

1. Where existing trees are shown on the plans to be removed, the Contractor shall remove the tree only if it has been posted and marked for removal by the Town of Wethersfield Tree Warden. The trees shall be removed by a qualified Arborist or an experienced tree removal firm. The tree trunk shall be cut, as close to the ground surface as possible and the stump shall be ground to a point at least 12 inches below the ground surface. All wood and debris shall be removed from the site and disposed of in a proper manner.
2. The plans may designate that new trees be planted in available space within the street right-of-way or within easement areas. If new trees are to be planted, the trees shall have a minimum caliper and height called for in the plans.
3. Tree removal and planting shall be paid at the unit price bid for the appropriate item in the Bid Form.

(d) Tree / Shrub Lifting Replanting

1. Where designated on the Construction Drawings, certain trees and shrubs shall be temporarily lifted from their current position and transplanted back to their original or to new locations.
2. By utilizing a large "tree spade", relatively small trees and shrubs (ranging from 1" to 10" caliper measurement) can be lifted, the trench excavated, the pipe installed, the trench backfilled and the tree/shrub reset as a series of operations over a generally short period of time. It is essential that the following specifications are followed exactly to ensure that any additional damage is not done to the trees above and beyond the impact of the planned excavation.
3. Tree Lifting: A large size tree space capable of moving trees 10" DBH should be utilized. This type of equipment can dig and lift trees and shrubs while preserving a large volume root ball. While the tree spade is holding the tree and root ball, the trench can be excavated, the sewer line can be installed, and the trench can be partially backfilled. It is important that the backfill is properly compacted for the replanting of the tree so that the tree will not settle. If the tree is allowed to settle or lower its position relative to its original grade, the development of the tree will be affected.
4. Tree Re-Planting: Once the tree is replaced in its original position in the landscape, the tree planting hole shall be backfilled in a zone two feet wide adjacent to the root ball with the original topsoil removed from the trench that has been mixed with an equal amount (50 – 50) with peat moss. Excavated trees must be backfilled the same day to prevent drying. If the planting or backfilling is delayed, the tree shall be watered as recommended by the Arborist.
  - a. The tree shall then be staked in a triangular configuration to ensure stability.
  - b. The tree or shrub shall be thoroughly watered at the time of replanting and watered at least weekly for an amount equivalent of 1" of rain.
5. Tree Fertilization and Aeration.
  - a. Because the root system of the tree has been diminished by transplanting, it is important to fertilize the tree to provide a nutrient rich environment for re-growth.
  - b. Immediately after construction this tree shall be fertilized by high-pressure liquid injection method with a slow release organic fertilizer mixed with an organic root growth enhancer.
  - c. The following rates will apply:  
12 lbs. of Doggett 5-30-30 tree fertilizer (or approved equivalent) per 100 gallons of water. Apply 75 gallons of this mixture per 1,000 square feet of available root area. Soil injection should be 8-12 inches deep using an injector probe at 150 – 200 lbs. Pressure. Injection shall begin two feet out from the trunk of the tree and be spaced two and a half feet apart, injecting on a grid extending to the outer most limit of the root ball.

6. The cost of the designated tree/shrub lifting and re-planting shall be included in the price bid for the respective bid item.
- (e) Root Barrier Installation: Prior to the construction of sidewalks, a root barrier shall be installed along sidewalks, adjacent to all trees, which are to remain. The length of the root barrier required shall be as recommended by the Arborist or as directed by the Engineer. In no case shall the length of the root barrier be less than 12 feet. Unless otherwise directed by the Engineer, root barriers shall have a minimum depth of 24 inches. Root barriers shall be Model No. UB24-2 manufactured by Deep Root Corporation, or approved equivalent. Payment shall be per square foot of root barrier when the item appears in the Bid Form.
  - (f) Compensation for Damaged or Destroyed Trees: The Town of Wethersfield Tree Warden will evaluate the condition of each tree within the project area and calculate the dollar value of the damage done to each tree during construction. The total value of the tree damage will be deducted from the Contractor's final payment.

## Appendix VI

### Supplementary Conditions

#### **I. Definitions**

1. The “Agreement” or “Contract” shall be interchangeable and mean the executed agreement between the Owner and Contractor to perform the Work on the Project pursuant to the Contract Documents.
2. The terms “Town” or “Owner” shall be interchangeable and mean the Town of Wethersfield, Connecticut and its respective officers, agents and employees.
3. The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations including Contractor’s obligations during the correction period specified in the Contract Documents. The Work may constitute the whole or a part of the Project.
4. The “Project” is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

#### **II. The Contract Documents**

1. The “Contract Documents” to which the Contractor is bound consist of the Contract (Purchase Order), Attachment 2 - Fair Employment Practices for Qualifications of Bidders; Attachment 3 - Non-Collusive Affidavit; Appendix I - Insurance and Indemnification Requirements; Appendix II - Ordinance Providing for Local Preference; Appendix III - Affidavit Pursuant to the Ordinance Providing for Local Preference; Appendix IV - Noise Control; Appendix V - Tree Protection; Instructions to Bidders; Appendix VI – Supplementary Conditions; Section 00100 Instruction to Bidders, 01010 Summary of Work; The Bid Form dated January 11, 2019; Any Addenda issued by the Town or Architect; the following Specifications: 02075 Roof Removal, 04500 Masonry Repairs, 06200 Wood Restoration, 07310 Asphalt Shingle Roofing, 07320 - Wood Shingle Roofing, 07550 - Modified Bitumen Membrane Roofing, 07600 Flashing and Sheet Metal, 07900 Joint Sealers; and the following Drawings: T-000 - Title Sheet, Notes, Scope of Work, Location Map, A-101 - Roof Plan; A-201 - West and South Elevations, A-202 East and North Elevations, A-301 - Wood Shingle Roofing Details, A-302 - Dormer Details, A-303 - Misc. Wood Shingle Details, A-304 - Built-Up Roofing Details.
2. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. If, and to the extent of, any inconsistency, ambiguity, or discrepancy in the Contract Documents, such inconsistency, ambiguity or discrepancy shall be resolved based on the greater quantity, higher quality or level of performance, most expensive, more time consuming item as determined by the Architect.

### **III. Owners Right to Stop the Work and Right to Carry Out the Work**

1. If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

2. If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner on demand.

### **IV. Contractor Responsibilities**

1. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. The Contractor shall evaluate the jobsite safety thereof and shall be fully and solely responsible for the jobsite safety of the Work and of such means, methods, techniques, sequences or procedures.

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

3. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, temporary electricity (including service, distribution and usage charges), transportation, sanitary facilities, drinking water, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

4. The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance,

improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

5. In the event that the value of this Agreement is at or above the prevailing wage threshold as defined by Connecticut law, section 31-53, et. Seq. as amended, the Contractor shall include the costs of such wages and benefits and any annual adjustments in the Contract Price.

6. To the extent applicable by law, the Contractor and its Subcontractors shall comply with the goals, regulations and requirements of the Connecticut Commission on Human Rights and Opportunities.

7. The Contractor is required to comply with all provisions of the Civil Rights Act of 1964, the Equal Employment Opportunity Act of 1972, Executive Orders 11246, 11375, 11478 and, if applicable, the Connecticut Fair Employment Practice Law.

8. Pursuant to Conn. Gen. Stat. Sect. 4a-60, the Contractor agrees and warrants that, in the performance of the Contract, the Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the Work involved, in any manner prohibited by the laws of the United States or the State of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Connecticut Commission on Human Rights and Opportunities' (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of section 4a-60 and section 46a-56, 46a-68e, and 46a-68f; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission and permit access to pertinent books, records and accounts concerning the employment practices and procedures of the contractor as related to the provisions of this section and section 46a-56.

9. Non Resident Contractor. All Non-Resident Contractors shall comply with all laws governing them including but not limited to Conn. Gen. Stat. § 12-430(7).

10. The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall not be changed by the Contractor during the course of the Work, unless requested by the Owner for reasonable cause or the superintendent ceases to be employed by the Contractor. The superintendent shall represent the

Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

11. The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work in the form of a detailed critical path method schedule acceptable to the Owner and Architect. The schedule shall not exceed time limits current under the Contract Documents, shall be revised and/or updated at appropriate intervals as required by the conditions of the Work and Project, but in no event less than monthly with each Application for Payment, and shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

12. The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. The site and any building or any portion thereof under construction shall, at all times be maintained in a safe and orderly condition with access and egress ways kept clear.

13. The Contractor shall on a daily basis keep the premises and surrounding area free from accumulation of waste materials or rubbish, dust and debris caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project and shall leave the site in a neat and clean condition satisfactory to the Owner.

14. The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection.

15. By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

## **V. The Architect**

1. The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date of final completion. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents. However, in all events, the Architect does not have the authority to amend the Contract or waive any rights of the Owner.
2. Based on the Architect's evaluations of the Contractor's applications for payment, the Architect will review the amounts requested by the Contractor and will make recommendations to the Owner.
3. The Architect has authority to reject Work that does not conform to the Contract Documents.
4. The Architect will prepare Change Orders for the Owner's review.

## **VI. Changes in the Work**

1. Changes in the Work, both additions and deductions, may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order.
2. A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:
  - .a The change in the Work;
  - .b The amount of the adjustment, if any, in the contract sum; and
  - .c The extent of the adjustment, if any, in the contract time.
3. A Change Order duly executed by the Owner, the Architect and the Contractor shall constitute an all-inclusive settlement on account of the changes in the Work described or referred therein including all direct, indirect, supplemental, consequential and cumulative costs and delays associated in any way therewith, and the Contractor's signature on a Change Order represents a waiver of any and all rights to make any further Claim on account of that instrument or the changes reflected therein. By executing a Change Order the Contractor represents to the Owner that all Subcontractors performing Work under the Change Order have agreed to the terms of the Change Order, and the Contractor assumes full responsibility for, and shall defend, indemnify and hold harmless the Owner with respect to, any claims from the Subcontractors in connection with the Change Order or the performance of the Work covered by the Change Order.

## **VII. Time**

1. The Work shall commence within five (5) calendar days after the Contractor receives a written notice to proceed with the Work from the Owner or Architect.
2. The Work shall be substantially completed within seventy (70) calendar days after the date of commencement set forth in Section VII. 1, above. Substantially completed shall mean that the Work has reached a stage of completion where all of the Work required by the Contract Documents is completed and allowing the Project to be used for its intended purpose as determined by the Architect and Owner.

3. The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the contract time. If the Owner determines that the progress of the Work has been materially delayed, or that the date of Substantial Completion, as may be adjusted by Change Order, is in jeopardy of not being met, the Owner shall have the right to require the Contractor to take whatever steps are necessary to recover all or a portion of such delay. To the extent that the Contractor, or anyone for whom the Contractor is directly or indirectly responsible, has caused all or part of such delay the costs associated with such recovery shall be borne by the Contractor, and the activities required to effect such recovery shall not be deemed a Change in the Work. The Contractor shall, within three days after the Owner's request to take such action, notify the Owner and the Architect in writing and promptly commence implementing the steps the Contractor proposes to take to effect such recovery, and provide the Owner an acceptable detailed recovery schedule setting forth the actions to be taken by the Contractor. If the Contractor disputes any direction by the Owner pursuant to this section, it shall have no right to refuse to accelerate the Work.

4. Contractor acknowledges that delays resulting from changes in the Work, extreme weather, changes to the sequencing of the Work, material shortages, transportation, strikes and other causes are inherent in the construction process. Contractor acknowledges that it has accounted for delays in its price and agrees to bring no claim for money damages as a result of any delay or hindrance. In the event that the Contractor claims that it has been delayed or hindered, it shall submit a request for an extension of time to Owner and Architect in the manner and pursuant to the time periods set forth in the Contract Documents. If it is determined that Contractor has been delayed or hindered through no fault of its own, the time for performance hereunder will be extended and the extension of time shall be Contractor's sole remedy for delay or hindrance. Under no circumstances will the Owner be liable to the Contractor for damages resulting from any delays or hindrances.

#### **VIII. Payments to Contractor**

1. Payments shall be made to the Contractor by Owner when due based upon the percentage of the Work completed by the Contractor as determined by the Owner, who may consult with the Architect, on a monthly basis. Payments shall be made within forty five (45) calendar days after the Owner approved the Contractor's application for payment. In the event the Owner or Architect disagrees with the amount requested by the Contractor, the Owner will set forth its reasons therefore within five (5) calendar days. In all events the Owner shall pay all undisputed amounts within the time period set forth herein.

2. As a condition of each payment, the Contractor shall provide the Owner with a waiver of all liens and claims in a form acceptable to the Owner.

3. The Owner may withhold payment or, because of subsequently discovered evidence, may nullify the whole or a part of a payment previously issued, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions including but not limited to:

- .a defective Work not remedied within the time frames set forth in the Contract Documents;
- .b third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;



.c failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;

.d reasonable evidence that it is more likely than not that the Work cannot be completed for the unpaid balance of the contract sum;

.e damage to the Owner or a separate contractor or any other party if such damage arises out of the Project and is caused by the Contractor or anyone for whom the Contractor may be directly or indirectly responsible;

.f reasonable evidence that the Work will not be completed within the contract time, and that the unpaid balance would not be adequate to cover actual damages for the anticipated delay; or

.g repeated failure to carry out the Work in accordance with the Contract Documents.; or

.h any other material breach of the Contract Documents.

4. The Contractor shall pay its Subcontractors and suppliers promptly in accordance with applicable law.

5. The Owner shall withhold 5% retainage from all progress payments. Retainage shall be paid to the Contractor when the Work is fully and finally completed as determined by the Owner.

#### **IX. Bonds**

1. The Contractor shall provide a labor and materials payment bond and a performance bond from a surety licensed to do business in the state of Connecticut and acceptable to the owner. The penal amount of such bonds shall be 100% of the contract sum. The cost of such bonds shall be included in the contract sum.

#### **X. Governing Law/Dispute Resolution/Claims**

1. The Contract shall be governed by the laws of the State of Connecticut.

2. All disputes between the parties shall be resolved in a court of competent jurisdiction in the state of Connecticut. In no event shall any disputes between the parties hereto be subject to arbitration.

3. In the event the Contractor seeks and adjustment in the contract time or contract sum the Contractor shall set forth such Claim to the Owner in writing within five (5) calendar days of the event giving rise to the Claim. Failure of the Contractor to provide notice to the Owner as aforesaid shall constitute an abandonment and waiver of such Claim by the Contractor.

#### **XI. Termination**

1. The Owner may terminate the Contract if the Contractor

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

.b fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

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

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

2. When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate engagement of the Contractor and may, subject to any prior rights of the surety:

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

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

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

4. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services, the Owner's attorneys' fees and costs and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall survive termination of the Contract.

5. In the event it is adjudged that the Owner has terminated this Agreement wrongfully, the parties agree that such termination shall be deemed a termination for convenience and the Contractor shall be compensated as provided in this Section.

6. The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.a perform such Work as may be specified by the Owner in the notice and cease all other operations as directed by the Owner in the notice;

.b take all actions necessary, or that the Owner may direct, for the protection and preservation of the Work, materials, equipment or supplies; and

.c except for Work directed to be performed prior to the effective date of termination stated in the notice, assign such subcontracts and purchase orders to the Owner as it may request, terminate all other existing subcontracts and purchase orders (mitigating such costs to the extent practicable) and enter into no further subcontracts and purchase orders.

7. In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work actually executed and accepted by the Owner, and reasonable and documented costs incurred by reason of such termination, along with reasonable overhead and profit on the Work actually executed. Such payment shall not include any overhead or profit on Work not executed. In all events, the Contractor waives all damages of any kind or nature.

# TOWN OF WETHERSFIELD

## Purchasing Office

505 SILAS DEANE HIGHWAY  
WETHERSFIELD, CT 06109

### “NO BID” RESPONSE

**Name of Bid/RFP/RFQ:** \_\_\_\_\_

**Date of Bid Opening:** \_\_\_\_\_

For tracking, audit, and record-keeping purposes, we would very much appreciate knowing the reason why you have chosen not to submit a proposal for the above-referenced Public Bid, RFP or RFQ.

Would you please take a moment to provide a brief explanation below for not submitting a proposal to us for this purchase?

\_\_\_\_\_  
\_\_\_\_\_

Please also indicate if you would like to continue to receive bids and quotes from us in the future for above-referenced related purchases. If we do not receive this form back, we will assume you are no longer interested in receiving bids and quotes from us.

Please continue to send me bids, quotes, and RFPs. Yes \_\_\_\_\_ No \_\_\_\_\_

Company name \_\_\_\_\_

Mailing address \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

Your name \_\_\_\_\_ Date \_\_\_\_\_

This may be mailed, faxed, or e-mailed back to us at:

Town of Wethersfield  
Attn: Purchasing Office  
505 Silas Deane Highway  
Wethersfield, CT 06109  
Fax: 860 721-2997

E-mail: [miguel.robles@wethersfieldct.gov](mailto:miguel.robles@wethersfieldct.gov)

Thank you for your response.

**Prevailing Wage Rates**

Project: Roof Replacement At Solomon Welles House

**Minimum Rates and Classifications  
for Residential Construction**

ID#: R 25581

**Connecticut Department of Labor  
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

**Project Number:** 2019-06

**Project Town:** Wethersfield

**FAP#:**

**State Number:**

Project: Roof Replacement At Solomon Welles House

<b>CLASSIFICATION</b>	<b>Hourly Rate</b>	<b>Benefits</b>
Roofers: Composition	36.70	19.85
Roofers: Slate & Tile	37.20	19.85
Sprinkler Fitters (Fire Sprinklers) (Trade License required: F-1,2,3,4)	43.92	15.84 + a
Cement Masons/Concrete Finisher and Tile Setter	21.22	
Elevator Mechanics (Trade License required: R-1,2,5,6)	51.71	32.645+a+b
Power Equipment Operator: Backhoe/Excavator 2 Cubic Yards and Over	39.23	24.05 + a

**As of: Tuesday, January 15, 2019**

Project: Roof Replacement At Solomon Welles House

Power Equipment Operator: Bulldozer Fine Grade 38.49 24.05 + a

---

Power Equipment Operator: Combination Hoe and Loader 37.51 24.05 + a

---

Power Equipment Operator: Loader (3 cubic yards up to 7 cubic yards) 37.20 24.05 + a

---

Power Equipment Operator: Loader (7 cubic yards or over) 39.55 24.05 + a

---

Power Equipment Operator: Backhoe/Excavator under 2 cubic yards;  
Rubber Tire Backhoe/Excavator 38.49 24.05 + a

---

Power Equipment Operator: Bulldozer (Rough Grade Dozer) 37.20 24.05 + a

---

Power Equipment Operator: Loader (under 3 cubic yards) 36.03 24.05 + a

---

Sheet Metal Mechanics (Including HVAC Duct Installation) (Trade  
License required: SM-1,2,3,4,5,6) 37.50 36.79

---

Carpenter (Including Drywall Hanging) 15.50

---

Electricians (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2,  
V-1,2,7,8,9) 19.99 2.00

---

**As of: Tuesday, January 15, 2019**

Project: Roof Replacement At Solomon Welles House

Painter: Brush and Roller, Excludes Drywall Finishing/Taping	15.33	1.56
--	-------	------

---

Painter: Drywall Finisher/Taper	16.25	2.70
---------------------------------	-------	------

---

Laborers: Common or General	13.09	1.63
-----------------------------	-------	------

---

Laborers: Landscape, Asbestos/Toxic Waste Removal, Lead Removal and Encapsulation	14.96	4.63
---	-------	------

---

Plumber/Pipefitter (Including HVAC Pipe Installation)	16.67	2.63
---	-------	------

---

**As of: Tuesday, January 15, 2019**

Project: Roof Replacement At Solomon Welles House

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate.*

***ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$3.00 premium in addition to the hourly wage rate and benefit contributions:***

***1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)***

***2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson***

***3) Cranes (under 100 ton rated capacity)***

*Crane with 150 ft. boom (including jib) - \$1.50 extra.*

*Crane with 200 ft. boom (including jib) - \$2.50 extra.*

*Crane with 250 ft. boom (including jib) - \$5.00 extra.*

*Crane with 300 ft. boom (including jib) - \$7.00 extra.*

*Crane with 400 ft. boom (including jib) - \$10.00 extra.*

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~*

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol).*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

**As of: Tuesday, January 15, 2019**



Project: Roof Replacement At Solomon Welles House

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**As of: Tuesday, January 15, 2019**



Opportunity \* Guidance \* Support



# **THIS IS A PUBLIC WORKS PROJECT**

**Covered by the**

# **PREVAILING WAGE LAW**

**CT General Statutes Section 31-53**

**If you have QUESTIONS regarding your wages  
CALL (860) 263-6790**

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

**Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions.** (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

# **Informational Bulletin**

## **THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE**

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is [http://www.osha.gov/fso/ote/training/edcenters/fact\\_sheet.html](http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html);
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

**THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.**

November 29, 2006

**Notice**  
**To All Mason Contractors and Interested Parties**  
**Regarding Construction Pursuant to Section 31-53 of the**  
**Connecticut General Statutes (Prevailing Wage)**

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

**Forklift Operator:**

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

*Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.*

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

## STATUTE 31-55a

### - SPECIAL NOTICE -

**To: All State and Political Subdivisions, Their Agents, and Contractors**

**Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.**

*Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.*

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: [www.ctdol.state.ct.us](http://www.ctdol.state.ct.us). For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

**Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.**



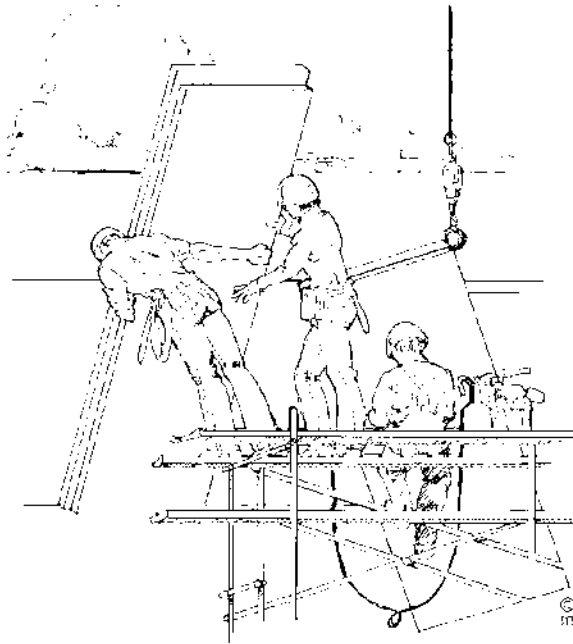
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached “Contracting Agency Certification Form” to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

 Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR  
WAGE AND WORKPLACE STANDARDS DIVISION  
CONTRACT COMPLIANCE UNIT

*CONTRACTING AGENCY CERTIFICATION FORM*

I, \_\_\_\_\_, acting in my official capacity as \_\_\_\_\_,  
authorized representative title

for \_\_\_\_\_, located at \_\_\_\_\_,  
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with  
\_\_\_\_\_, located at \_\_\_\_\_,  
project name and number address

shall be \$\_\_\_\_\_, which includes all work, regardless of whether such project  
consists of one or more contracts.

*CONTRACTOR INFORMATION*

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Authorized Representative: \_\_\_\_\_

Approximate Starting Date: \_\_\_\_\_

Approximate Completion Date: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Return To: Connecticut Department of Labor  
Wage & Workplace Standards Division  
Contract Compliance Unit  
200 Folly Brook Blvd.  
Wethersfield, CT 06109

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

CONNECTICUT DEPARTMENT OF LABOR  
WAGE AND WORKPLACE STANDARDS DIVISION

**CONTRACTORS WAGE CERTIFICATION FORM**  
**Construction Manager at Risk/General Contractor/Prime Contractor**

I, \_\_\_\_\_ of \_\_\_\_\_  
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the \_\_\_\_\_  
Company Name  
\_\_\_\_\_  
Street  
\_\_\_\_\_  
City

and all of its subcontractors will pay all workers on the  
\_\_\_\_\_  
Project Name and Number  
\_\_\_\_\_  
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

\_\_\_\_\_  
Signed

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

Return to:  
Connecticut Department of Labor  
Wage & Workplace Standards Division  
200 Folly Brook Blvd.  
Wethersfield, CT 06109

*Rate Schedule Issued (Date):* \_\_\_\_\_

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.											<b>PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS</b>											Connecticut Department of Labor Wage and Workplace Standards Division 200 Folly Brook Blvd. Wethersfield, CT 06109				
WEEKLY PAYROLL																										
CONTRACTOR NAME AND ADDRESS:											SUBCONTRACTOR NAME & ADDRESS					WORKER'S COMPENSATION INSURANCE CARRIER										
PAYROLL NUMBER		Week-Ending Date	PROJECT NAME & ADDRESS													POLICY #										
																EFFECTIVE DATE: EXPIRATION DATE:										
PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/FEMALE AND RACE*	WORK CLASSIFICATION	DAY AND DATE							Total ST Hours	BASE HOURLY RATE	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY						
				S	M	T	W	TH	F	S					FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER								
				HOURS WORKED EACH DAY							Total O/T Hours	TOTAL FRINGE BENEFIT PLAN CASH	1. \$	2. \$	3. \$	4. \$	5. \$	6. \$								
												\$	1. \$	2. \$	3. \$	4. \$	5. \$	6. \$								
												\$	1. \$	2. \$	3. \$	4. \$	5. \$	6. \$								
												\$	1. \$	2. \$	3. \$	4. \$	5. \$	6. \$								
												\$	1. \$	2. \$	3. \$	4. \$	5. \$	6. \$								

**\*FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker’s compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care \_\_\_\_\_ 4) Disability \_\_\_\_\_
- 2) Pension or retirement \_\_\_\_\_ 5) Vacation, holiday \_\_\_\_\_
- 3) Life Insurance \_\_\_\_\_ 6) Other (please specify) \_\_\_\_\_

**CERTIFIED STATEMENT OF COMPLIANCE**

For the week ending date of \_\_\_\_\_,

I, \_\_\_\_\_ of \_\_\_\_\_, (hereafter known as Employer) in my capacity as \_\_\_\_\_ (title) do hereby certify and state:

**Section A:**

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such person is covered by a worker’s compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

\_\_\_\_\_  
 (Signature) (Title) Submitted on (Date)

**PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS**

Week-Ending Date:  
Contractor or Subcontractor Business Name:

**WEEKLY PAYROLL**

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION  Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE							Total ST Hours  Total O/T Hours	BASE HOURLY RATE  TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY						
				S	M	T	W	TH	F	S					FICA	FEDERAL WITH- HOLDING	STATE WITH- HOLDING	OTHER								
				HOURS WORKED EACH DAY																						
											\$	1. \$														
											Base Rate	2. \$														
											\$	3. \$														
											Cash Fringe	4. \$														
											\$	5. \$														
											\$	6. \$														
											\$	1. \$														
											Base Rate	2. \$														
											\$	3. \$														
											Cash Fringe	4. \$														
											\$	5. \$														
											\$	6. \$														
											\$	1. \$														
											Base Rate	2. \$														
											\$	3. \$														
											Cash Fringe	4. \$														
											\$	5. \$														
											\$	6. \$														

\*IF REQUIRED

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS										Connecticut Department of Labor Wage and Workplace Standards Division 200 Folly Brook Blvd. Wethersfield, CT 06109									
In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.										WEEKLY PAYROLL									
CONTRACTOR NAME AND ADDRESS: Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472					SUBCONTRACTOR NAME & ADDRESS XYZ Corporation 2 Main Street Yantic, CT 06389					WORKER'S COMPENSATION INSURANCE CARRIER Travelers Insurance Company POLICY # #BAC8888928 EFFECTIVE DATE: 1/1/09 EXPIRATION DATE: 12/31/09									
PAYROLL NUMBER	Week-Ending Date	PROJECT NAME & ADDRESS								Total ST Hours	BASE HOURLY RATE	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS			GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY	
		DAY AND DATE												FICA	FEDERAL	STATE			LIST OTHER
PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/FEMALE AND RACE*	WORK CLASSIFICATION	S	M	T	W	TH	F	S	Total O/T Hours	TOTAL FRINGE BENEFIT PLAN CASH	FICA	WITH-HOLDING	WITH-HOLDING	LIST OTHER	RATE JOB	CHECK # AND NET PAY	
Trade License Type & Number - OSHA 10 Certification Number				20	21	22	23	24	25	26	HOURS WORKED EACH DAY								
Robert Craft 81 Maple Street Willimantic, CT 06226		M/C	Electrical Lineman E-1 1234567 Owner OSHA 123456		8	8	8	8	8		S-TIME 40	\$ 30.75 Base Rate	1. \$ 5.80 2. \$ 3. \$ 2.01				P-xxxx	\$1,582.80	#123 \$ xxx.xx
Ronald Jones 212 Elm Street Norwich, CT 06360	65%	M/B	Electrical Apprentice OSHA 234567		8	8	8	8	8		S-TIME 40	\$ 19.99 Base Rate	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$	xx.xx	xxx.xx	xx.xx	G-xxx	\$1,464.80	#124 \$xxx.xx
Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B		M/H	Project Manager			8					S-TIME 8	\$ Base Rate	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$	xx.xx	xx.xx	xx.xx	M-xx.x	\$1,500.00	#125 xxx.xx
											S-TIME	\$ Base Rate	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$						
											O-TIME	\$ Cash Fringe	4. \$ 5. \$ 6. \$						

7/13/2009 \*IF REQUIRED  
WWS-CP1

\*SEE REVERSE SIDE

PAGE NUMBER 1 OF 2

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

**\*FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care Blue Cross 4) Disability \_\_\_\_\_
- 2) Pension or retirement \_\_\_\_\_ 5) Vacation, holiday \_\_\_\_\_
- 3) Life Insurance Utopia 6) Other (please specify) \_\_\_\_\_

**CERTIFIED STATEMENT OF COMPLIANCE**

For the week ending date of 9/26/09,

I, Robert Craft of XYZ Corporation, (hereafter known as

Employer) in my capacity as Owner (title) do hereby certify and state:

**Section A:**

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

Robert Craft      owner      10/2/09  
 (Signature)      (Title)      Submitted on (Date)

**Section B: Applies to CONNDOT Projects ONLY**

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft      owner      10/2/09  
 (Signature)      (Title)      Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

**\*\*\*THIS IS A PUBLIC DOCUMENT\*\*\*  
\*\*\*DO NOT INCLUDE SOCIAL SECURITY NUMBERS\*\*\***



## **Information Bulletin** ***Occupational Classifications***

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

***Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.***

**Below are additional clarifications of specific job duties performed for certain classifications:**

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ***\*License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. *\*License required by Connecticut General Statutes: R-1,2,5,6.*

- **FORK LIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal)).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

- Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ***\*License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***\*License required, crane operators only, per Connecticut General Statutes.***

- **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- **SHEETMETAL WORKERS**

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

***\*License required per Connecticut General Statutes: F-1,2,3,4.***

- **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ***\*License required, drivers only, per Connecticut General Statutes.***

***For example:***

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➤ *Any questions regarding the proper classification should be directed to:*  
*Public Contract Compliance Unit*  
*Wage and Workplace Standards Division*  
*Connecticut Department of Labor*  
*200 Folly Brook Blvd, Wethersfield, CT 06109*  
*(860) 263-6543.*

**Connecticut Department of Labor  
Wage and Workplace Standards Division  
FOOTNOTES**

⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

**Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons  
(Building Construction) and  
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)**

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

**Elevator Constructors: Mechanics**

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

**Glaziers**

- a. Paid Holidays: Labor Day and Christmas Day.

**Power Equipment Operators  
(Heavy and Highway Construction & Building Construction)**

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

**Ironworkers**

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

**Laborers (Tunnel Construction)**

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

**Roofers**

- a. Paid Holidays: July 4<sup>th</sup>, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

**Sprinkler Fitters**

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

**Truck Drivers**

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.



## **INSTRUCTIONS TO BIDDERS**

### **OBTAINING DOCUMENTS**

Electronic copies of the Bidding Documents may be downloaded at the Town website under the Business tab, RFP's & Bids: <https://wethersfieldct.gov/finance/open-bids>

### **DEFINITIONS**

The Bidding Documents form the proposed Contract and are as listed in the Table of Contents, in addition to any addenda issued up to the time fixed for delivery of bids.

All definitions set forth in the General Conditions of the Contract or in other Contract Documents are applicable to the Bidding Documents.

A Bid is a complete and properly signed proposal to do the Work for the façade restoration and roof replacement and associated work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

### **BID FORM**

These Bidding Documents include a complete set of bidding and contract forms.

In order to receive consideration, make all Bids in accordance with the following:

1. Make Bids upon the forms provided thereof, properly executed and with all items filled out. Do not change the wording of nor add words to the Bid Form. Unauthorized conditions, limitations, or provisions attached to the proposal may be cause for rejection of the proposal. Alterations by erasure must be explained or noted in the Bid over the signature of the Bidder.
2. No oral, telegraphic or faxed Bids will be considered.
3. No Bids received after the time fixed for the receipt of Bids will be considered. Late bids will be returned to the sender unopened.

### **PREBID MEETING**

The Contractor shall attend a **mandatory** walk-thru/prebid meeting at the site on:

Thursday, January 24, 2019 at 10:00 A.M.

### **QUESTIONS**

The Contractor shall submit all questions in writing via email to Ms. Sally Katz [sally.katz@wethersfieldct.gov](mailto:sally.katz@wethersfieldct.gov) by:

Wednesday, January 30, 2019 by 2:00 P.M.

**METHOD OF SUBMISSION**

Submit Bids by hand in triplicate and enclose in a sealed opaque envelope marked Sealed Bid #2019-06 Solomon Welles House Roofing Replacement together with all other documents required to be submitted. An electronic PDF copy on removable media must also be submitted. Bids to be delivered to the following Addresses:

Mr. Miguel Robles, Purchasing Agent  
Department of Finance  
Wethersfield Town Hall  
505 Silas Dean Highway  
Wethersfield, CT 06109

Indicate the title of the Work and the name of the Bidder on the envelope.

**Bids must be delivered by: Wednesday, February 6, 2019 by 2:00 P.M.**

**BID OPENING**

Bids will be opened in public and read aloud at 2:00 P.M. on February 6, 2019.

The Owner reserves the right to postpone the date and time of receipt of Bids at any time prior to the date and time announced in this Instruction to Bidders or amendments thereto.

**BID SECURITY**

No bid security will be required.

**MODIFICATION OR WITHDRAWAL OF BIDS**

A Bid may not be modified, withdrawn or canceled by the Bidder for a period of 45 days following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting their Bid.

Prior to the time and date designated for the receipt of Bids, any Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder or by fax; if by fax, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids, and it shall be worded so as not to reveal the amount of the original Bid.

**AWARD OF CONTRACT - REJECTION OF BIDS**

It is the intent of the Owner to award a Contract for the Work set forth in the Bidding Documents.

The Bidder to whom the award is made will be notified at the earliest possible date.

The Owner reserves the right to reject any and all bids or waive any informality or irregularity in Bids received whenever the Owner decides, in its sole discretion, that such rejection or waiver is in the interest of the Owner. The Owner may or may not consider any Bid on which there is an alteration of or departure from the Bid Form, the Instruction to Bidders, or other Contract Documents.

The Owner has the right to accept the Bid or Bids which, in its judgment, is in its own best interests.

The Owner reserves the right to reduce or increase the scope of work of the project throughout the course of the work using the **base bids and unit prices** provided by the Contractor to reduce the Total Contract Sum. The Contractor shall be notified in writing of any reduction or addition in the scope of work before the planned start of that work.

### **BONDS**

Prior to signing the Contract, the Owner may elect to require the selected Contractor to secure and post a Labor and Materials Payment Bond and/or Performance Bond in the amount of 100% of the Contract Price, in a form approved by the Owner. All such bonds shall be issued by a surety acceptable to the Owner. Include the costs of all such bonds as a separate item in the Bid Form.

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

### **QUALIFICATION OF BIDDER**

Any Bidder is required to furnish evidence satisfactory to the Owner that they and their proposed subcontractors have sufficient means and experience in the types of work called for to assure completion of the Contract in a satisfactory manner.

Any Bidder shall comply promptly with all requests for information or to appear for examination, and shall actively cooperate with the Owner in its efforts to determine whether the Bidder is qualified to receive an award.

### **EXAMINATION**

Each Bidder shall visit the Site of the proposed Work, fully familiarize themselves with existing conditions and the character of the operations to be performed under the proposed Contract, and make such investigations as they shall find necessary so as to fully understand the facilities, physical conditions and restrictions relating to the Work under the Contract.

Each Bidder shall thoroughly examine and become familiar with the proposed Contract Documents.

By submitting a Bid, the Bidder covenants and affirms that (i) they have carefully examined the Work Site and the Drawings, Specifications, associated Bid Documents, and any Addenda or Bulletins, (ii) from their own investigation they have satisfied themselves of the location and the nature of the Work, the general and local conditions, and all matters which may affect the Work or its performance, and (iii) as a result of such examination and investigation, they fully

understand the conditions of bidding and will not make any claim for, and waives any right to, damages because of misinterpretation or misunderstanding of the Bid Documents and the conditions of bidding.

### **INTERPRETATION OF CONTRACT DOCUMENTS**

If any Bidder is in doubt as to the meaning of any part of the proposed Contract Documents, or finds discrepancies in or omissions from any part of the proposed Contract Documents, they may submit to the Architect, with a copy to Owner, a written request for interpretation thereof, not later than five days before Bids will be opened.

The person submitting the request shall be responsible for its prompt delivery.

Interpretation or corrections of proposed Contract Documents will be made only by Addendum, which will be mailed or delivered to each Bidder of record. All bidders are to acknowledge in writing that they have received the Addendum.

The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

### **TAXES**

The Contractor shall assume responsibility for paying all applicable taxes and include cost of same in Base Bids. The Town of Wethersfield is tax exempt. The Owner will supply the successful contractor with a Tax Exempt Certificate.

### **SUBSTITUTIONS**

All Bids shall be based on the materials, products and equipment specified or called for in the proposed Contract Documents.

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

The successful Bidder shall submit an itemized list of all proposed substitutions with their Bid. Such list shall include product identification and description, performance and test date, references and samples where applicable, an itemized comparison of the proposed substitution with the products specified or named by addenda, and comparative dates of delivery. In addition, the Bidder shall state the amount, if any, by which the accompanying bid will be reduced or increased if the Owner accepts the proposed substitutions.

By requesting a substitution, the Bidder represents that:

1. They have personally investigated the proposed substitute product and determined that it is equal or superior in all respects to the product specified;
2. They will provide the same guarantee for the substitute product that they would for the product specified;

3. They waive all claims for additional costs related to the substitute product which subsequently become apparent.
4. They will coordinate the installation of any accepted substitute product, making such changes as may be required for the Work to be complete in all respects; and
5. The proposed substitute product is readily available in sufficient quantity to prevent delay of the Work and is available in the same range of colors, textures, dimensions, gauges, types and finishes as the material or item specified.

### **SUBCONTRACTORS**

Each Bidder shall include with their Bid a list of all subcontractors to whom they propose to let portions of the Work. Such list shall include the name, address, telephone number, fax number and principals of the proposed subcontracting firm(s).

The Owner reserves the right to reject any proposed subcontractor, and the successful Bidder (the Contractor) shall not contract with any person or entity to whom the Owner objects.

Prior to the execution of the Contract, the successful Bidder shall meet with the Owner and Consultant to review the list of proposed subcontractors. The successful Bidder agrees to substitute for the proposed subcontractors such subcontractors as the Owner may request, to which the successful Bidder has no reasonable objection. Should a substitution requested by the Owner involve a change in the subcontract amount, the Contract Price will be adjusted as mutually agreed between the successful Bidder and the Owner.

### **TIME OF COMPLETION**

All work under this Contract, and on this Project shall commence within two weeks after Contract signing, and shall be completed within the accepted schedule set forth upon Contract signing.

### **END OF SECTION**

## **SECTION 01010 - SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.01 GENERAL PROVISIONS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. The Project consists of roof replacement to be performed at the Solomon Welles House, located at 220 Hartford Avenue, Wethersfield, CT 06109 as shown on Contract Documents prepared by Architectural Preservation Studio, PC, dated January 11, 2019.

- B. Project Team:

Architect/Engineer:

Mr. Carl Rothbart – Project Manager  
Architectural Preservation Studio, PC  
58 Pine Street, New Canaan, CT 06840  
(203) 594-9735

Owner:

Town of Wethersfield  
100 Marsh Street  
Wethersfield, CT 06109

Owners Representative:

Ms. Sally Katz  
Director of Physical Services  
Town of Wethersfield  
100 Marsh Street  
Wethersfield, CT 06109

- C. Summary by Reference: Work of the Contract can be summarized by reference to the Contract, Supplementary Conditions, Specification Sections as listed in the "Table of Contents", and Drawings as listed in the "Schedule of Drawings" bound herewith, Addenda and modifications to the Contract Documents issued subsequent to the initial printing of this project manual, and including but not necessarily limited to printed matter referenced by any of these.
- D. Summary of Work: The following, in conjunction with the Drawings and technical specification sections, shall identify the items of work for each building of this project:

### 1.03 SPECIAL CONDITIONS

- A. HAZMAT Abatement: All/any HAZMAT abatement is the Contractor's responsibility. The Contractor shall comply with all current regulations per all/any agencies having jurisdiction in the proper testing, removal and disposal of all/any asbestos and lead containing materials using EPA Best Lead Safe Practice Standards as part of the Base Bid. All work shall be performed by an EPA Certified Lead Safe Firm as part of the Base Bid. See HAZMAT Report available from the Town.

### 1.04 BID BREAKDOWN – BASE BID LUMP SUM ITEMS

- A. Base Bids provided by the Contractor shall include all labor, supervision, materials, overhead, profit and taxes necessary to perform the full extent of the work as described herein and in the Drawings.

#### General Conditions:

1. Install scaffolding and sidewalk bridging and fencing as necessary to allow access for repair work and to protect the public.
2. Provide all General Conditions and temporary facilities.

#### Roofing Repairs:

1. Remove/replace wood shingle roofing system, repair wood decking as necessary, and install new wood shingles, wood furring, waterproof underlayment, ridge shingles, and all associated flashing systems where indicated on the drawings.
2. Remove/replace wood shingle roofing at dormers with new shingles to match original, repair damaged wood decking and install waterproof membrane, wood furring and ridge shingles to match existing construction in all aspects.
3. Remove/replace flat roofing systems where indicated on the drawings, repair wood decking as necessary, install new 3-ply built-up roofing system, plywood underlayment, and all associated flashing systems where indicated on the drawings.
4. Replace existing and install new heavy duty copper gutters and downspouts where indicated. Repair and reline existing built-in gutters at the porch roof.
5. Install new copper base, cap, valley, dormer and perimeter flashing systems as specified.
6. Repair all damaged exterior woodwork and siding with new wood to match original in all details and prime and paint all woodwork in the roof replacement areas.
7. Remove wood shingles on face of roof bulkhead and replace with wood siding to match dormer siding.
8. Install new metal cover at existing hatch and install flashing at hatch base.

9. Repoint open and deteriorated chimney mortar joints and replace deteriorated brickwork. Figure 100 SF of repointing as part of base bid.

#### **1.05 ALLOWANCES**

- A. Contractor shall perform the allowance work indicated on the Bid Form if/as required, at the Owners request, to complete the proper installation on a time and materials basis as drawn against the allowance upset limits.
  1. Wood Decking Repair/Replacement Allowance
  2. Exterior Woodwork Repair/Replacement Allowance

#### **1.06 ALTERNATE PRICE ITEMS**

- A. When approved in writing by the Owner/Architect the Contractor agrees to provide all labor, equipment and materials required for the complete execution of the items of work described below. Each item shall include general conditions, overhead and profit and all other associated costs.
  1. Credit to install asphalt shingles in lieu of the specified wood shingles on the back surfaces of the original house roof.

#### **1.07 UNIT PRICE ITEMS - ADDITIONAL WORK**

When approved in writing by the Owner/Architect the Contractor agrees to provide all labor, equipment and materials required for the complete execution of additional units of work, which may become necessary as the project progresses. The unit prices bid per item will hold for actual quantities measured and installed in the field. The same unit prices shall apply to additional work, as well as, for reducing the total cost of the work if the base contract includes more work than deemed necessary by the Owner/Architect. Each item shall include general conditions, overhead and profit and all other associated costs.

1. Replace existing sealant where directed (per linear foot).

#### **1.08 TIME AND MATERIALS**

- A. The Contractor agrees to perform additional work, not described in the Base Bids or Unit Prices, on a Time and Material Basis, at the prevailing hourly rates for workers provided in the contract documents. No Time and Materials work shall be performed before Contractor is in possession of an approved Owner Change Order which specifically requests the performance of that work. Contractor shall include original itemized receipts for materials used in work with invoices for Time and Material work. Contractor will not be reimbursed by Owner for materials if the purchase of the materials is not documented by receipts.



## **1.09 INTERPRETATIONS**

- A. **Site Visit:** The Contractor shall visit the site during the bidding process to familiarize himself with all existing conditions. The Contractor shall be responsible for verifying the existing conditions and laying out the work as indicated on drawings, and informing the Architect, in writing, of any discrepancies, and shall not proceed with any work affected until receiving written instructions from the Architect via Addendum during the bidding period.
- B. **Information:** All information relating to this contract shall be obtained from the Owner/Architect.
- C. **Discrepancies:** During the course of the work, should any ambiguities or discrepancies be found on the Drawings or in the Specifications, or should any discrepancies be found between the Drawings and the Specifications, the Contractor shall apply to the Architect, in writing, with a copy to the owner, for an interpretation and determination of the intent of the Drawings and Specifications. No verbal statement regarding the Contract by any person shall be authoritative.
- D. **Drawings:** Figures and dimensions on all Drawings are approximate and shall be checked by the Contractor, who shall note any discrepancies and shall bring them to the attention of the Architect. The Contractor shall not alter the Specifications, Drawings or figures, nor make alterations or additions to the quantity, character or arrangement of materials or work, whether same shall involve additional work or not, unless same shall be agreed upon first in writing.

## **1.10 CONTRACTOR USE OF PREMISES**

- A. **Use of the Existing Building:** Maintain the existing buildings in a weathertight condition throughout the construction period. Repair damage caused by construction operations. Install sidewalk bridging and fencing to take all precautions necessary to protect the building, the public and its occupants during the construction period.
- B. **Building Occupancy:** The building will be occupied at the time of construction and used by its residents and the public during the construction period.
- C. **Special Site Requirements:** All Contractor employees must wear Owner approved photo identification cards while within the site limits. Smoking or the use of "boom boxes" will not be allowed within the site limits.
- D. **Use of Building Toilets:** The Contractor will not be permitted the use of the building toilets. Temporary toilets may be provided by Contractors with the permission of the Owner in an Owner-approved location.
- E. **Photographs:** The Contractor shall photograph all interior and exterior spaces at work areas prior to starting exterior work.
- F. **Storage:** Limited storage area available in parking lot.

- G. Trash Containers: Small carting container allowed in parking lot as determined by the Owner.

#### 1.11 GENERAL

- A. Experience: Work must be performed by a firm employing personnel skilled in the indicated operations, and having not less than ten (10) years routine experience in successfully completing in a timely fashion restoration work comparable in scope and type to the required work of this contract, involving buildings determined by the Government to be eligible for, or listed on, the National Register of Historic Places.
- B. Regulatory Requirements: Work shall be carried out in accordance with all applicable Federal, State and local codes and requirements of other agencies having jurisdiction. In all cases the more restrictive limitation of any applicable requirements shall be followed.
- C. All work shall conform to the requirements of the SHPO and the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.
- D. Materials and Methods: All materials and methods of construction shall comply with the requirements of State and Local Building Codes.
- E. Workmanship: The work shall be conducted in accordance with pertinent trade association standards and practices for materials and installation.
- F. Permits, Etc.: Permits, inspections and certificates required by work under this contract shall be obtained and paid for by Contractor.
- G. Demolition: Disassembly, demolition and removal shall proceed in an orderly manner minimizing noise or other disturbances to the operations of adjacent facilities. All debris and refuse shall be removed from buildings at end of each working day and properly disposed of off the Owner's property.
- H. Condition of Structure: Owner assumes no responsibility for the actual condition of the building, and conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practicable.
- I. Fires: Fires for burning rubbish and debris or for any other purposes are forbidden. Any welding must be attended by a fire watch. Any hot kettles will observe proper safety requirements.
- J. Protection: Protection of the existing building, lawns, trees, shrubs, pavement, curbs, other site features and other permanent improvements shall be maintained as required. Any adjacent existing surfaces, motor vehicles or material damaged in the sequence of work shall be repaired or replaced to match original condition at no cost to the Owner. Where dust is being created, motor vehicles and other adjacent properties shall be protected. Do not leave buildings, or portion thereof, open to weather, nor inadequately protected when work is not actually in progress. Place temporary roll plastic material or other membrane taped or otherwise completely sealed before causing dust on adjacent property or vehicles or before any rain or snow begins. Clear the dust off any trees on a

daily basis. Any damage occurring due to lack of protection shall be repaired at the Contractor's expense to the satisfaction of the Owner and Architect. Take all measures necessary to protect all persons and property from damage and harm caused by the work of all sections.

- K. Clean-Up: At the end of each work day, the Contractor shall leave the work area broom clean and dispose of all debris. Dumpster location and requirements shall be approved by the Owner. Upon final completion of the work, Contractor shall thoroughly clean up all dirt and waste resulting from their work as required to restore work areas to the state of cleanliness existing before work began. In general, cleaning requirements are limited to the removal of rubbish, spatters, stains, smears, foot tracks, dust, etc. and the washing of prime and storm windows.
- L. Superintendent: The General Contractor's Superintendent and Foreman for all trades for the work of all sections shall be on site daily during the course of construction, shall speak the English language fluently, and shall have had a minimum of ten (10) years experience working on similar restoration projects.
- M. In evaluating work offered by the Contractor for acceptance or rejection of work, no allowance will be made for lack of skill or competence on the part of workmen.
- N. Sidewalk Bridging/Scaffolding: The Contractor shall provide all sidewalk bridging, fixed scaffolding, planking, work platforms, hoisting and access stairs necessary for the performance of this project.
- O. Access: Access shall be provided to all areas of the site, including scaffolding, when requested by Architect.
- P. Fire Extinguishers and Other Fire Safety Measures: As per all code requirements and as appropriate for the project. Provide two (2) water-type fire extinguishers for each torch or soldering irons
- Q. Temporary Power: Provide weatherproof, grounded, power-distribution system sufficient to accommodate construction operations requiring power, use of power tools, etc. Provide overload protection. Connection to existing power shall be with equipment supplied by the Contractor. If Owner's power is insufficient for the Contractor, the Contractor shall provide their own source of power and pay for same.
- R. Temporary Water: Temporary water shall be obtained from Owner's nearest source. All attachments, hoses, etc. shall be supplied by the Contractor. The Contractor shall make every effort to control and conserve the use of water.
- S. Temporary Covering: Cover stored material exposed to weather off ground with tarpaulins with UL label and flame spread of 15 or less. Store sand on tarpaulins, not directly on ground.
- T. Temporary Work Structures: Temporary structures for controlled on site work are subject to the site requirements of the Owner and all applicable codes, etc.

## 1.12 SUBMITTALS

- A. Contractor to provide detailed schedule for all required submittal items for the Architects review upon award of the contract.
- B. All mock-ups are to be supplied to the Owner for educational purposes upon their approval and not incorporated into the work.
- C. Products: Submit 3 copies/units for General Contractor work, 4 copies/units for Sub-Contractor work of all product Data and samples of all specified products to Architect.
- D. Shop Drawings: Submit shop drawings for all items where required in the individual Sections of the Specifications. Before proceeding with the fabrication of materials or equipment requiring shop drawings, prepare and submit complete assembly, setting and detail drawings giving all information necessary for installation of such equipment and materials, and for demonstrating that it complies with the Specifications.
- E. A pdf and one (1) black-and-white prints of each shop drawing shall be submitted to the Architect for approval at the earliest possible date.
- F. Drawings shall be drawn to the following or a larger scale:
  - 1. Plans and Sections: 1/4 inch scale.
  - 2. Details: 3 inch scale.
- G. Check all shop drawings for conformance with contract requirements before submitting the drawings to the Architect for approval. A note shall be made on the drawings indicating that the Contractor has made this check.
- H. The Architect will, within ten (10) working days after his receipt of drawings, return to the Contractor the transparency with notations "Approved", "Approved with Corrections, as Noted", or "Returned for Correction".
- I. Make necessary corrections and revisions on shop drawings marked "Approved with Corrections as Noted", or "Returned for Correction" and resubmit pdfs and prints for approval in the same routine as for the original approval. Time required for such revision and resubmitting will not entitle the Contractor to any extension of time, but the Architect will examine and return such pdfs as promptly as possible.
- J. The Architect will keep two (2) black-and-white print of drawings noted "Approved as Noted" or "Returned for Correction" for their records.
- K. Have prints made and distribute shop drawings to all concerned as required for proper coordination. One copy of all shop drawings marked "Approved" shall be forwarded to the Owner.
- L. Any work done, material ordered or delivered by the Contractor prior to the receipt of shop drawing marked "Approved with Corrections as Noted", or "Approved" by the Architect, shall be at the Contractor's risk. When the corrections have been made on drawings

marked "Approved with Corrections as Noted", prints of such may be used for fabrication, unless specifically stated otherwise by the Architect.

- M. If, at any time before the completion of the work, changes are made necessitating the revision of approved drawings, make such revisions and proceed in the same routine as for the original approval.
- N. If additional copies of shop drawings, product data, samples, etc. are required by the Architect, they shall be furnished by the Contractor without additional cost.
- O. Sample requirements shall be as listed in individual Specification Sections.

#### **1.13 MATERIAL STORAGE, PLACEMENT AND REMOVALS, MOBILIZATION PLAN, PROGRESS SCHEDULE**

- A. Mobilization Plan: Contractor shall, within one week of award of Contract, prepare for approval, in writing, a Mobilization Plan and Progress Schedule to include: (a) Distribution Plan for materials for installation describing method for transporting materials from ground level to appropriate locations for storage and installation. Include locations where materials will be temporarily stored; (b) Disposal Plan for debris, etc., describing method for transporting all debris (old materials, etc.) to ground level, proposed temporary location of debris containers, cartage locations. (c) All other information as required for proper execution of project.
- B. Schedule: The Contractor shall prepare a detailed phased progress schedule covering all aspects of the contract work for the Architects and Owners review within one week of contract award. Schedule shall be CPM or other format acceptable to Architect, with weekly updating of actual progress.

#### **1.14 ACCESS TO THE WORK**

- A. The Contractor shall provide the Architect and Owner continuous access to all work areas.
- B. After the Work is completed, the Architect and Owner will examine the punch list for the work. The Contractor shall not remove the scaffolding/planking until the Architect and Owner has signed off that the Work is complete.

#### **1.15 CUTTING, PATCHING AND REFINISHING**

- A. It shall be the responsibility of the Contractor to patch and refinish all openings created by either themselves or their subcontractors. Architect and Owner must approve all patching and refinishing work.
- B. The Contractor shall at their own expense do all cutting, fitting or patching of their work in a neat and competent manner, and to the satisfaction of the Architect.

## **1.16 GUARANTEES**

- A. Contractor's Guarantee: In addition to warranties provided elsewhere in this document, the Contractor and/or Sub-contractor guarantees to the Owner that said Contractor shall be responsible for any defective materials and workmanship incorporated for the time periods stated in the individual specification sections and/or as listed below. The period of guarantee shall start from the date of the Owner's acceptance of the work.

**END OF SECTION 01010**

# TOWN OF WETHERSFIELD

INVITATION TO BID #2019-06

## SOLOMON WELLES HOUSE ROOFING REPLACEMENT

WETHERSFIELD, CONNECTICUT

### BID FORM

JANUARY 11, 2019

APS PROJECT No. 18-031

---

CONTRACTOR NAME

Having carefully examined the Specification, Drawings and associated bid documents dated September 1, 2018, as prepared by Architectural Preservation Studio, PC, 58 Pine Street, New Canaan, CT, 06840, as well as the premise and conditions affecting the work, The Contractor proposes to furnish all material, equipment, labor, supervision, plant, machinery, sidewalk bridging/scaffolding, tools, supplies, services, filing, permits, overhead, profit and insurance necessary to perform the work, as set forth in, and in accordance with said documents.

The work items summarized below are for bidding purposes only and may vary from actual work executed. The prices bid per item will hold for actual work executed in the field. The same prices shall apply to reducing the total scope of the work if the base contract includes more work than deemed necessary by the Owner/Architect as a result of the total cost of the work. Each item shall include general conditions, overhead and profit and all other associated costs.

**BID BREAKDOWN**

**BASE BID LUMP SUM ITEMS**

**General Conditions**

1. Install Scaffolding/lifts, sidewalk bridging and fencing where required to perform the scope of work and to protect the public during the construction process.

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

2. Provide all General Conditions and temporary facilities.

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

**General Conditions Lump Sum                      Sub-Total                      \$ \_\_\_\_\_**

**Roofing Repairs**

1. Remove/replace wood shingle roofing system, repair wood decking as necessary, and install new wood shingles, wood furring, waterproof underlayment, ridge shingles, and all associated flashing systems where indicated on the drawings.

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

2. Remove/replace wood shingle roofing at dormers with new shingles to match original, repair damaged wood decking and install waterproof membrane, wood furring and ridge shingles to match existing construction in all aspects.

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

3. Remove/replace flat roofing systems where indicated on the drawings, repair wood decking as necessary, install new 3-ply built-up roofing system, plywood underlayment, and all associated flashing systems where indicated on the drawings.

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

4. Replace existing and install new heavy duty copper gutters and downspouts where indicated. Repair and reline existing built-in gutters at the porch roof.

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



5. Install new copper base, cap, valley, dormer and perimeter flashing systems as specified. \$ \_\_\_\_\_

6. Repair all damaged exterior woodwork with new wood to match original in all details and prime and paint all woodwork in the roof replacement areas. \$ \_\_\_\_\_

7. Remove wood shingles on face of roof bulkhead and replace with wood siding to match dormer siding. \$ \_\_\_\_\_

8. Install new metal cover at existing hatch and install flashing at hatch base. \$ \_\_\_\_\_

9. Repoint open and deteriorated chimney mortar joints and replace deteriorated brickwork. Figure 100 SF of repointing as part of base bid. \$ \_\_\_\_\_

**Roofing Repairs Lump Sum Sub-Total** \$ \_\_\_\_\_

**LUMP SUM PRICE ITEMS Total** \$ \_\_\_\_\_

Cost of Payment Bond \$ \_\_\_\_\_

Cost of Performance Bond \$ \_\_\_\_\_

Wood Decking Replacement Allowance \$ 5,000.00

Exterior Woodwork Repair/Replacement Allowance \$ 5,000.00

**GRAND TOTAL** \$ \_\_\_\_\_

**ALTERNATE PRICE ITEMS**

When approved in writing by the Owner/Architect the Contractor agrees to provide all labor, equipment and materials required for the complete execution of the items of work described below. Each item shall include general conditions, overhead and profit and all other associated costs.

- 1. Credit to install asphalt shingles in lieu of the specified wood shingles on the back surfaces of the original house roof. \$ \_\_\_\_\_

**UNIT PRICE ITEMS – ADDITIONAL WORK**

When approved in writing by the Owner/Architect the Contractor agrees to provide all labor, equipment and materials required for the complete execution of additional units of work, which may become necessary as the project progresses. The stated estimated quantities are for bidding purposes only and may vary from actual work executed. The unit prices bid per item will hold for actual quantities measured and installed in the field. The same unit prices shall apply to additional work, as well as for reducing the total cost of the work if the base contract includes more work than deemed necessary by the Owner/Architect. Each item shall include general conditions, overhead and profit and all other associated costs.

- 1. Replace existing sealant (per linear foot). \$ \_\_\_\_\_

**CHANGE ORDER WORK**

- General Conditions – General Contractor % \_\_\_\_\_
- General Conditions – Sub Contractor % \_\_\_\_\_
- Overhead & Profit – General Contractor % \_\_\_\_\_
- Overhead & Profit – Sub Contractor % \_\_\_\_\_

**TIME AND MATERIALS RATES**

The Contractor agrees to perform additional work, not described in the Base Bids or Unit Prices, on a Time and Material Basis, at the hourly rates for workers provided by the Contractor on his Rate Sheet appended to the Bid. No Time and Materials work shall be performed before Contractor is in possession of an approved Change Order, which specifically requests that work. Contractor shall include original itemized receipts for materials used with invoices for Time and Material work. Contractor will not be reimbursed by the Owner for materials if their purchase is not documented by receipts.

**PRINCIPLE SUBDIVISIONS OR ELEMENTS OF THE WORK TO BE PERFORMED BY CONTRACTOR'S FORCES**

If awarded a Contract, we will perform the following portions of the work with forces directly employed by the undersigned:

_____	_____
_____	_____
_____	_____

**PRINCIPAL SUBCONTRACTORS**

If awarded a Contract, we will employ the following subcontractors for portions of work not performed directly by the undersigned:

_____	_____
_____	_____
_____	_____

**SCHEDULES AND PHASING PLANS**

The undersigned shall provide a preliminary project schedule at time of bid identifying estimated time per building and overall completion dates. Prior to the award of a construction contract and upon the request of the Architect or Owner, the Contractor shall submit a complete, itemized and detailed "Schedule of Values," progress schedule and phasing plan also indicating all site disruptions and staging areas.

**ADDENDUM RECEIPT**

Receipt of the following addenda to the Terms and Conditions, Drawings or Specifications is acknowledged:

Addendum No. \_\_\_\_\_

Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_

Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_

Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_

Dated \_\_\_\_\_

\_\_\_\_\_  
(Bidder)

\_\_\_\_\_  
(By)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_

\_\_\_\_\_  
(Dated)

## **SECTION 02075 – ROOF REMOVAL**

### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. Work Included: The work of this Section includes, but is not limited to, the following:
  - 1. Removal of existing wood shingle, asphalt shingle and membrane roofing systems, existing insulation, underlayment and associated mechanical fasteners, waterproofing, setting beds, and related roof-assembly materials to expose the original wood decking at all roof areas.
  - 2. Removal of damaged or deteriorated existing blocking and curbs, if any.
  - 3. Removal of damaged or deteriorated existing roof-termination flashing, gutters and related sheet-metal work.
  - 4. Coordinate roof removals with new roofing for protection of decks to receive new roofing. Coordinate temporary roofing installation and related protections with existing roof removals.
  - 5. Provide miscellaneous removals associated with new work, including, removal of damaged or deteriorated gutters and leaders, scuppers, drain bodies, and other indicated and required removals for incorporation of new work.

#### **1.03 RELATED SECTIONS**

- A. Section 07310 – Wood Shingle Roofing
- B. Section 07320 – Asphalt Shingle Roofing
- C. Section 07550 - Modified Bitumen Membrane Roofing
- D. Section 07600 - Flashing and Sheetmetal

#### **1.04 SUBMITTALS**

- A. Submit written description in a timely manner, of the intended method of ensuring that the area affected by removals, including all penetrations and perimeters, is complete and watertight at the end of each work day.
- B. Prior to the start of work submit, date marked, photographs of existing conditions of structures, surfaces, equipment, and adjacent work that might be misconstrued as damage related to removal operations. Submit copies to the Construction Manager prior to the start of work.
- C. As appropriate, submit hazardous materials and asbestos management proposal, including all requirements for staging, containment, removals, handling and disposal of materials.

## 1.05 QUALITY ASSURANCE

- A. Foreman Qualifications: The foreman of the crew performing roof removals shall be a qualified roofer or waterproofing journeyman with at least five (5) years' experience in roofing removals similar in nature and scope to the Work of this Section.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting roof removals and related selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
  - 1. All removal and demolition work shall comply with requirements of State and Local Building Codes, OSHA, EPA, other local governing authorities having jurisdiction and Owner's requirements.
- C. Pre-Roof Removal Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures relating to roof removal and related selective demolition including, but not limited to, the following:
  - 1. Inspect and discuss condition of roofing and related construction.
  - 2. Review structural-load limitations of existing structure.
  - 3. Review and finalize roof-removal schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Review requirements of work performed by other trades that rely on substrates exposed by roof removals-demolition operations.
  - 5. Review protections and environmental-containment procedures.
  - 6. Review hazardous-materials issues and containment procedures.
- D. As appropriate, notify agencies of any hazardous materials found on the site. Do not proceed with removal of said substance until so instructed.

## 1.06 PROJECT CONDITIONS

- A. No representation is made that the assembly exists uniformly throughout the area to be removed.
- B. Protections: Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent portions of the building, structure, utilities, other facilities, and to the public and other persons.
  - 1. Protect from damage existing work that is to remain in place and becomes exposed during demolition operations.
  - 2. As required, provide protective sidewalk enclosures and bridges at areas surrounding the building perimeter. As required, provide protective devices over areas that have operable windows.
  - 3. Containment: Provide containment of existing roofing materials during removals and demolition. The Work of this Section shall include preventing dislodgment and blow-off of materials being removed, debris production and other hazardous conditions.

- a. Fully coordinate containment with the requirements for ACM removals and waste management as specified elsewhere.
4. Containment procedures and protections shall be constructed and secured in a secure manner that does not harm the public and other persons and does not damage or compromise the building envelope and associated waterproof membranes including roofing, building structure and adjacent facilities.
- C. Damages: Promptly repair damages caused to adjacent materials and equipment by demolition work at no cost to the Owner. All remedial work to be done by the Contractor shall first be approved by the Construction Manger and the Architect.
  1. Any dust and debris falling into the interior of the building due to the work of this Section shall be removed by the Contractor.
- D. Traffic: Conduct removal operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent or used facilities.
  1. Do not enclose or obstruct streets or other occupied or used facilities without permission from the Owner, Owner's Representative, and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- E. Partial Demolition and Removal: Items indicated to be removed but not saved that are of salvageable to Contractor may be removed from the structure as work progresses. Transport salvaged items not required for reinstallation from site as they are removed.
  1. Storage or sale of removed items will not be permitted on the site.
- F. Damages: Promptly repair damages caused to adjacent facilities by demolition operations.
- G. Flame Cutting: Use of torches is strictly forbidden. Maintain portable fire-suppression devices during roof-removal operations.
- H. Utility Services: Maintain existing utilities indicated to stay in services and protect against damage during demolition operations.
  1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the Owner, Contractor, and other authorities having jurisdiction. Provide temporary services during interruption to existing utilities, as acceptable to governing authorities.
  2. Arrange for disconnecting and sealing utilities serving structures to be demolished, prior to start of removal and demolition work.
  3. Do not start removal and demolition work until utility disconnections have been completed and verified in writing.
- I. Environmental Controls: Use temporary enclosures, water sprinkling, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.

1. Do not use water when it may create hazardous or objectionable conditions such as damage to finishes, flooding, and pollution.
  - a. Fully coordinate environmental controls with the requirements for ACM removals and waste management as specified in the Contract Documents.
- J. Provide tarping or other types of temporary roofing as roofing removals and related selective demolition of exterior building envelope progress. Completely protect structure from water damage. Provide anchoring to protect temporary roofing from wind damage or dislocation; anchoring methods shall not impair building water-tightness nor bring harm to persons or property.

## **PART 2 - PRODUCTS**

### **2.01 REPAIR MATERIALS**

- A. Use repair materials identical to existing materials.
  1. Where identical materials are unavailable or cannot be used for exposed surface, use materials that visually match adjacent surfaces to the fullest extent possible.
  2. Use materials whose installed performance equals or surpasses that of existing materials.
- B. Repair work, of roofing structures damaged prior to selective demolition shall be specified within the applicable Sections(s), as indicated.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. General: The removal and demolition work is to be coordinated with the installation of the flashing, and roofing systems and related construction.
  1. General: Execute removal work carefully. Minimize interference with existing building and site operations, inconvenience to building tenants, building staff, vehicles, public, danger to persons, and damage to existing building materials to remain.
  2. Do not throw removed materials from the roof.
- B. Coordination: Coordinate work of trades and schedule elements of removal work by procedures and methods to expedite completion of work.
- C. Noise Control: Maintain noise levels of removal work and equipment at a minimum level as to avoid disturbance to building tenant and adjacent building occupants. Comply with governing regulations pertaining to environmental protection and OSHA.
- D. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to



limit dust and dirt rising and scattering in air. Comply with governing regulations pertaining to environmental protection.

1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
  2. Provide dust-proof barriers for interior removals and demolition; prevent uptake of dust and debris into air-handling system.
  3. Clean adjacent structures and improvements of duct, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.
- E. Demolition: Demolish structures completely and remove from site. Use such methods as required to complete work within limitations of governing regulations.
1. Proceed with demolition in systematic manner, from top of an item to be removed or demolished to bottom. Complete demolition work above each level or tier before disturbing supporting members on lower levels.
- F. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit a report to the Architect in written, accurate detail. Pending receipt of directive from the Architect, rearrange selective-demolition schedule as necessary to continue overall job progress without undue delay.
- G. Prior to removal work, check all drains and leaders and document any plugged or non-working drains and leaders and notify the Architect.
1. Provide protection of roof drains and leaders to remain and drain terminations from becoming obstructed and clogged.
- H. Promptly remove debris to avoid imposing excessive loads on the roof and supporting walls, floors or framing. Do not exceed 20-psf roof loading.
- I. Ensure that the roofing removal is coordinated with the new roofing work so that all penetrations and perimeter are completed and watertight at the end of each work day.
- J. In cutting the existing roofing, ensure that cutting tools do not penetrate into the structural slab intended to remain.
1. If cutting machines are used in the performance of the Work, set the blade depth high enough to prevent penetration into the substrate intended to remain.
- K. Where roofing removal is required, remove existing roofing materials completely, down to the existing structural deck or sloped topping.
- L. Substrate Observation: During roof removals and demolition, the Contractor shall observe roofing substrates and decks. Unacceptable conditions of roofing substrates and roofing structural decks include, but are not limited to, deterioration, and detrimental conditions that will affect both roof removals and placement of new roofing are observed. Promptly make the building watertight and notify the Owner and Architect. Maintain protection until the

disposition of the condition is resolved.

1. If in addition to the above, if other conditions are uncovered that vary substantially from those indicated to the extent that modifications to the work may be required, promptly make the building watertight and notify the Architect and Owner. Maintain protection until the disposition of the condition is resolved.
- M. The work of this Section includes removal of damaged substrates and roof decking as required for repairs.
1. After observation, if damaged roofing substrates and decking are encountered, Contractor shall proceed as directed by the Architect. Where removals are directed, properly remove damaged roof substrate and decking, provide supports, shoring and bracing, refer to selective demolition for additional requirements for removals and demolition work, and coordinate removals with requirements of repair work. Provide protection of adjacent structures, finishes, and interior spaces from damage during the Work of this Section. Provide temporary secure watertight protection of interior spaces as the Work progresses.
- N. Sweep or vacuum all surfaces, remove loose aggregate and foreign substances. Provide at the end of the Work of this Section an existing roof free of loose materials or conditions objectionable to the installation of new roofing.
- O. Remove existing equipment (temporarily) and deteriorated curbs as indicated; existing structural framing is to remain. Provide protection of adjacent structures, finishes, and interior spaces from damage during the Work of this Section. Provide temporary secure watertight protection of interior spaces at existing openings as the Work progresses.

### **3.02 DISPOSAL OF DEMOLISHED MATERIALS**

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Do not let products of demolition accumulate.
- B. Transport waste materials resulting from demolition work and legally dispose of off site. Cost of transportation and disposal of all waste materials shall be included in the Base Bid. Hazardous materials shall be handled and disposed of in accordance with all State, City, and Federal regulations.

### **3.03 CLEAN-UP AND REPAIR**

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site.
- B. Repair demolition performed in excess if that required. Return structures and surfaces to remain to condition prior to demolition. Repair adjacent construction or surfaces soiled or damaged by this demolition work.

**END OF SECTION 02075**

## SECTION 04500 - MASONRY REPAIRS

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.

#### 1.02 SUMMARY

- A. Briefly, and without force and effect upon contract documents, work of this section can be summarized as follows at all building and site walls:
1. Repoint open and deteriorated chimney mortar joints and replace deteriorated brickwork. Figure 100 SF of repointing as part of base bid and 5 SF of brick replacement as part of base bid.
  2. Repair/stabilize/replace all other misc. façade conditions as indicated on the drawings, specified herein.

#### 1.03 QUALITY ASSURANCE

- A. Experience: Work must be performed by a firm employing personnel skilled in the indicated operations, and having not less than ten (10) years routine experience in successfully completing in a timely fashion masonry restoration work comparable in scope and type to the required work of this contract, involving buildings determined by the Government to be eligible for, or listed on, the National Register of Historic Places. Workman shall be factory trained in the installation of the specified restoration mortars.
- B. Regulatory Requirements: Work shall be carried out in accordance with all applicable Federal, State and local codes and requirements of other agencies having jurisdiction. In all cases the more restrictive limitation of any applicable requirements shall be followed.
- C. All work shall conform to the requirements of the SHPO and the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.
- D. Materials and Methods: All materials and methods of construction shall comply with the requirements of State and Local Building Codes.
- E. In acceptance or rejection of work, no allowance will be made for lack of skill or competence on the part of the workers.
- F. **Source of Materials:** Obtain materials for masonry restoration from a single source and batch for each type of material required (brick, cement, sand, etc.) to ensure match of quality, color range, pattern, and texture of replacement work with the original. Architect shall reject any material that does not meet his criteria.

#### 1.04 SUBMITTALS

- A. **Product Data:** Submit four copies of manufacturer's specifications and other data for each manufactured product, including certification that each product complies with specified requirements. Include instructions for handling, storage, installation and protection of each product.
- B. **Repointing:** Prepare two separate sample areas of approximately 2' high by 2' wide for each type of repointing required (sandstone, brick). One for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality of materials and workmanship expected in pointing mortar joints.
- C. **Sealant Installation:** Prepare in place mock-up of sealant installation where directed by the Architect. (See Section 07900)
- D. If alternative methods and materials to those indicated are proposed for any phase of work, provide written description including evidence of successful use on other comparable projects.
- E. **Review and Approval:** Architect's review and approval shall not relieve the Contractor from responsibility for error in shop drawings or for proper coordination and assembly of materials and equipment with other work, nor from responsibility of furnishing materials and labor not indicated on approved shop drawings, but required by the Contract Documents for completion of Work.
- F. **Samples:** Submit four sets of samples of all materials used in the work of this section whether specified or not for verification purposes. Samples shall include but are not limited to the following:
  - 1. **Mortar:** Provide representative loose mortar samples of all mortar materials. Install samples of each type of mortar for pointing and masonry repair in 1/2" wide joints formed between two 6" long strips of material matching the appearance of exposed surfaces adjacent to mortar in the work.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Carefully pack, handle, and ship masonry units and accessories strapped together in suitable packs or pallets or in heavy cartons. Unload and handle to prevent chipping and breakage.
- B. Deliver all other materials to site in manufacturer's original and unopened containers, bundles or packaging, bearing labels as to the product name or title of material, product description (generic classification or type), Manufacturer's stock number and date of manufacture, Contents by volume, and application instructions.
- C. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other materials.
- D. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply

with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

- E. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F (7 degrees C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.
- F. Protect materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

## **1.06 PROJECT CONDITIONS**

- A. Contractor must review and coordinate all work of his contract with all other trades performing work at the building with Owner and Architect.
- B. Arrange with the appropriate representative of the building owner for means of access to premises and necessary utilities, space for storage of material and equipment, etc.
- C. **Cold Weather Protection:**
  - 1. No pointing or brick repairs shall be performed when outside temperature is 40 degrees F and falling or masonry temperature is below 40 degrees F.
  - 2. Do not use frozen materials or materials mixed or coated with ice or frost. Do not use salt to thaw ice in anchor holes or slots or for any other purpose. Do not lower the freezing point of mortar by use of admixtures or anti-freeze agents, and do not use any chlorides in mortar or grout.
  - 3. Do not build on frozen work; remove and replace stonework damaged by frost or freezing.
- D. Prevent mortar used in repointing and repair work from staining the face of surrounding masonry and other surfaces. Protect sills, ledges and projections from mortar droppings. The use of Acid pH cleaners will not be permitted.
- E. Damage occurring to the building as a result of work of this section or Contractor's failure to protect against such damage shall be the Contractor's responsibility. The Contractor shall restore damaged areas to the complete satisfaction of the Architect at no expense to the Owner.
- F. **Protection of Openings during Construction:** Protect all openings in building wall surfaces in repair areas during construction with overlapping tarps, for size greater than repair area. Overlap tarps 1/4 of length; anchor tarps with stainless steel removable anchors set into mortar joints only. No damage to surrounding stonework will be allowed.

## **PART 2 - PRODUCTS**

### **2.01 GENERAL MASONRY RESTORATION MATERIALS**

#### **A. Mortar Materials**

1. **Cement:** ASTM C-150 (custom mixed as required to match existing color and texture).
2. **Lime:** Hydrated masons lime ASTM C-207 Type S
3. **Sand:** Clean, sharp sand free of loam, silt, soluble salts, rust and organic matter. Aggregate shall conform to following size gradations:

<u>Sieve Size</u>	<u>Percent Retained</u>
No. 4	100
No. 8	95-100
No. 16	60-100
No. 30	35-70
No. 50	15-35
No. 100	2-15
No. 200	-

4. **Water:** Potable, free of deleterious amounts of oils, acids, alkalies and organic matter.
5. **Sand and lime** shall be delivered to job in unopened bags marked with proper ASTM designations. No unmarked materials will be permitted on the site. All raw materials will be sampled.
6. **Mortar Mix:** Prepare mortar mix for stone and brickwork proportioned 1:1:5, cement/lime/sand.
7. Match existing mortar in color, texture, and profile.
8. The use of admixtures will not be permitted without the prior written approval of the Architect.

**B. Miscellaneous Masonry Restoration Materials**

1. **Sealant:** Refer to Section 07900 - Joint Sealers.
12. **Backer Rod:** Refer to Section 07900 - Joint Sealers.

**PART 3 - EXECUTION**

**3. 01 MASONRY REPAIR - GENERAL**

- A. **Removal:** Removal shall proceed in an orderly manner minimizing noise or other disturbances to the operations of adjacent facilities. All debris and refuse to be removed from building at end of each working day.
- B. **Shoring:** Adequate shoring must be provided by the contractor, where/if necessary for all masonry removal work. The shoring must be designed to prevent any movement or damage to adjacent masonry.
- C. **Disposal:** All construction debris must be disposed of legally off site.

### **3.03 MORTAR MIXING**

- A. Mortar mix shall be 1:1:5 (cement/lime/sand) for all joints.
- B. Measure by volume only. Do not measure by shovelful - use known measure.
- C. Mix ingredients in clean mechanical batcher until thoroughly intermingled.
- D. Water content for repointing mortar shall contain minimum amount of water to produce a workable consistency. Do not make mixture too wet - avoid bleeding of water and segregation of constituents. A mortar is workable if its consistency allows it to be spread with little effort and if it will readily adhere to vertical masonry surfaces.
- E. Water content for setting bed mortar shall contain minimum amount of water necessary to produce a workable consistency.
- F. Let mortar sit for 20 minutes prior to use to allow for initial shrinkage. Place mortar within 2 hours of mixing. Do not retemper or use partially hardened material.
- G. Place mortar in layers no thicker than 1/2 inch. Roughen surface of each layer to provide key for next.
- H. Keep mortar damp (80-90% RH) for 72 hours or until mortar is set.
- I. Match existing mortar in color, texture, and profile. Architect will supply Contractor finding of mortar analysis performed on original pointing mortar.
- J. The use of admixtures will not be permitted without the prior written approval of the Architect.
- K. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water spray applied at low pressure.

### **3.04 BRICK/STONE REPOINTING**

- A. Repoint joints in sandstone and brickwork found to be open, shelled, cracked, mismatched or otherwise defective as where indicated on the drawings.
- B. Cut out old and deteriorated mortar and sealant using gentlest possible means as approved by the architect. Mortar joints shall be cut and raked to remove a minimum depth of 3/4" or back to sound, solid back-up material (not to exceed 1" in depth).
- C. Use a blade narrower than the joint. Do not widen joint. Clean all mortar from surfaces within the joint or crack so that the new pointing mortar bonds to the masonry, not old mortar. Do not spall or chip the masonry edges. More than one 1/2" chip every 10 feet will be unacceptable. If work is found to be unacceptable, all raking will cease without additional cost to the Owner until deficiencies in tools, workmanship, or method have been corrected to the Architects satisfaction. All damaged masonry will be replaced at Contractor's expense.
- D. Pointing shall be performed using a 1:1:5 mortar mix. Match existing mortar in color, texture and joint profile.

- E. Carefully brush, vacuum. Blow out or flush joints to remove all dirt and loose debris.
- F. Rinse joint surfaces with water to remove any dust or mortar particles. Contractor shall maintain a five (5) gallon pressure sprayer of water filled and on the scaffold at all items that masonry work is in progress. At time of pointing, joints should be damp but free of standing water.
- G. Reinstalled mortar depth to be a minimum of 3/4" or twice the joint width of the joint to be pointed, but in all cases rake back to expose sound mortar (not to exceed 1 1/2" depth).
- H. Point all joints more than 1" in depth by back pointing with mortar. Pack entire joint full with mortar installed in layers no thicker than 1/4 inch, leaving no voids.
- I. Protect adjacent surfaces and surfaces below. Remove droppings and splashed mortar immediately.
- J. When mortar is thumbprint hard, tool joint to match existing joint profile. Do not allow mortar to extend over the edges of the stonework (featheredging).
- K. Keep joints damp (80-90%rh) for 72 hours or until set.
- L. Clean up all mortar droppings the day they are dropped. Droppings shall be cleaned up immediately when they fall on any masonry surface.

### **3.05 BRICK RESETTING**

- A. Carefully remove and reset loose and displaced brickwork in the repair area in a full bed of mortar and repoint to match adjacent joint profile, color and texture where indicated on the drawings.

### **3.06 CLEAN-UP**

- A. Cleanup: at the end of each workday, remove empty cans, rags, rubbish, and other discarded materials from the site.
- B. After mortar has fully hardened, clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water spray applied at low pressure.
- C. Clean stonework, ledges and surfaces below work area at the completion of work.
- D. Use of metal scrapers or brushes will not be permitted.
- E. Use of acid or alkali cleaning agents will not be permitted.
- F. Upon completion of the work, contractor shall thoroughly clean up all dirt and waste resulting from his work as required to restore work areas to the state of cleanliness existing before work began.



### **3.07 GUARANTEE**

The Contractor guarantees to the Owner that said Contractor shall be responsible for any defective materials and workmanship installed by him for a period of five years. The period of guarantee shall start from the date of Owner acceptance of the work. The Contractor further guarantees to provide all necessary access provisions and to perform permanent repairs forthwith to restore the defective areas, and to make permanent repairs without reference to or consideration of the cause of any defects in the work.

**END OF SECTION 04500**

## **SECTION 06200 - ARCHITECTURAL WOODWORK RESTORATION**

### **PART 1 – GENERAL**

#### **1.01 GENERAL PROVISIONS**

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

#### **1.02 SUMMARY**

- A. The work of this Section consists of providing all labor, materials, equipment and services to complete architectural woodwork restoration. The work may include, but is not limited to:
  - 1. Repair all damaged exterior woodwork and siding with new wood to match original in all details and prime and paint all woodwork in the roof replacement areas
  - 2. Remove wood shingles on face of roof bulkhead and replace with wood siding to match dormer siding.

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 07310 – Asphalt Shingle Roofing
- B. Section 07320 – Wood Shingle Roofing
- C. Section 07550 - Modified Bitumen Membrane Roofing
- D. Section 07600 - Flashing and Sheet Metal

#### **1.04 REFERENCES**

- A. Materials and methods shall conform to the Secretary of the Interior's Standards. All work shall comply with the United States Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, 1995, unless indicated otherwise.
- B. American Society for Testing and Materials (ASTM).
- C. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS).
- D. The Quality Standards, latest edition of the Architectural Woodwork Institute (AWI) shall apply to the work of this section. Except where otherwise indicated, provide "Premium Grade" work as defined in the above-referenced standard for all Architectural Woodwork.
- E. All wood restoration procedures shall be done in accordance with regulations, safety standards and in requirement of all federal state and local authorities having jurisdiction over the work including but not limited to the applicable standards for protecting the public and control of pollutants and OSHA regulations for the protection of workers and the public.

### **1.05 JOB CONDITIONS**

- A. The Contractor shall take extreme care in protecting the surrounding materials. It is the Contractor's responsibility to ensure that protective measures are in place and are adequate for the work being performed.
- B. Contractor shall take all necessary precautions to prevent fire and spread of fire.
- C. Contractor shall provide for adequate ventilation at all times during the work of this section.
- D. Working fire extinguishers must remain on the worksite at all times.
- E. Paint or solvent soaked rags, waste, overalls or other material which might constitute a fire hazard shall be placed in metal containers and be removed from the premises daily in accordance with the Construction Manager's requirements for waste removal.
- F. Any damage made to the building elements by the scaffolds or other access equipment will be repaired by the Contractor to the satisfaction of the Architect at no cost to the Owner.

### **1.06 SUBMITTALS**

- A. Qualification Data: Submit qualification data, specified in "Quality Assurance" Article, that demonstrate the firm's and individual's capabilities and experience. Include a list of at least three (3) wood restoration projects of similar size completed in a timely fashion in landmark quality buildings. List project names, addresses, names of Owner's Representative and Owner, and telephone number of contact person for each project.
- B. Product Literature: Submit three (3) copies of manufacturer's latest published technical data including, installation instructions and general recommendations for each specified material and fabricated product. Include test reports and certificates substantiating the products compliance with the specified requirements. Obtain approval before materials are delivered to the site.
- C. Methods of Protection: Prior to commencing the protection and restoration, the Contractor shall submit a written description of proposed materials and methods of protection for preventing damage to any adjacent material or finish during the protection, and restoration of the woodwork.
- D. Scope of Work: The Contractor shall submit a written description of the proposed scope of work and the proposed method for restoring each area of woodwork.
- E. Submit one (1) sample of wood with and without restored finish for each area of replacement and refinishing. Provide full range of color to be found in final finished product.
- F. Submit (1) sample of each material required for protection including:
  - 1. Polyethylene sheeting
  - 2. 100% cotton batting, unbleached
  - 3. Low-tack masking tape
  - 4. Plywood 1/4" to 3/4" thick
- G. Submit Material Safety Data Sheets for each material required for cleaning including:
  - 1. Cleaning pads
  - 2. Steel wool, 0000

3. Paint stripper
- H. Submit Material Safety Data Sheets for each type of putty, adhesive and fasteners to be used on site including:
1. Wood fillers
  2. Glues
  3. Screws and other fasteners
  4. Nails and brads
- I. Submit Material Safety Data Sheets for each type of finish material to be used including:
1. Retouching Crayons
- J. Prepare Mock-ups for approval as specified in Section 1.6 "Mock-ups."
- K. Samples and mock-ups submitted which are approved by the Architect shall remain as a record at the site until all work is completed and approved by the Architect.

### **1.07 QUALITY ASSURANCE**

- A. Skill: The "Restoration Carpenter" (heretofore known as the Contractor) who shall perform the work specified in this section must be regularly engaged in the restoration of architectural woodwork. The Contractor must demonstrate successful completion within the last three (3) years and in a timely fashion at least three (3) projects similar in scope and type to the required work in the CT/NY/NJ Metropolitan region involving landmark quality buildings. For the woodwork restoration, use craftspeople who are familiar with the requirements for this work.
- B. Foreperson: Foreperson shall submit a resume demonstrating a minimum of five (5) years of experience restoring architectural woodwork. The foreperson shall speak and read fluent English.
- C. Bidders must visit the site beforehand and make themselves thoroughly familiar with specific conditions relating to this Section.
- D. Mechanics: Contractor shall maintain a steady work crew consisting of skilled craftspeople that are experienced with the materials and methods specified. The Contractor shall conform that all workers understand the job's requirements.
- E. Foreperson shall be present on site daily, and whenever work is being performed.
- F. All Subcontractors are bound by the same requirements as the Contractor. Subcontractor shall not begin work unless approved by the Architect.
- G. Materials shall conform to the latest edition of reference specifications applicable, specified herein, and to applicable codes and requirements of local authorities having jurisdiction.
1. Materials shall conform to Federal, State and Local governing regulations regarding the content of volatile organic compounds (VOC).
  2. The Contractor shall confirm that the materials specified perform to the satisfaction of the Architect, and do not produce off-gassing or otherwise have a deleterious effect during or after application on either the surface being treated or on adjacent surfaces.
  3. The Contractor shall comply with relevant ASTM Standards for all Materials.

- H. Whenever possible, use original salvaged wood for replacement rather than new millwork. Salvaged wood to be of matched species, color and grain of historic wood used throughout Kip's Castle.
- I. Wood Moisture Content: If using new wood, provide kiln-dried (KD) lumber with an average content range of 6-11%.
- J. Replication wood shall match original existing species and grade, or premium grade whichever is more stringent. New inserts in existing wood shall be selected to match grain, color and pattern.
- K. Joinery or ornamental elements shall be fabricated to match existing, or AWI Premium grade, whichever is more stringent.

#### **1.08 MOCK-UPS**

- A. Prepare one mock-up at area(s) designated by the Architect for each repair, restoration and replication type indicated in this Section unless otherwise indicated.
- B. Fill Repairs. Contractor shall prepare one sample repair using material and methods specified for each type of fill repair including gouge repair, scratch repair and crack repair.
- C. New wood inserts (Dutchmen): Subsequent to the Architect's approval of all shop drawings/sketches and samples, the Contractor shall prepare one sample repair using materials and methods specified for one (1) Dutchman repair. Following any revisions requested by the Architect, the approved sample shall form a quality standard for all further new work
- D. All finish mock-ups will be a minimum of 3' X 3' except where specifically selected by the Architect.
- E. Mock-ups shall be approved by the Architect before any work may proceed. Provide additional sample panels, as may be required by the Architect. The approved panels shall not be removed until so directed by the Architect.
- F. No work will be accepted until it conforms in every respect to the finished samples.
- G. Protect mock-ups for the duration of the job. Samples and mock-ups submitted which are approved by the Architect shall remain as a record at the worksite until the work is completed and approved by the Architect. Approved mock-ups can be incorporated into the finished work of this Section. Mock-ups shall serve as a standard for the acceptance or rejection for the work of this contract.

#### **1.09 PROTECTION**

- A. Take all necessary precautions to protect all persons (whether engaged in the work of this Section or not) from all hazards of any kind associated with the work of this Section.
- B. Take all necessary precautions to protect all property and materials (whether subject to the work of this Section or not) from any harm or damage associated with the work of this Section.

- C. Perform all work of this Section in accordance with all Federal, State and local regulations regarding the transportation, storing, handling, application, removal and disposal of the products involved.

#### **1.10 MATERIAL DELIVERY, STORAGE AND HANDLING**

- A. Deliver packaged materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and name of product and manufacturer.
- B. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from moisture damage.
- C. Arrangement shall be made with the Owner to store equipment and materials in designated areas. The Owner shall not be responsible for damaged or stolen materials or equipment left on the premises by the Contractor.
- D. Replace all broken, lost or damaged adjacent material resulting from repair, removal, cleaning of finishing of all woodwork under this section at no expense to the Owner.

### **PART 2 - PRODUCTS**

#### **2.01 GENERAL REQUIREMENTS**

- A. Where any manufacturer makes more than one grade of each material specified, the Contractor shall use the highest grade of each type, whether or not the materials is mentioned by trade name in these specifications.
- B. Follow manufacturer's instructions regarding preparation of surfaces, mixing, applying, drying, etc. In case of conflict with this specification, the more stringent shall govern.
- C. Materials shall conform to the following requirements and shall be new (except for salvaged wood), of the highest grade, free from defects, and of recent manufacturer. Where product names and numbers are indicated and are not available, furnish products which are equal to original specifications, as approved and at no additional cost to the Owner.
- D. The grades of all materials under this section shall be as defined by the rules of the recognized association of lumber manufactures producing the material specified. Wood for millwork shall conform to, or exceed, the requirements of "Premium Grade, Class I" as established by Quality Standards or the Architectural Woodwork Institute (AWI) and shall be provided in the cuts and figure required to match existing wood. Where conflicts occur between these standards and this Specification, the more stringent requirement shall govern in each case.
- E. Lumber and finished woodwork throughout shall be of sound stock, thoroughly seasoned, free from all knots and if new, kiln-dried to a moisture content not exceeding 6-11% for millwork.
- F. Work that is to be finished shall be free from defects or blemishes on surfaces exposed to view that will show after the finish coats of stain and varnish are applied. Any materials which are in any way defective and do not meet specifications for quality and grade or are otherwise not in proper condition shall be rejected.

## **2.02 TOOLS**

- A. Handheld power tools used for the removal of paint or varnish shall be equipped with vacuum attachments that control air-born dust.
- B. Sandpaper.
- C. Bristle brush, foam brush or clean cotton cloth for application of stain.
- D. Clean cotton cloth for wiping of excess stain.
- E. Natural bristle or foam brush for application of top coat.

## **2.03 PROTECTION MATERIALS**

- A. Polyethylene sheeting, 6-8 mil., or approved equal.
- B. Gaffers Tape, 3M or approved equal.
- C. Low-tack masking tape: 3M or approved equal.

## **2.04 CLEANING MATERIALS**

- A. Cleaning Pads: Scotch-Guard Red Pads, or approved equal.
- B. Cleaning Pads: 0000 steel wool, clean and free of contaminants and corrosion.
- C. Clean, lint-less cotton rags and cheesecloth.

## **2.05 REPLACEMENT WOOD**

- A. All new wood shall be of premium grade, free of defects which would impair appearance, strength or durability. Comply with applicable AWI Standards for Architectural Woodwork: white oak for porches, ramp, railings & Mahogany for new shutter.
  - 1. Wood Moisture Content: Provide kiln-dried (KD) lumber with an average moisture content range of 9% to 13% for exterior work and 6% to 11% for interior work. Maintain temperature and relative humidity during fabrication, storage and finishing operations so that moisture content values for woodwork at time of installation do not exceed 8%-13% for interior wood finish or 9%-14% for exterior trim (as defined by AWI).
- B. Provide replacement wood members, moldings and dutchmen with dimensions, profiles and details to match originals, or existing adjacent work into which new wood is being matched and installed. All glues shall be non-staining, waterproof, aliphatic resin types.
- C. All wood potentially subject to weather exposure shall be water-repellent preservative treated after machining per NWWDA I.S. 4.

## **2.06 SIDING, TRIM FOR OPAQUE FINISH**

- A. Quality Standard: Comply with AWI Section 500.
- B. Grade: Premium.

- C. Wood Species: White Oak

## 2.07 PUTTIES, ADHESIVES, AND FASTENERS

- A. Fillers for holes and losses in wood: Pigmented oil-based putty or pencil formulated specifically for use on wood or approved equal. Provide "Color Putty." Mix different colors of putty to match color of finished wood.
  - 1. Pencils. Colors to match Minwax Wood Finish in 2718 "Ebony":
    - a. Minwax Blend-Fil Pencil in color #9 as manufactured by Minwax Company 10 Mountainview Road, Upper Saddle River, NJ 07458 Tel: 800-290-1105.
    - b. Mohawk Blendal Sticks as supplied by Woodshop Products, LLC 4262 West Riverbend Avenue Post Falls, ID 83854 Tel: 208-777-9663.
    - c. DAP Blend Sticks by Plastic Wood as supplied by Grainger 308 Allwood Road Clifton, NJ 07012 Tel: 973-777-7700.
    - d. Or approved equal.
  - 2. Wood Putty. Stainable or colors to match Minwax Wood Finish in 2718 "Ebony":
    - a. Minwax Wood Putty as manufactured by Minwax Company 10 Mountainview Road, Upper Saddle River, NJ 07458 Tel: 800-290-1105.
    - b. Mohawk Epoxy Putty Sticks as supplied by Woodshop Products, LLC 4262 West Riverbend Avenue Post Falls, ID 83854 Tel: 208-777-9663.
    - c. Dap Plastic Wood, Wood Filler as supplied by Grainger 308 Allwood Road Clifton, NJ 07012 Tel: 973-777-7700.
    - d. Or approved equal.
- B. All glue shall be non-staining waterproof wood glues as manufactured by:
  - 1. 3M Company,
  - 2. DAP Company,
  - 3. Borden Company
  - 4. Or Approved equal.
- C. Provide new screws, galvanized nails and brades or other fasteners to match existing.

## 2.08 PAINT PRODUCTS

- A. Wood Primer: Provide products of one of the following, or Architect-approved equal:
  - 1. Sherwin-Williams: Emerald Exterior Primer and Paint
  - 2. Benjamin Moore: Moorwhite Primer (100)
  - 3. Pittsburgh: Sun-Proof Latex Primer, (72-1)
- B. Wood Finish Paint: Provide products of one of the following, or Architect-approved equal
  - 1. Sherwin-Williams: Emerald Exterior Primer and Paint



- 2. Benjamin Moore: Aura Waterborne Exterior Paint (632)
- 3. Behr: Marquee Primer and Paint

D: Paint Colors: Final color selection to be selected by Architect based on mock-ups.

### **PART 3 - EXECUTION**

#### **3.01 INSPECTION**

- A. The Contractor shall examine all areas scheduled for work to determine whether existing conditions will adversely affect execution of the work of this section.
- B. Take all necessary field measurements and verify all installation conditions prior to dismantling, submission of shop drawings/sketches and other submittals, and prior to ordering and fabrication of materials.

#### **3.02 RESTORATION OF WOODWORK: GENERAL**

- A. Restore all woodwork, including specific items noted on the drawings, using methods specified in this section. Restoration work includes all necessary repair work to return wood to intact and structurally sound condition acceptable to the Architect and is not limited to specific items noted on the Drawings.
- B. Remove all extraneous nails, staples, hooks, etc. from woodwork. Fill resulting holes, gouges and indentations with approved filler material as per Section 3.3 Crack and Hole filling.
- C. Replace all missing or otherwise defective wood in kind, unless approved by the Architect. Finished woodwork shall be fully intact and structurally sound.

#### **3.03 SIDING, ORNAMENTAL AND RUNNING TRIM INSTALLATION**

- A. Repair/replace all damaged/deteriorated wood siding, wood trim and decorative wood elements to match existing, in the roofing work area or where indicated on the drawings.
- B. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, if required.
  - 1. Match existing trim to be replaced in all details.
  - 2. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.
  - 3. Fit exterior joints to exclude water. Apply flat grain lumber with bark side exposed to weather.
  - 4. Install standing and running trim with no more than 1/8 inch in 96-inch variation from a straight line.

### **3.04 REATTCHING LOOSE TRIM**

- A. Using galvanized nails that will penetrate at least ½" into the backing material, drive nail into trim without hitting the wood.
- B. Drive nail until the head is slightly above the surface of the wood. Then hold the tip of a nail set against the nail head and tap with a hammer to drive the head about 1/8" below the surface of the wood.
- C. Fill resulting hole with wood filler that matches surrounding finish.

### **3.05 CRACK AND HOLE FILLING**

- A. Nail Holes and scratches:
  - 1. Work wax crayon touch-up stick or pencil into nail hole, scratch or other imperfection.
  - 2. Wipe off excess material with a rag until flush with the surface of the wood.
- B. Cracks and holes less than 1/4" X 1/4":
  - 1. Patch cracks and holes, indentations, gouges, etc. by pressing putty into holes.
  - 2. Wipe excess putty from surrounding area with a damp cloth.
- C. For cracks and holes less than 1" X 1" X ½" deep, use wood filler.
  - 1. Mix wood filler per manufacturer's instructions.
  - 2. Apply the mixed paste immediately to the area to be repaired.
  - 3. Spread on a thin layer followed by sufficient product to fill the gap.
  - 4. Slightly over-fill to allow for sanding down.
  - 5. Sand and finish per manufacturer's instructions.
- D. Finish to match surrounding woodwork.

### **3.06 DUTCHMAN REPAIRS**

- A. Repair deteriorated, split, or missing wood with Dutchman repairs where indicated in Drawings. Use the following procedure:
  - 1. Neatly cut out defective materials and enough sound wood to bond Dutchman to sound substrate. Form a prismatic void in existing wood with square corners and edges. Cut Dutchman to exactly fit void, with exposed portion matching original profile of woodwork, and grain of Dutchman parallel to original wood grain.
  - 2. Secure Dutchman with waterproof adhesive and clamp in place until glue is set.
  - 3. Where it is necessary to cut off an end of a component and install Dutchman, use a diagonal scarf joint for end-to-end joints.
  - 4. Sand to a smooth finish.
- B. Finish to match surrounding woodwork.

### 3.07 PAINT APPLICATION

- A. New and Existing Woodwork, Trim, Architectural Elements, to be painted:
1. Exterior wood surfaces to be painted shall receive a total of three coats as follows:
    - a. One coat of specified primer.
    - b. One undercoat of specified finish paint lightly tinted with a compatible tinting material, to distinguish it from the final coat of finish paint.
    - c. One coat of specified finish paint.
- B. Stirring: Stir materials before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
- C. Thinners: Use only thinners approved by the paint manufacturer, and only within recommended limits.
- D. Application: Apply paint in accordance with manufacturer's printed directions. Use applicators and techniques best suited for substrate and type of material being applied.
- E. Surface: Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
- F. Coats: The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even, smooth surface in accordance with the manufacturer's directions.
1. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
  2. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.
- G. Scheduling: Apply first coat to surfaces that have been cleaned, pretreated, repaired or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration. Coordinate cleaning and painting to avoid contaminating freshly cleaned or painted surfaces with dust, dirt, oils, etc.
- H. Drying: Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

- I. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate. Provide a total dry-film thickness of the entire system as recommended by the manufacturer.
- J. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

### **3.08 CURE AND PROTECTION**

- A. Cure finishes in compliance with manufacturers' instructions and recommendations to obtain maximum surface durability.
- B. Protect curing surfaces from blown dust and debris.
- C. Protect exterior glass from breakage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents and vandalism, during construction period.

### **3.09 FINISHING**

- A. Complete the finishing work specified in this Section, to the extent not completed at the shop or before installation. Fill nail holes with matching filler where exposed. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats were applied in the shop.

### **3.10 CLEAN UP**

- A. The Contractor shall leave the site free of all debris at the end of the working day.
- B. Work and adjacent areas shall be clean and free of all loose materials, debris and surplus adhesives.
- C. Repair damaged and defective finish carpentry work wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replicate woodwork. Adjust joinery for a uniform finish. Restore any marred or damaged areas using approved means at no expense to Owner.
- D. All wood surfaces shall be cleaned of dust, grime, and other substances following repairs using a clean damp cloth.

**END OF SECTION 06200**

## **SECTION 07310 - ASPHALT SHINGLE ROOFING**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. Section Includes:
  - 1. Asphalt shingles.
  - 2. Underlayment.
  - 3. Metal flashing and trim.

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02075 – Roof Removal
- B. Section 06200 – Wood Restoration
- C. Section 07320 – Wood Shingle Roofing
- D. Section 07550 – Modified Bitumen Membrane Roofing
- E. Section 07600 – Flashing and Sheetmetal
- F. Section 07920 – Joint Sealers

#### **1.04 DEFINITION**

- A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

#### **1.05 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at project site.

#### **1.06 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

1. Asphalt Shingles: Full size.
  2. Ridge and Hip Cap Shingles: Full size.
- C. Samples for Initial Selection: For each type of asphalt shingle indicated.
1. Include similar Samples of accessories involving color selection.
- D. Samples for Verification: For the following products, of sizes indicated:
1. Asphalt Shingles: Full size.
  2. Ridge and Hip Cap Shingles: Full size.

#### **1.07 QUALITY ASSURANCE**

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

#### **1.08 DELIVERY, STORAGE, AND HANDLING**

- A. Store roofing materials in a dry, well-ventilated location protected from weather, sunlight, and moisture according to manufacturer's written instructions.
- B. Store underlayment rolls on end on pallets or other raised surfaces. Do not double stack rolls.
- C. Protect unused roofing materials from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.
- D. Handle, store, and place roofing materials in a manner to prevent damage to roof deck or structural supporting members.

#### **1.09 FIELD CONDITIONS**

- A. Environmental Limitations: Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended in writing by manufacturer.

#### **1.10 WARRANTY**

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace asphalt shingles that fail within specified warranty period.
1. Failures include, but are not limited to, the following:
    - a. Manufacturing defects.
  2. Material Warranty Period: 25 years from date of Substantial Completion, prorated, with first five years nonprorated.

3. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds of up to 100 mph for five years from date of Substantial Completion.
  4. Algae-Resistance Warranty Period: Asphalt shingles will not discolor for 10 years from date of Substantial Completion.
  5. Workmanship Warranty Period: Five years from date of Substantial Completion.
- B. Roofing Installer's Warranty: On warranty form at end of this Section, signed by Installer, in which Installer agrees to repair or replace components of asphalt-shingle roofing that fail in materials or workmanship within specified warranty period.
1. Warranty Period: Five years from date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.01 PERFORMANCE REQUIREMENTS**

- A. Exterior Fire-Test Exposure: Provide asphalt shingles and related roofing materials identical to those of assemblies tested for Class A fire resistance according to ASTM E 108 or UL 790 by Underwriters Laboratories or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.

### **2.02 GLASS-FIBER-REINFORCED ASPHALT SHINGLES**

- A. Self-sealing, granule surfaced, asphalt shingle with a strong fiberglass reinforced Micro Weave core and StainGuard protection, which prevents pronounced discoloration from blue-green algae through formulation/unique blends of granules. Architectural laminate styling provides a wood shake appearance with 5 5/8in. exposure. Features the classic Natural Shadow effect. UL 790 Class A rated with UL 997 Wind Resistance Label; ASTM D 7158, Class H; ASTM D 3161, Type 1; ASTM D 3018, Type 1; ASTM D 3462; AC438 compliant.
1. Timberline Natural Shadow as manufactured by GAF, 1 Campus Drive, Parsippany, NJ 07054. Tel: 1-973-628-3000 or Architect approved equal.
  2. Strip Size: Manufacturer's standard.
  3. Algae Resistance: Granules resist algae discoloration.
  4. Impact Resistance: UL 2218, Class 4.
  5. Color and Blends: As selected by Architect from manufacturer's full range.
- B. Hip and Ridge Shingles: Manufacturer's units to match asphalt shingles. Trim each side of lapped portion of unit to taper approximately 1 inch.

### **2.03 WOOD DECKING**

- A. Replace all deteriorated existing wood decking as necessary with new wood to match original (based on T&M allowance).

## 2.04 UNDERLAYMENT

- A. Cold applied, self-adhering waterproof membrane composed of polyethylene film coated one side with rubberized asphalt adhesive installed over repaired existing roof deck.
- B. Vycor Ultra sheet waterproof membrane as manufactured by W. R. Grace & Co., Grace Construction Products, Cambridge, MA or Architect approved equal.

## 2.05 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.
- B. Roofing Nails: ASTM F 1667; stainless-steel or copper wire shingle nails, minimum 0.120-inch-diameter, sharp-pointed, with a minimum 3/8-inch-diameter flat head and of sufficient length to penetrate 3/4 inch into solid wood decking or extend at least 1/2 inch through OSB or plywood sheathing.
  - 1. Shank: Barbed.
  - 2. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

## 2.05 METAL FLASHING AND TRIM

- A. General: Comply with requirements in Section 07600 "Flashing and Sheet Metal."
  - 1. Sheet Metal: Copper.
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.
  - 1. Apron Flashings: Fabricate with lower flange extending a minimum of 6 inches over and 4 inches beyond each side of downslope wood roofing and 6 inches up the vertical surface.
  - 2. Step Flashings: Fabricate with a head lap of 3 inches and a minimum extension of 4 inches both horizontally and vertically.
  - 3. Cricket or Backer Flashings: Fabricate with concealed flange extending a minimum of 18 inches beneath upslope wood roofing and 6 inches beyond each side of chimney and 6 inches above the roof plane.
  - 4. Open-Valley Flashings: Fabricate in lengths not exceeding 10 feet with 1-inch-high, inverted-V profile at center of valley and equal flange widths of 12 inches.
  - 5. Drip Edges: Fabricate in lengths not exceeding 10 feet with 2-inch roof-deck flange and 1-1/2-inch fascia flange with 3/8-inch drip at lower edge.
- C. Vent-Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 6 inches from pipe onto roof.



## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
  - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provisions have been made for flashings and penetrations through asphalt shingles.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.02 UNDERLAYMENT INSTALLATION**

- A. General: Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
- B. Self-Adhering Sheet Underlayment: Install, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install lapped in direction that sheds water. Lap sides not less than 3-1/2 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Roll laps with roller. Cover underlayment within seven days.
  - 1. Prime concrete and masonry surfaces to receive self-adhering sheet underlayment.
  - 2. Eaves: Extend from edges of eaves 24 inches beyond interior face of exterior wall.
  - 3. Rakes: Extend from edges of rake 24 inches beyond interior face of exterior wall.
  - 4. Valleys: Extend from lowest to highest point 18 inches on each side.
  - 5. Hips: Extend 18 inches on each side.
  - 6. Ridges: Extend 36 inches on each side.
  - 7. Sidewalls: Extend beyond sidewall 18 inches, and return vertically against sidewall not less than 4 inches.
  - 8. Dormers, Chimneys, Skylights, and Other Roof-Penetrating Elements: Extend beyond penetrating element 18 inches, and return vertically against penetrating element not less than 4 inches.
  - 9. Roof Slope Transitions: Extend 18 inches on each roof slope.
- C. Metal-Flashed, Open-Valley Underlayment: Install two layers of minimum 36-inch-wide underlayment centered in valley. Stagger end laps between layers at least 72 inches. Lap ends of each layer at least 12 inches in direction to shed water, and seal with asphalt roofing cement. Fasten each layer to roof deck.

1. Lap roof-deck underlayment over first layer of valley underlayment at least 6 inches.
- D. Granular-Surfaced, Open-Valley Lining: Comply with NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems." Install a 36-inch-wide felt underlayment centered in valley. Fasten to roof deck with roofing nails.
1. Lap roof-deck felt underlayment over valley felt underlayment at least 6 inches.
  2. Install an 18-inch-wide strip of valley lining centered in valley, with granular-surface face down. Install a second 36-inch-wide strip of valley lining centered in valley, with granular-surface face up. Lap ends of each strip at least 12 inches in direction to shed water, and seal with asphalt roofing cement. Stagger end laps between succeeding strips at least 72 inches. Fasten each strip to roof deck with roofing nails.

### **3.03 METAL FLASHING INSTALLATION**

- A. General: Install metal flashings and other sheet metal to comply with requirements in Section 076200 "Sheet Metal Flashing and Trim."
1. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
- C. Step Flashings: Install with a headlap of 2 inches and extend over the underlying asphalt shingle and up the vertical surface. Fasten to roof deck only.
- D. Cricket or Backer Flashings: Install against the roof-penetrating element extending concealed flange beneath upslope asphalt shingles and beyond each side.
- E. Open-Valley Flashings: Install centered in valleys, lapping ends at least 8 inches (200 mm) in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.
1. Secure hemmed flange edges into metal cleats spaced 12 inches apart and fastened to roof deck.
  2. Adhere [9-inch-wide strip of self-adhering sheet to metal flanges and to self-adhering sheet underlayment.
- F. Rake Drip Edges: Install rake drip-edge flashings over underlayment and fasten to roof deck.
- G. Eave Drip Edges: Install eave drip-edge flashings below underlayment and fasten to roof sheathing.
- H. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.

### **3.04 STARTER SHINGLE INSTALLATION**

A. General:

1. Install in accordance with manufacturer's instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
2. Refer to application instructions for the selected starter strip shingles.

B. Placement and Nailing:

1. For maximum wind resistance along rakes & eaves, install starter strip containing sealant or cement shingles to underlayment and each other in a 4" width of asphalt plastic roof cement.
2. Place starter strip shingles 3/4" over eave and rake edges to provide drip edge.
3. Nail approximately 1-1/2" - 3" above the butt edge of the shingle.
4. Rake starter course should overlap eave edge starter strip at least 3"

### 3.02 SHINGLE INSTALLATION

A. General:

1. Install in accordance with manufacturer's instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
2. Minimize breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4 degrees C).
3. Handle carefully in hot weather to avoid scuffing the surfacing, or damaging the shingle edges.

B. Placement and Nailing:

1. Secure with 4, 5, or 6 nails per shingle per manufacturer's application instructions or local codes.
2. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
3. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
4. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.

- C. Beginning with the starter strip, trim shingles so that they “nest” within the shingle located beneath it. This procedure will yield a first course that is typically 3 inch to 4 inch rather than a fully exposed shingle.
1. Laterally, offset the new shingles from the existing keyways, to avoid waves or depressions caused by excessive dips in the roofing materials.
  2. Using the bottom of the tab on existing shingles, align subsequent courses.
  3. Secure with 4, 5, or 6 nails per shingle per manufacturer’s instructions or local codes.
  4. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
  5. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
  6. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
- D. Valleys: Install valleys using the "open valley" method:
1. Snap diverging chalk lines on the metal flashing, starting at 3 inches each side of top of valley, spreading at 1/8 inch per foot to the eaves.
  2. Run shingles to chalk line.
    - a Trim last shingle in each course to match the chalk line; do not trim shingles to less than 12 inches wide.
    - b Apply a 2 inch wide strip of plastic cement under ends of shingles, sealing them to the metal flashing.
  3. Install valleys using the "closed cut valley" method:
    - a Run the first course of shingles from the higher roof slope across the valley at least 12 inches.
    - b Run succeeding courses of shingles from the lower roof slope across the valley at least 12 inches and nail not closer than 6 inches to center of valley.
    - c Run shingles from the upper roof slope into the valley and trim 2 inches from the center line.
    - d Hip and Ridge Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.
- E. Penetrations

1. All Penetrations are to be flashed according to ARMA and NRCA application instructions and construction details.

### **3.05 FIELD QUALITY CONTROL**

- A. Inspect units as they are installed. Do not install cracked, broken, twisted, curled, or otherwise damaged units.
- B. As work progresses, exercise care not to scratch or mar installed units. Units damaged during installation shall be immediately removed and discarded.
- C. After approximately 200 units have been installed, inspect roof from ground. Verify proper layout and appearance. Repeat inspection every 200 shingles.
- D. Visually inspect complete installation to ensure that it is weather tight.

### **3.06 ADJUSTING, CLEANING AND PROTECTION**

- A. Remove and replace any damaged or broken new shingles.
- B. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- C. Remove excess slate and debris from site at the end of each work day.
- D. Provide final protection and maintain conditions to ensure that roofing and flashing and trim work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.
- E. In areas where finished surfaces are soiled by asphalt or any other source of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- F. Repair or replace any/all damaged, defaced or disfigured finishes caused by work of this section.
- G. Store extra materials in location designated by Owner.

**END OF SECTION 07310**

## **SECTION 07320 - WOOD SHINGLE ROOFING**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- B. Section Includes:
  - 1. Wood shingle roofing.
  - 2. Underlayment.
  - 3. Metal flashing and trim.

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02075 – Roof Removal
- B. Section 06200 – Wood Restoration
- C. Section 07310 – Asphalt Shingle Roofing
- D. Section 07550 – Modified Bitumen Membrane Roofing
- E. Section 07600 – Flashing and Sheetmetal
- F. Section 07920 – Joint Sealers

#### **1.04 DEFINITIONS**

- A. Roofing Terminology: See ASTM D 1079 and glossary in NRCA's "NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

#### **1.05 PRE-INSTALLATION MEETINGS**

- A. Pre-installation Conference: Conduct conference at Project site.

#### **1.06 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Samples: For each exposed product in sizes indicated.

1. Wood Shingles: Full size unit.
  2. Wood Shakes: Full size unit.
  3. Ridge Units: Full size unit.
- C. Samples for Initial Selection: For each type of wood product indicated.
1. Include Samples of accessories involving color selection.
- D. Samples for Verification: For the following products:
1. Wood Shingles: Full size.
  2. Ridge Units: Full size.

#### **1.07 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For Installer.
- B. Evaluation Reports: For wood products, from ICC-ES.
- C. Sample Warranty: For special warranties.

#### **1.08 CLOSEOUT SUBMITTALS**

- A. Maintenance Data: For wood products to include in maintenance manuals.

#### **1.09 MAINTENANCE MATERIAL SUBMITTALS**

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  1. Wood Shingles: 100 sq. ft. of each type, in unbroken bundles.

#### **1.10 QUALITY ASSURANCE**

- A. Installer Qualifications: Approved by CSSB.
- B. Grading Agency Qualifications: An independent testing and inspecting agency recognized by authorities having jurisdiction as qualified to label wood products for compliance with referenced grading rules.
- C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
  1. Build mockups for wood products including accessories.
    - a. Size: 48 inches long by 48 inches wide.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### **1.11 DELIVERY, STORAGE, AND HANDLING**

- A. Store roofing materials in a dry, well-ventilated location protected from weather and moisture according to manufacturer's written instructions.
- B. Store underlayment rolls on end, on pallets or other raised surfaces. Do not double stack rolls. Protect from sunlight until installation.
- C. Protect unused roofing materials from weather and moisture when left overnight or when work is not in progress.
- D. Handle, store, and place roofing materials in a manner to prevent damage to roof deck or structural supporting members.

#### **1.12 PROJECT CONDITIONS**

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit product installation and related work to be performed according to manufacturer's written instructions and warranty requirements.
  1. Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended by manufacturer.

#### **1.13 WARRANTY**

- A. Special Materials Warranty: Manufacturer's warranty administered by CSSB and on CSSB's standard form in which the Manufacturer agrees to repair or replace CSSB-labeled products that fail in materials within specified warranty period. Material failures include manufacturing defects that result in leaks.
  1. Materials Warranty Period: Limited lifetime from date of Substantial Completion.
- B. Installer's Warranty: On warranty form at end of this Section, signed by Installer, in which Installer agrees to repair or replace installed products that fail in materials or workmanship within specified warranty period.
  1. Warranty Period: Five years from date of Substantial Completion.



## **PART 2 - PRODUCTS**

### **2.01 PERFORMANCE REQUIREMENTS**

- A. Exterior Fire-Test Exposure: Provide roofing materials identical to those of assemblies tested for fire resistance according to ASTM E 108 or UL 790 by Underwriters Laboratory or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.
- B. Grading Rules: Provide wood products that comply with Cedar Shake & Shingle Bureau's (CSSB) grading rules for products indicated.
  - 1. Fire-Retardant Treatment: Exterior-type pressure treatment complying with AWPA U1.
  - 2. Accelerated Weathering: Subject test specimens to ASTM D 2898 Method A before testing.
  - 3. Identification: Attach a label to each bundle of wood products that identifies manufacturer, type of product, grade, dimensions, and identification mark of grading agency acceptable to authorities having jurisdiction.

### **2.02 ROOF SHINGLES**

- A. Cedar Shingles: Smooth-sawn 100% edge grain western red cedar shingles.
  - 1. Grade: No. 1 Blue Label, with starter courses of No. 1.
  - 2. Size: 18 inches long; 0.45 inch thick at butt.
- B. Cedar Ridge Units: Manufactured, smooth-sawn western red cedar caps for ridges and hips of same thickness as shingles, 7 inches wide; beveled, alternately overlapped, and nailed.
  - 1. Grade: No. 1.
  - 2. Length: 18 inches.

### **2.03 WOOD DECKING**

- A. Replace all deteriorated existing wood decking as necessary with new wood to match original (based on T&M allowance).

### **2.04 UNDERLAYMENT**

- A. Cold applied, self-adhering waterproof membrane composed of polyethylene film coated one side with rubberized asphalt adhesive installed over repaired existing roof deck.

- B. Vycor Ultra sheet waterproof membrane as manufactured by W. R. Grace & Co., Grace Construction Products, Cambridge, MA or Architect approved equal.

## **2.05 WOOD FURRING**

- A. ¾" X 4" pressure treated exterior grade furring strips horizontally installed over entire roof deck to match spacing of shingle exposure.

## **2.06 ACCESSORIES**

- A. Asphalt Roofing Cement: A#19 Ultra Flashing Cement (non-asbestos) by Karnak Roofing Products, 330 Central Avenue, Clark, New Jersey 07066, 732.388.0300 telephone, 732.388.9422 fax or Architect approved equal.
- B. Roofing Nails: ASTM F 1667, stainless-steel, Type 316, box-type wire nails, sharp pointed, and of sufficient length to penetrate a minimum of ¾ inch into sheathing.
  - 1. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

## **2.07 METAL FLASHING AND TRIM**

- A. General: Comply with requirements in Section 07600 "Flashing and Sheet Metal."
  - 1. Sheet Metal: Copper.
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.
  - 1. Apron Flashings: Fabricate with lower flange extending a minimum of 6 inches over and 4 inches beyond each side of downslope wood roofing and 6 inches up the vertical surface.
  - 2. Step Flashings: Fabricate with a head lap of 3 inches and a minimum extension of 4 inches both horizontally and vertically.
  - 3. Cricket or Backer Flashings: Fabricate with concealed flange extending a minimum of 18 inches beneath upslope wood roofing and 6 inches beyond each side of chimney and 6 inches above the roof plane.
  - 4. Open-Valley Flashings: Fabricate in lengths not exceeding 10 feet with 1-inch-high, inverted-V profile at center of valley and equal flange widths of 12 inches.
  - 5. Drip Edges: Fabricate in lengths not exceeding 10 feet with 2-inch roof-deck flange and 1-1/2-inch fascia flange with 3/8-inch drip at lower edge.
- C. Vent-Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 6 inches from pipe onto roof.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
  - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored and that provisions have been made for flashings and penetrations through wood roofing.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.02 SHEATHING/UNDERLAYMENT INSTALLATION**

- A. Inspect existing wood decking and replace all deteriorated or improperly sized wood decking with new wood to match original thickness.
- B. Underlayment: Apply self-adhesive underlayment horizontally over entire surface to receive shingles, lapping ends and succeeding courses a minimum of 3". Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
- C. Install, underlayment wrinkle free. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Roll laps with roller. Cover underlayment within seven days.
- D. Install  $\frac{3}{4}$ " X 4" pressure treated exterior grade furring strips horizontally over entire roof deck to match spacing of shingle exposure.
- E. Furring shall be mechanically fastened through to the existing wood decking below at +/- 16" o.c. horizontally using a fastening method approved by the Architect based on insitu test installations.

### **3.03 METAL FLASHING INSTALLATION**

- A. General: Install metal flashings and other sheet metal to comply with requirements in Section 07600 "Flashing and Sheet Metal."

1. Install metal flashings according to recommendations for wood roofing in NRCA's "NRCA Roofing and Waterproofing Manual."
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope wood roofing and up the vertical surface.
- C. Step Flashings: Install with a head lap of 3 inches and extend both horizontally and vertically. Install with lower edge of flashing just upslope of, and concealed by, butt of overlying shingle or shake. Fasten to roof deck only.
- D. Cricket or Backer Flashings: Install against the roof-penetrating element, extending concealed flange beneath upslope wood roofing and beyond each side.
- E. Open-Valley Flashings: Install centrally in valleys, lapping ends at least 8 inches in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.
  1. Secure hemmed flange edges into metal cleats spaced 12 inches apart and fastened to roof deck.
  2. Adhere 9-inch wide strip of self-adhering sheet to metal flanges and to self-adhering sheet underlayment.
- F. Rake Drip Edges: Install over underlayment and fasten to roof deck.
- G. Eave Drip Edges: Install beneath underlayment and fasten to roof deck.
- H. Pipe Flashings: Form flashing around pipe penetrations and wood roofing. Fasten and seal to wood roofing.

### **3.04 ROOF-SHINGLE INSTALLATION**

- A. General: Install wood-shingle roofing according to manufacturer's written instructions and to recommendations in CSSB's "New Roof Construction Manual" and NRCA's "NRCA Roofing Manual: Steep-Slope Roofing Systems."
- B. Install wood furring strips perpendicular to roof slope in parallel courses, butting edges and ends to form continuous rows, and fasten to roof deck.
- C. Install wood-shingle starter course along lowest roof edge.
  1. Install in double layer with joints offset a minimum of 1-1/2 inches.
  2. Extend 1 inch over fascia.
  3. Extend 1 inch over rake edge.
- D. Install first course of wood shingles directly over starter course and in continuous straight-line courses across roof deck. Install second and succeeding courses of wood shingles in continuous straight-line courses across roof deck.
  1. Extend 1 inch over rake edge.

2. Offset joints between shingles in succeeding courses a minimum of 1-1/2 inches. Do not allow alignment of vertical joints in alternate courses.
  3. Space shingles a minimum of 1/4 inch and a maximum of 3/8 inch apart.
  4. Fasten each shingle with two nails spaced 3/4 to 1 inch from edge of shingle and 1-1/2 to 2 inches above butt line of succeeding course. Drive fasteners flush with top surface of shingles without crushing wood.
  5. Maintain weather exposure of 5 inches.
- E. Open Valleys: Cut and fit wood shingles at open valleys, trimming upper concealed corners of shingles. Maintain uniform width of exposed open valley from highest to lowest point.
- F. Ridge Units: Install units over wood shingles trimmed at apex of ridges and hips. Maintain same exposure dimension of units as roof-shingle exposure. Lap units at ridges to shed water away from direction of prevailing winds. Alternate overlaps of units and fasten with concealed roofing nails of sufficient length to penetrate sheathing.
1. At unventilated ridges and hips, install concealed strip of **self-adhering sheet** underlayment over apex shingles and below ridge units.

### 3.05 FIELD QUALITY CONTROL

- A. Inspect units as they are installed. Do not install cracked, broken, twisted, curled, or otherwise damaged units.
- B. As work progresses, exercise care not to scratch or mar installed units. Units damaged during installation shall be immediately removed and discarded.
- C. After approximately 200 units have been installed, inspect roof from ground. Verify proper layout and appearance. Repeat inspection every 200 shingles.
- D. Visually inspect complete installation to ensure that it is weather tight.

### 3.06 ADJUSTING, CLEANING AND PROTECTION

- A. Remove and replace any damaged or broken new shingles.
- B. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- C. Remove excess slate and debris from site at the end of each work day.
- D. Provide final protection and maintain conditions to ensure that roofing and flashing and trim work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

- E. In areas where finished surfaces are soiled by asphalt or any other source of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- F. Repair or replace any/all damaged, defaced or disfigured finishes caused by work of this section.
- G. Store extra materials in location designated by Owner.

**END OF SECTION 07320**

## **SECTION 07550 MODIFIED-BITUMEN MEMBRANE ROOFING**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Preparation of Substrate to Receive Roofing Materials
- B. Roof Membrane Application
- C. Roof Flashing Application – See Section 07600

#### **1.02 RELATED SECTIONS**

- A. Section 02075 - Roof Removals
- B. Section 07310 – Asphalt Shingle Roofing
- C. Section 07320 – Wood Shingle Roofing
- D. Section 07600 - Flashing and Sheet Metal
- E. Section 07900 - Joint Sealers

#### **1.03 REFERENCE STANDARDS**

References in these specifications to standards, test methods, codes etc., are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

ASTM American Society for Testing and Materials  
Philadelphia, PA (215) 299-5585

BOCA Building Officials and Code Administrators International, Inc.  
Country Club Hills, IL (708) 799-2300

FM Factory Mutual Engineering and Research  
Norwood, MA (617) 762-4300

ICBO International Conference of Building Officials  
Whittier, CA (562) 699-0541

NRCA National Roofing Contractors Association  
Rosemont, IL (847) 299-9070

OSHA Occupational Safety and Health Administration  
Washington, DC (202) 523-1452

SMACNA Sheet Metal and Air Conditioning Contractors National Association  
Chantilly, VA (703) 803-2980

UL Underwriters Laboratories  
Northbrook, IL (708) 272-8800

#### 1.04 DESCRIPTION OF WORK

The basic work descriptions required in this specification are referenced below. See also Parts 2 & 3 for specific products, preparation, application and details.

- A. Remove/replace flat roofing systems, repair wood decking as necessary, install new 2-ply built-up roofing system, and all associated flashing systems where indicated on the drawings.
- B. Install new copper base, cap, valley, perimeter flashing, heavy duty copper gutters and downspouts. See Section 07600 – Flashing and Sheetmetal

#### 1.05 SUBMITTALS

All submittals which do not conform to the following requirements will be rejected.

- A. SUBMITTALS OF EQUALS. Submit primary roof systems to be considered as equals to the specified roof system no less than 10 days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. Include the following submittals of equals prior to bid:
  - 1. Two 3 inch x 5 inch samples of the primary roofing and flashing sheets.
  - 2. Latest edition of the roofing system manufacturer's specifications and installation instructions.
  - 3. Descriptive list of the materials proposed for use.
  - 4. Evidence of Underwriters' Laboratories Class A acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings. No other testing agency approvals will be accepted.
  - 5. Letter from the proposed primary roofing manufacturer confirming the number of years it has directly manufactured the proposed primary roofing system under the trade name and/or trademarks as proposed.
  - 6. List of three (3) of the manufacturer's projects, located in the United States, of equal size and degree of difficulty which have been performing successfully for a period of at least five (5) years.
  - 7. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; breaking load; ultimate elongation; dimensional stability; compound stability; granule embedment and resistance to thermal shock (foil faced products).
  - 8. Sample copy of the specified guarantee.



- B. SUBMITTALS PRIOR TO CONTRACT AWARD:
1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
  2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.
- C. SUBMITTALS PRIOR TO PROJECT CLOSE-OUT:
1. Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

## 1.06 QUALITY ASSURANCE

- A. ACCEPTABLE PRODUCTS. Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. Secondary or accessory products shall be acceptable to the manufacturer of the primary roofing products.
- B. AGENCY APPROVALS. The proposed roof system shall conform to the following requirements. No other testing agency approvals will be accepted.
1. Underwriters Laboratories **Class A** acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings.
- C. ACCEPTABLE CONTRACTOR. Contractor shall have a minimum of 5 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.
- D. SCOPE OF WORK. The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association.
- E. LOCAL REGULATIONS. Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.
- F. MANUFACTURER REQUIREMENTS. Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

## 1.07 PRODUCT DELIVERY STORAGE AND HANDLING

- A. DELIVERY. Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. STORAGE. Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.
- C. HANDLING. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- D. DAMAGED MATERIAL. Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

## 1.08 PROJECT/SITE CONDITIONS

- A. REQUIREMENTS PRIOR TO JOB START
  - 1. NOTIFICATION. Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
  - 2. PERMITS. Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.
  - 3. SAFETY. Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.
- B. ENVIRONMENTAL REQUIREMENTS
  - 1. PRECIPITATION: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.
  - 2. TEMPERATURE RESTRICTIONS: COLD ADHESIVE. At low temperatures, the specified cold adhesive becomes more viscous, making even distribution more difficult. Store cold adhesive in a warm place immediately prior to use. Use a shop squeegee to assist in an even distribution of the adhesive (cut notches out of the rubber blade of the squeegee). Suspend application in situations where the adhesive cannot be kept at temperatures allowing for even distribution.

## C. PROTECTION REQUIREMENTS

1. MEMBRANE PROTECTION. Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
2. LIMITED ACCESS. Prevent access by the public to materials, tools and equipment during the course of the project.
3. DEBRIS REMOVAL. Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
4. SITE CONDITION. Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

### 1.09 GUARANTEE/WARRANTY

- A. ROOF MEMBRANE GUARANTEE. Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the Manufacturer's twenty (25) year labor and materials membrane/system guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount and shall include insulation adhesion addendum.

## PART 2 - PRODUCTS

### 2.01 ROOFING SYSTEM ASSEMBLY/PRODUCTS

- A. TEMPORARY ROOF PLY SHEET. A fiberglass reinforced SBS modified bitumen coated sheet having an minimum weight of 60 lb./square. Type: Siplast Paradiene 20 or Architect approved equal.
- B. ROOFING MEMBRANE ASSEMBLY. A roof membrane assembly consisting of two plies of a prefabricated, fiberglass reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, secured to a prepared substrate. Both reinforcement mats shall be impregnated and coated each side with a high quality SBS modified bitumen blend. The assembly shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.

Siplast, Paradiene 20EG/30 FR BW roof system or Architect approved equal.

#### MODIFIED BITUMEN BASE PLY

- a) Thickness (avg.): 90 mils – 2.8 mm
- b) Weight (avg. per 100 ft<sup>2</sup> of coverage) - 90 lbs – 4.4 kg/m<sup>2</sup>
- c) Low temperature flexibility @ 13° F (-25° C) - PASS (ASTM D 5147)
- d) Breaking Load (avg.) @ 73° F - 30 lbf/inch (ASTM D 5147)
- e) Ultimate Elongation (avg.) @ 73° F - 50% (ASTM D 5147)
- f) Compound Stability (min.) - 212° F (100° C)
- g) Approvals - UL Class listed, FM Approved (products shall bear seals of approval)

- h) Reinforcement - fiberglass scrim/mat
- i) Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, the following:  
Siplast, Paradiene 20EG or Architect approved equal

#### MODIFIED BITUMEN FINISH PLY

- a) Thickness (avg.): 130 mils - 3.0 mm
- b) Thickness at selvage (avg.): 98 mils - 2.5 mm
- c) Weight (avg. per 100 ft<sup>2</sup> of coverage) - 90 lbs - 4.4 kg/m<sup>2</sup>
- d) Low temperature flexibility @ -13° F (-25° C) - PASS (ASTM D 5147)
- e) Breaking Load (avg.) @ 73° F - 30 lbf/inch (ASTM D 5147)
- f) Ultimate Elongation (avg.) @ 73° F - 55% (ASTM D 5147)
- g) Compound Stability (min.) - 212° F (100° C)
- h) Approvals - UL Class listed, FM Approved (products shall bear seals of approval)
- i) Reinforcement - fiberglass mat
- j) Surfacing - ceramic granule
- k) Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, the following:  
Siplast, Paradiene 30 FR BW or Architect approved equal

Siplast, Paradiene 30 FR BW or Architect approved equal

STRIPPING PLY - (Same as roof system base ply unless noted)

## 2.02 WOOD DECKING

- A. Replace all deteriorated existing wood decking as necessary with new wood to match original (based on T&M allowance).

## 2.03 PLYWOOD SHEATHING

- A. Plywood: Install ¾" CDX pressure treated exterior grade plywood sheathing atop existing roof deck at the roof over east porch.

## 2.04 SHEET-METAL FLASHING

- A. Copper: Comply with ASTM B 370, temper H00 (cold-rolled), 16 oz (0.0216 inch thick), except as otherwise indicated. See Section 07600 - Flashing and Sheet Metal for details.
- B. Fabricate sheet-metal flashing to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metals, and other characteristics of item indicated. All replacement flashings shall match the existing flashings exactly in profile, thickness and design.
  - 1. Other Sheet Metal Flashing: Of types and thicknesses indicated, but in thicknesses not less than that specified or required by referenced standards.

- a. Downspouts and scuppers: Fabricate from Copper: 20 oz.,
- b. Downspout hangers: 12-oz cold-rolled copper.
- c. Exposed Trim, Gravel Stops, and Fasciae: Fabricate from Copper: 20 oz.
- d. Ridges: Fabricate from Copper: 20 oz.
- e. Copings: Fabricate from Lead-Coated Copper: 20 oz.
- f. Base Flashing: Fabricate from Lead-Coated Copper: 20 oz.
- g. Counter-flashing: Fabricate from Lead-Coated Copper: 20 oz.
- h. Roof-Penetration Flashing: Fabricate from Copper: 16 oz.

D. Solder:

- 1. Copper: ASTM B 32, 50-50 tin/lead, used with rosin flux.
- 2. Lead-Coated Copper: ASTM B 32, 60-40 tin/lead, used with rosin flux.

E. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.

F. Glass-Fiber Slip Sheet: Fire-resistant coated glass-fiber slip sheet as manufactured by Atlas Roofing Corp., or approved equal.

G. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

## 2.05 ROOFING ACCESSORIES

### A. ROOFING ADHESIVES

1. INSULATION ADHESIVE. A single component, moisture cured, polyurethane foam adhesive, dispensed from a portable, pre-pressurized container used to adhere insulation panels to the substrate as well to other insulation panels. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following

- a. Para-Stick Professional Roof Insulation Adhesive

2. MEMBRANE COLD ADHESIVE SOLVENT FREE. A blend of special urethane moisture cured, solvent free adhesive that meets or exceeds ASTM D 4479, Type II requirements. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Siplast SFT Adhesive

3. FLASHING CEMENT. A blend of special urethane moisture cured, solvent free roof cement with non-asbestos fibers conforming to ASTM D 4586 Type II requirements. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Siplast SFT Cement

### B. BITUMINOUS CUTBACK MATERIALS

1. PRIMER. A high flash, quick drying, asphalt solvent blend which meets or exceeds ASTM D 41 requirements. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Siplast, PA-917LS Asphalt Primer.
  2. MASTICS. An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Siplast PA-1021 Plastic Cement
- C. CAULKING/SEALANTS. A single component, high performance, elastomeric sealant conforming to ASTM D 232, ASTM C 920, or ASTM C 920. Acceptable types are as follows: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Siplast PS-304 Elastomeric Sealant by Siplast, Inc.; Irving, TX
- D. CERAMIC GRANULES. No. 11 Grade Specification Ceramic granules of color scheme matching the granule surfacing of the finish ply.
- E. FLUID APPLIED PENETRATION FLASHING: Siplast Parapro 123 reinforced fluid applied flashing.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. GENERAL. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.
- B. REMOVE ALL EXISTING:
  - Roof membranes
  - Insulation
  - Base flashings
  - Edge metal
  - Flanged metal flashings only as needed for roofing installation.
  - Cants, wood blocking
  - Roof hatch
  - Non functional penetrations/curbs
  - Metal trim, counterflashing, etc. only as needed for roofing installation.

### **3.02 INSULATION/UNDERLAYMENT INSTALLATION**

- A. Inspect existing wood decking and replace all deteriorated or improperly sized wood decking with new wood to match original thickness.
- B. TEMPORARY ROOF APPLICATION. Fully adhere in specified membrane adhesive the ply sheet directly to the prepared surface lapping sides and ends a minimum of three (3) inches. Apply the

sheets free of wrinkles, creases or fishmouths and exert sufficient pressure on the roll during application to ensure the prevention of air pockets. Seal each penetration and termination using fiberglass tape and the specified plastic cement to ensure that the temporary roof configuration is completely water-tight.

- C. Install ¾" CDX pressure treated exterior grade plywood sheathing atop existing roof deck at the roof over east porch.
  - 1. Sheathing shall be mechanically fastened through the wood decking at 24" o.c. vertically and horizontally using a fastening method approved by the Architect based on in-situ test installations and manufacturer recommendations.
- D. Flashing: Install metal flashing as indicated and according to details and recommendations of NRCA's "The NRCA Roofing and Waterproofing Manual": Section "The NRCA Steep Roofing Manual."

### **3.03 ROOF MEMBRANE INSTALLATION**

- A. **MEMBRANE APPLICATION.** Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.
- B. **AESTHETIC CONSIDERATIONS.** An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, metallic powder, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner.
- C. **PRIMING.** Prime metal flanges (all jacks, edge metal, lead drain flashings, etc.) and concrete and masonry surfaces with a uniform coating of ASTM D 41 asphalt primer.
- D. **MEMBRANE ADHESIVE APPLICATION.** Apply cold adhesive in a smooth, even, continuous layer without breaks or voids at the rate of 1 1/2 gallons per square per ply. (The porosity of some substrates may require a heavier application to ensure full adhesion.)
- E. **BITUMEN CONSISTENCY.** Cutting or alterations of bitumen, primer, and sealants will not be permitted.
- F. **ROOFING APPLICATION.** Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets. Stagger the lap seams between the base ply layer and the finish ply layer. Stagger the courses to ensure this.
  - 1. Apply all layers of roofing perpendicular to the slope of the deck.
  - 2. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps a minimum of 3 feet.

3. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps of the finish ply a minimum 3 feet. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.
4. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds 1/2 inch per foot. The manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.

### 3.04 FLASHING

- A. General: See Section 07600 – Flashing and Sheet Metal for details. Unless otherwise indicated, install sheet metal flashing and trim as shown on the Drawings, to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
  1. Remove and replace all damaged or severely deteriorated copper flashing. Conditions requiring repair or replacement include, but are not limited to, holes, tears, splits, open seams, displacement, loose connections, joint failure, worn-away lead coating, etc. Install flashing at all locations where it is missing.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal
- C. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- D. Roof-Edge Flashings: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.
- E. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- F. Soldered Joints:
  1. Clean surfaces to be soldered, removing oils and foreign matter.
  2. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
- G. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 3 m with no joints allowed within 610 mm of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or



would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant (concealed within joints).

- H. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- I. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- J. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
  - 1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

### **3.05 FIELD QUALITY CONTROL AND INSPECTIONS**

- A. **SITE CONDITION.** Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
- B. **NOTIFICATION OF COMPLETION.** Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
- C. **FINAL INSPECTION**
  - 1. **POST-INSTALLATION MEETING.** Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
  - 2. **DRAIN VERIFICATION.** At final inspection of all work, verify that all drains, scuppers, etc., are functioning properly. Ensure that roof drains have adequate strainers.
- D. **ISSUANCE OF THE GUARANTEE.** Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

**END OF SECTION 07550**

## **SECTION 07600 - FLASHING AND SHEET METAL**

### **PART 1 - GENERAL**

#### **1.01 GENERAL PROVISIONS**

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

#### **1.02 SUMMARY**

- A. The extent of work under this section is as indicated on the drawings, as specified herein, and as required by authorities and conditions for proper performance of the work.
- B. Briefly and without force and effect upon Contract Documents, work of this Section shall include furnishing all labor and materials for the following:
  - 1. Replace existing base, cap, valley, fascia, crickets and perimeter flashing systems with new copper flashing at the flat and wood shingle roofing systems where indicated on the drawings.
  - 2. Install new half-round heavy duty copper gutter system and new downspouts with associated strainers, properly tied into the storm drainage system.
  - 3. Repair and reline existing built-in gutters at the porch roof.
  - 4. Install new metal cover at existing hatch and install flashing at hatch base.
  - 5. Furnish and install miscellaneous sheet-metal accessories as necessary for the proper execution of the work.

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02075 – Roof Removal
- B. Section 07310 – Asphalt Shingle Roofing
- C. Section 07320 – Wood Shingle Roofing
- D. Section 07550 – Modified Bitumen Roofing
- E. Section 07900 - Joint Sealers

#### **1.04 PERFORMANCE REQUIREMENTS**

- A. **General:** Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

- B. Fabricate and install flashing at roof edges to comply with recommendations of FM Loss Prevention Data Sheet 1-49 for Wind Zone 3: Wind pressures of 46 to 104 psf .

#### **1.05 SUBMITTALS**

- A. **Product Data:** Submit four copies of manufacturer's technical product data for flashing, sheet metal and accessories including installation instructions and general recommendations for each specified sheet material and fabricated product.
- B. **Shop Drawings:** Submit four copies of shop drawings where required for work of this Section. Submit layout; type of material; weights, gauges, or thickness of sheet metal; profiles; joining, expansion, and fabrication details; and installation details. Provide layouts at 1/4-inch scale and details at 3-inch scale.
- C. **Samples:** Provide four sets of samples of sheet metal flashing, trim, and accessory items, in the specified finish.
  - 1. 8 inch square samples of all specified flashings, materials, as well as other accessory items and materials.
  - 2. 12-inch long samples of factory-fabricated products exposed as finished Work.
  - 3. Full-scale mock-ups of gutter and system, fascias and cap flashings.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Materials shall be adequately packaged and protected during shipment and shall be inspected for damage, dampness, and wet storage stains upon delivery to the job site. Materials shall be clearly labeled as to type and manufacturer. Sheet metal items to be carefully handled to avoid damage. Materials shall be stored in dry, weathertight, vented areas until immediately before installation.

#### **1.07 QUALITY ASSURANCE**

- A. **Reference Standards:**
  - 1. NRCA, "Roofing and Waterproofing Manual".
  - 2. SMACNA, "Architectural Sheet Metal Manual, 4th edition".
  - 3. Revere Copper Products, Inc. "Copper and Common Sense".

4. ASTM B370, "Copper Sheet Metal and Strip for Building Construction."
  5. ASTM B486, "Paste Solder."
- B. **Installer:** A firm with 5 years of successful experience with installation of copper flashing and trim similar in type and scope to project requirements.
- C. Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.
- D. **Mock-Ups:** Prior to installing sheet metal flashing and trim, construct mock-ups indicated to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mock-ups to comply with the following requirements, using materials indicated for final unit of Work.
1. Locate mock-ups on-site in the location and of the size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect one week in advance of the dates and times when mock-ups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Construct mock-ups for the following type of sheet metal flashing and trim:
    - a. Flashing systems
    - b. Gutters
    - c. Exposed trim
  5. Obtain Architect's approval of mock-ups before start of final unit of Work.
  6. Retain and maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed Work.
    - a. When directed, demolish and remove mockups from Project site.
- E. **Inspections**
1. The Contractor shall notify the Architect to inspect the roof flashing prior to the application of the roofing layer.

#### 1.08 WARRANTY

- A. The Contractor shall provide the standard 5 year material and workmanship warranty. For 5 years from the date of substantial completion of the work in this Section the Contractor shall warrant the work is not defective in workmanship or materials and conforms to the final shop drawings except for reasonable variances

not impairing the performance of the roof system as described herein. This warranty applied to both patent and latent defects but does not cover damages caused by acts of god, ordinary wear and tear or unusual abuse or neglect.

## 1.09 PROJECT CONDITIONS

- A. **Coordination:** Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

## PART 2 - PRODUCTS

### 2.01 METALS

- A. **Copper:** ASTM B 370; temper H00, cold-rolled except where temper O60 is required for forming; not less than 20 oz. unless otherwise indicated.

### 2.02 SHEET METAL FLASHING AND TRIM MATERIALS

- A. **Gutter Assemblies:** Gutters system assemblies shall be half-round, European style, 7.6" dia. formed to profiles as shown on Drawings of 20-oz. copper. Gutter hangers shall be heavy duty formed from 20-oz copper. Built-in gutters shall be lined with 20-oz. copper.
- B. **Flashings Systems:** Base, cap, thru wall, ridge, hip, valley, crickets and perimeter flashing systems shall be 20-oz. copper. Trim shall be furnished in maximum 8'-0" lengths.
- C. **Gutter Leader Assemblies:** Leaders and leader boxes shall be formed to profiles to match original and as shown on Drawings of 20-oz cold-rolled untreated copper. Leaders shall be 4" x 4". as per ASTM B370.
1. **Straps:** Provide same metal, gauge and finish as leaders.
  2. **Screens:** Copper 2" x 2" wire cloth mesh for installation at leader box openings, available from McMaster-Carr Supply Co, (908) 329-3200, or approved equal.
  3. **Fasteners and anchors:** Provide same metal as leaders, or other metal as recommended by manufacturer for improved corrosion resistance. All anchors into masonry shall be stainless steel, Type 302 or 305.
- D. **Downspouts:** Plain round complete with smooth-curve elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
1. Fabricate from 20 oz. copper, 4.7" dia..
- E. **Equipment and Roof Penetration Flashing:** Fabricate from 20-oz. copper
- F. **Termination Bars:** If required, 1/8" natural brass formed at top edge to receive sealant. Termination bar shall be approved by roofing manufacturer.

## 2.03 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. **Solder:** Solder shall be lead-free as per ASTM B32 with compatible flux.
  - 1. Copper: Provide 50 - 50 tin/lead solder (ASTM B 32).
- B. **Flux:** Flux shall be rosin, muriatic acid neutralized with zinc, or approved equal. Acid shall be thoroughly washed off after soldering is completed.
- C. **Fasteners:** Same metal as flashing/sheet metal or other non-corrosive metal as recommended by sheet manufacturer and as noted on Drawings or in Specifications. Match finish of exposed heads with material being fastened.
  - 1. All nails, screws, washers, cleats and other miscellaneous connectors shall be copper, as per FS FF-N-105B, sized as required and as per the Reference Standards.
- D. **Waterproof Membrane:** Vycor Ultra sheet waterproof membrane as manufactured by W. R. Grace & Co., Grace Construction Products, Cambridge, MA or Architect approved equal.
- E. **Glass-Fiber Slip Sheet:** Fire-resistant coated glass-fiber slip sheet as manufactured by Atlas Roofing Corp. or approved equal.
- F. **Dissimilar Metals Separations:** Separate metal from non-compatible metal or corrosive substrates by covering concealed surfaces, at locations of contact, with Teflon Pressure Sensitive Tape, as manufactured by USP (United States Plastic Corp.), Lima Ohio (800) 809-4217. Tape available in widths from ¼" - 9".
- G. **Asphalt Mastic:** SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coat.
- H. **Mastic Sealant:** Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- I. **Elastomeric Sealant:** Comply with requirements for joint sealants as specified in Section 07900 "Joint Sealants."
- J. **Adhesives:** Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.
- K. **Metal Accessories:** Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gauge required for performance.

## 2.04 SHEET METAL FABRICATIONS

- A. **General:** Fabricate sheet metal items in thickness or weight needed to comply with performance requirements of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated, but not less than that listed below for each application and metal.

- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal Work that is without oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. **Seams:** Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION REQUIREMENTS**

- A. **General:** Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible and set units true to line and level as indicated. Install work with laps, joints and seams which will be permanently watertight and weatherproof. Provide adequate galvanic protection between dissimilar metals. Seal all penetrations through flashing.
- B. Inspect/repair/replace existing roofing gutters, valley flashing, crickets, and base and cap flashing systems at all roof areas where indicated on the drawings.
- C. **Coordination:** Coordinate installation of flashing and sheet metals with work done by others.
- D. Install exposed sheet metal Work that is without oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- E. **Roof-Edge Flashings:** Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.
- F. **Expansion Provisions:** Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- G. **Soldered Joints:** Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except where pre-tinned surface would show in finished Work.
  - 1. Do not use torches for soldering. Use only soldering irons specifically designed for sheet metal work. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

- H. **Sealed Joints:** Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
- I. **Seams:** Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- J. **Separations:** Separate metal from non-compatible metal or corrosive substrates by covering concealed surfaces, at locations of contact, with Teflon Pressure Sensitive Tape.
- K. **Gutters, Valley Flashing, Fascia's and Cricket Assemblies:** Replace all existing gutter systems, valley flashing, fascia's, crickets and base and cap flashing systems where indicated on the drawings, at all Slate roofs and flat roofs, with new copper to match original in all details, as per manufacturer's recommendations. Fabricate for waterproof and weather-resist performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work.
- L. **Gutter Slope:** Gutter shall slope 1/8" per foot to drains. Contractor to determine existing gutter pitch and modify as necessary to achieve required slope.
- M. **Thru-wall and Base Flashing:** Install new copper thru-wall and base flashing at end parapet walls and below cast stone elements as indicated on the drawings.
- N. Coordinate installation of flashings with installation of assemblies to be protected by flashing. All flashing installations shall be designed to completely cover and protect the membrane base flashing. See details on drawings. Flashing shall be installed in two to three pieces as necessary to facilitate a staged installation and future removal. The upper flashing piece shall vertically overlap lower pieces a minimum of 4". Seal all penetrations in flashing. The cap flashing piece shall consist of a receiver and an insert. All transverse flashing splices shall overlap a minimum of 3". All transverse flashing splices shall have a bed of sealant installed for the 3" overlap. All cap flashing in masonry shall be located as necessary to achieve a minimum of 8" above the finished roof surface. Install termination bars at top edges of all base flashing installations as indicated on the drawings and seal all top edges. Provide flashing end dams where necessary.
- O. **Roof-Penetration Flashing:** Coordinate roof-penetration flashing installation with roofing and installation of items penetrating roof. Install flashing as follows:
1. Turn copper flashing down inside vent piping, being careful not to block vent piping with flashing.
  2. Provide isolation between new copper flashing and existing iron vent pipes using Teflon tape.
  3. Seal and clamp flashing to pipes penetrating roof, other than lead flashing on vent piping.
- P. **Termination Bars:** Where/if necessary brass termination bars shall be secured every 8" OC minimum with brass screws and expansion bolts. Provide neoprene washers. Seal all penetrations. Install sealant bead at top edge. Refer to Section 07900 - Joint Sealers.



- Q. All flashing and roof drainage work, whether drawn or specified or not, shall be designed to shed all weather and water.
- R. Surfaces in contact with metal flashing and drainage work shall be checked for and stripped of protrusions that may damage the materials.
- S. Metals shall be fabricated, connected and soldered in a shop into the largest pieces practical or as manufactured. Site installation shall involve no more than final or miscellaneous crimping, connecting and soldering.

### 3.02 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION

- A. **General:** Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.
- B. Replace any existing gutter systems, fascias, crickets and base and cap flashing systems where indicated on the drawings, with new copper to match original, per manufacturer's recommendations. Fabricate for waterproof and weather-resist performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work.
- C. **Gutters:** Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches apart. Attach ends with rivets and solder to make watertight. Slope to downspouts. Install gutter with expansion joints at locations not exceeding 25 feet apart. Install expansion joint caps.
- D. **Downspouts:** Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 4'-0" O.C.
  - 1. Provide elbows at base of downspout to direct water away from building.
- E. **Splash Pans:** Install where downspouts discharge on low-slope roofs and ground.
- F. **Conductor Heads:** Anchor securely to wall with elevation of conductor top edge 1 inch below scupper and/or gutter discharge.

### 3.03 CLEANING AND PROTECTION

- A. **Exposed Flashing:** Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes. Do not use any solvents that might damage the waterproofing membrane.
- B. **Protection:** Contractor shall follow manufacturer's printed recommendations and required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering at time of substantial completion.

### 3.04 GUARANTEE

The Contractor guarantees to the Owner that said Contractor shall be responsible for any defective materials and workmanship installed by him for a period of five years. The period of

guarantee shall start from the date of Owner acceptance of the work. The Contractor further guarantees to provide all necessary access provisions and to perform permanent repairs forthwith to restore the defective areas, and to make permanent repairs without reference to or consideration of the cause of any defects in the work.

**END OF SECTION 07600**

## SECTION 07900 - JOINT SEALERS

### PART 1 - GENERAL

#### 1.01 GENERAL PROVISIONS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.02 SUMMARY

- A. Work: Joint sealing work described herein includes the following:
  - 1. Joint preparation.
  - 2. Backer rod installation.
  - 3. Sealant installation.
- B. Extent and Location: Sealant shall be applied where necessary to achieve watertightness and at the following specific components:
  - 1. At miscellaneous locations where shown on the drawings and directed by the Architect.

#### 1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 07310 – Asphalt Shingle Roofing
- B. Section 07320 – Wood Shingle Roofing
- C. Section 07550 - Modified Bitumen Membrane Roofing
- D. Section 07600 - Flashing and Sheet Metal

#### 1.04 SUBMITTALS

- A. **Product Data:** Submit four sets of Product Data from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application.
- B. **Samples:** Submit four sets of samples of all materials that will contact or affect joint sealers to joint sealer manufacturers for compatibility and adhesion testing.

#### 1.05 QUALITY ASSURANCE

- A. **Single Source Responsibility for Joint Sealer Materials:** Obtain joint sealer materials from a single manufacturer for each different product required.

- B. **Standards:** Sealant installation shall comply with ASTM C 962-86 "Standard Guide for Use of Elastomeric Sealants".

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. **Delivery:** Deliver materials to project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.
- B. **Storage:** Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

#### 1.07 PROJECT CONDITIONS

- A. **Environmental Conditions:** Do not proceed with installation of joint sealers under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.
  - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. **Joint Width Conditions:** Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.
- C. **Joint Substrate Conditions:** Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. **Colors:** Provide color of exposed joint sealers as selected by Architect from manufacturer's standard colors.
- B. **Joint Sealants:**
  - 1. Sikaflex - 15LM low modulus non-sag elastomeric, single component polyurethane sealant, as manufactured by Sika Corporation, (201) 933-8800, or approved equal.
- C. **Backer Rod and Filler:**
  - 1. For polyurethane sealant: Sonofoam closed cell backer rod as manufactured by Sonneborn, (612) 835-3434, and as approved by sealant manufacturer.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION**

- A. **Surface Cleaning of Joints:** Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:
1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealers, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  2. Clean masonry and similar porous joint substrate surfaces, by brushing, or mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
  3. Clean metal, glazed surfaces of brick and other non-porous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
  4. Cleaning of all surfaces shall be performed on the same day in which the sealant is applied. Use only solvents recommended by the manufacturer. Cleaning solvents shall not be allowed to air dry or evaporate without wiping. Solvents, when used, shall be wiped dry with a clean cloth or lintless paper towels.
- B. **Joint Priming:** Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on pre-construction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. **Masking Tape:** Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact, or by cleaning methods required to remove sealant smears. Masking tape is also recommended where appropriate to ensure a neat job. Remove tape immediately after tooling and before the sealant begins to cure without disturbing joint seal.

### **3.02 JOINT SEALANT INSTALLATION PROCEDURES**

- A. **General:** Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. **Elastomeric Sealant Installation Standard:** Comply with recommendations of ASTM C 962 for use of joint sealants as applicable to materials, applications and conditions indicated.

- C. **Installation of Sealant Backings:** Install sealant backings to comply with the following requirements:
1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability. As a guideline joint depth shall be .4 x joint width.
  2. Do not leave gaps between ends of joint fillers.
  3. Do not stretch, twist, puncture, or tear joint fillers.
  4. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.
  5. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
  6. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.
- D. **Installation of Sealants:** Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
- E. **Tooling of Nonsag Sealants:** Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated on the drawings, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents, which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
- F. **Masking Tape:** Use masking tape to protect adjacent surfaces of recessed tooled joints.

### 3.03 CLEANING

- A. **Excess Sealant:** Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

### 3.04 PROTECTION

- A. **Contamination:** Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and installations with repaired areas indistinguishable from original work.

### **3.05 GUARANTEE**

The Contractor guarantees to the Owner that said Contractor shall be responsible for any defective materials and workmanship installed by him for a period of five years. The period of guarantee shall start from the date of Owner acceptance of the work. The Contractor further guarantees to provide all necessary access provisions and to perform permanent repairs forthwith to restore the defective areas, and to make permanent repairs without reference to or consideration of the cause of any defects in the work.

**END OF SECTION 07900**