

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL DISTRICT
BOXFORD, MA**

December 12, 2018

Prepared For:

**Masconomet Regional School District
District Central Office
20 Endicott Road
Boxford, MA 01921**

Prepared By:

**Gale Associates, Inc.
163 Libbey Parkway
Weymouth, MA 02189**

GALE JN 834200

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL HIGH SCHOOL
BOXFORD, MA**

GALE JN 834200

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INVITATION TO BID

ROOF REPAIRS AND ASSOCIATED WORK AT THE MASCONOMET REGIONAL SCHOOL DISTRICT BOXFORD, MA

The Masconomet Regional School District, hereinafter called the Owner, invites sealed proposals from Contractors for the **Roof Repairs and Associated Work at the Masconomet Regional School, Boxford, Massachusetts**, in accordance with the Contract Documents prepared by Gale Associates, Inc., 163 Libbey Parkway, Weymouth, MA 02189.

Sealed bids for the General Contractor shall be filed with the Awarding Authority on **December 28, 2018 until 11:00 AM** and publicly opened and forthwith read aloud.

General bidders shall be pre-qualified by the Massachusetts Division of Capital Asset Management and Maintenance (DCAMM) for the category of **Roofing**. General bids shall be accompanied by a DCAMM Certificate of Eligibility for the category, and an Update Statement. Failure to provide a valid DCAMM Certificate of Eligibility and an Update Statement will result in the bid being rejected.

Each general bid shall be on a form provided by the Awarding Authority and accompanied by a bid deposit in an amount of five (5) percent of the amount of the bid. Bid deposits shall be in the form of a bid bond, certified check, or a treasurer's or cashier's check issued by a responsible bank or trust company, payable to the Masconomet Regional School District.

Bid Bonds shall be a) in a form satisfactory to the Awarding Authority, b) with a surety company qualified to do business in the Commonwealth and, c) conditioned upon the faithful performance by the principal of the agreements contained in the bid.

A Performance and Payment Bond satisfactory in form to the Awarding Authority in the amount of 100% of the contract and from a surety authorized to do business in the Commonwealth of Massachusetts is required of the successful bidder.

The Contract will be awarded within 30 days, Saturdays, Sundays and Legal Holidays excluded, after the opening of General Bids.

Bid Forms and Contract Documents will be available for download at www.masconomet.org/ on **December 12, 2018** (may be viewed electronically only). The bid documents will be posted under the District Offices and Public Bulletin Board.

A pre-bid conference will be held on **Tuesday, December 18, 2018 at 10:00 a.m.** at the Masconomet Regional School District, District Central Office, 20 Endicott Road, Boxford, MA 01921. Bidders are encouraged to attend and are cautioned to carefully examine the Contract Documents, the site, and the documents relating to existing conditions contained within the specifications.

All bids for this project are subject to the provisions of Massachusetts General Laws, Chapter 149, Section 26 - 27b inclusive and Section 44A - 44I inclusive. Attention is directed to the minimum wage rates to be paid on the work as determined by the Commissioner of Labor and Workforce Development.

All bid deposits will be returned in accordance with applicable statutory provisions.

The Awarding Authority will reject general bids when required to do so by the above-referenced General Laws. In addition, the Awarding Authority reserves the right to waive any informalities in bidding and to reject any and all general bids if it deems it to be in the public interest to do so.

Masconomet Regional School District
District Central Office
20 Endicott Road
Boxford, MA 01921

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL DISTRICT
BOXFORD, MA**

INFORMATION FOR BIDDERS

1. Access to Buildings to Inspect Existing Conditions Before Bidding

A pre-bid meeting has been scheduled on **Tuesday, December 18, 2018 at 10:00 a.m.** All interested bidders are urged to attend. Access at other times will not be available.

2. Preparation of Bids

Bids must be submitted on the prescribed form. All blank spaces must be filled in, either in ink or typewritten, both in words and figures. Each General Bid shall include all documents listed in item 17 of the INFORMATION TO BIDDERS.

Each Bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, bidders address, the name of the project for which the bid is submitted, and the date and time of the scheduled opening.

See the INVITATION TO BID for dates, times, and places for General Bid opening.

3. General Bid Deposit

Each General Bid must be accompanied by a bid deposit in the form of a Bid Bond, cash or certified check, or treasurer's or cashier's check, issued by a responsible bank or trust company, payable to the Masconomet Regional School District in the amount of at least 5% of the total Bid price. The Bid deposit will be retained from the three lowest responsible and eligible bidders until a Contract is executed. Bidders other than the three lowest will have bid deposits returned within five (5) days.

4. Drawing and Specifications

Bid Forms and Contract Documents will be available for download at www.masconomet.org/ on **December 12, 2018** (may be viewed electronically only). The bid documents will be posted under the District Offices and Public Bulletin Board.

5. Liquidated Damages

In the event that a successful bidder should fail or refuse to execute and deliver the Contract and Bonds required within ten (10) days after issuance by the Owner, he shall forfeit to the Owner as liquidated damages his bid deposit.

6. Laws and Regulations

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

7. Conditions of the Contract Areas

Each bidder must inform himself fully of the conditions relating to the scope of work, project site conditions and employment of labor thereon. Failure to do so will not relieve the successful bidder of his obligation to furnish all labor, materials and equipment necessary to carry out the provisions of the contract work scope. Insofar as possible, the Contractor must not interfere with the normal operations of the building.

8. Obligation of Bidder

At the time of opening of the bids, each bidder will be presumed to have inspected the site and to have read and become familiar with the Contract Documents (including all addenda), as well as all statutes, by-laws and regulations affecting his bid. Failure by omission of any bidder to inspect the site and/or to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his bid.

9. Bonds

The successful bidder shall be required to furnish a 100% Performance Bond and 100% Labor and Materials Payment Bond from a surety company approved by the Owner. The Contractor will pay the premium and include the fee in his bid.

10. Rates

The work shall be performed under the direction of the Director of Operations based on a lump sum contract price. This cost shall include complete manpower costs involved with accomplishing the required work including trucks, tools and equipment.

11. Permits

The Contractor shall be responsible to obtain any necessary permits for work directed under this Contract. All permits will be obtained and paid for by the Contractor.

12. Award

The Owner reserves the right to reject any or all bids, if it be in the public interest to do so, and to act upon the bids and make its award in any lawful manner. Notice of intent to enter into contract will be given to the lowest responsible and eligible bidder within thirty (30) days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids. The Contractor is required to hold his bid for a period of thirty (30) days, Saturdays, Sundays and legal holidays excluded. This notice shall be binding until a contract to perform work is issued. Project award is contingent upon the Owner's funding of the work.

13. Time of Completion

The Contractor of Award shall commence work, (submittal process, etc.) within two weeks of receipt of written Notice to Proceed by the Owner, unless otherwise ordered in writing by the Owner. The roof repairs and associated work shall be substantially complete no later than 05:00 PM on June 28, 2019. Allow for coordination for interior access. The Contractor is to provide proposed schedule with bid. Prior to contract award, an approved schedule will be agreed upon between Masconomet Regional School District and the Contractor.

Liquidated damages will be assessed if **Final Completion** is not achieved by **July 12, 2019**. Final Completion shall be determined after the Contractor certifies in writing completion of all remaining items noted on the Architect/Engineer or Owner's punch list.

Refer to the Special Conditions section of the Bidding Requirements for information regarding liquidated damages.

14. Liquidated Damages:

Liquidated damages for not completing the work within the time limit will be assessed to the Contractor. The liquidated damages will be in the amount of \$1,000.00 per calendar day minimum, plus the costs of all engineering, Owner's Project Management, and inspection services. The \$1,000.00 per calendar day is a minimum damage figure to compensate the Owner for administrative costs in the event of delay and shall not limit in any way the liability of the Contractor for damages, in excess of \$1,000.00 per day for other non-administrative damages, in particular damages for breach of contract.

15. Work Hours and Schedule:

The building will be occupied and in use during construction. The Contractor may perform renovation work at the subject facility during the following times:

- April 1, 2019 to April 11, 2019 from 3:00 PM to 12:00AM Monday through Friday
- April 12, 2019 to April 21, 2019 from 7:00 AM to 5:00 PM Monday through Friday
- April 22, 2019 to June 21, 2019 from 3:00 PM to 12:00AM Monday through Friday
- June 22, 2019 to July 12, 2019 from 7:00 AM to 7:00 PM Monday through Friday
- Weekend work hours shall be from 7:00 AM to 7:00 PM
- Note: June 17, 2019 to June 21, 2019 are held for snow days if needed.

Daily mobilization, material handling, delivery, preparatory measures, clean-up and demobilization daily departure shall be between these hours unless otherwise permitted by the Owner under special conditions. Provide 72 hours' notice to the Owner prior to weekend and holiday work.

The successful bidder (Contractor) shall submit a construction schedule as part of their submittal package and shall update the schedule weekly.

- a. It is intended that the Contractor shall accomplish the majority of work during normal business hours (7:00 AM to 5:00 PM) and on a straight time basis. Work shall not be done on an overtime basis unless prior approval has been obtained from the Owner, or his designee.
- b. The Contractor shall provide a minimum of 24 hour notice to the Owner prior to any scheduled or as needed service, maintenance, or inspection.
- c. The bidder shall submit a construction schedule as part of its bid package, and the Contractor of Award shall update such schedule weekly during construction.
- d. Charges incurred by the Contractor for the time spent in transit (portal-to-portal) from the Contractor's place of business to the job site and back are not part of this Contract and will not be paid by the Owner. Computation of the number of hours worked shall include only those hours spent at the job site, including meals.

16. Hazardous Materials

The removal of Hazardous Materials was not included in the scope of work as both school were constructed in the late 2000's and as such they are not expected to be encountered during demolition.

17. Required Submissions with Bids

The following documents are to be submitted with each bid. Failure of a bidder to make all required submissions may cause the Owner to consider the bid unacceptable.

- a. Bid Form
- b. Bid Deposit
- c. Prevailing Wage Documents
- d. Certificate of Tax Compliance
- e. Certificate of Corporation, if bidder is incorporated.
- f. Certificate of Non-Collusion
- g. Division of Capital Asset Management Certificate of Eligibility
- h. Contractor Qualification Update Statement
- i. Construction Schedule

18. Inspection and Testing

The Owner, or Director of Operations, or the Owner's designee reserves the right to inspect any and all work in progress or completed. Any omission or failure on the part of the Owner's Representative to disapprove or reject inferior or defective work on the materials shall not be construed to be an acceptance of any such work or material. If any defective work or materials is found during inspection, the Contractor shall remove or repair, at his expense, such defective work or material rejected and shall rebuild and/or replace same without extra charge to the Owner.

If the Contract Documents, the Owner's or his agent's instructions, or laws, ordinances or regulations of any public authority require any work to be tested or approved, the Contractor shall give the Owner or his agent timely notice of its readiness for inspection by the proper authorities. If any such work shall be covered up without approval or consent, it must, if required by the Owner or his agent or other proper authorities, be uncovered for examination at Contractor's expense.

19. WARRANTY OF MATERIALS AND WORKMANSHIP

Any defective workmanship shown to be caused by improper or faulty installation shall cause the Contractor to correct, repair and replace all material and labor at no cost to the Owner. The Contractor will warrant that all workmanship shall be first class and shall be performed by persons qualified in their respective trades.

20. CORI Forms

Each employee of the Contractor and Subcontractor that will be present on the project site must fill out a CORI form and present in person the form with a valid and legal picture identification card to the authorized CORI representative at the District for a criminal background check to be performed.

The Contractor shall use trained personnel who are directly employed and supervised by the Contractor and have been cleared by a Masconomet regional School District CORI investigation, or other security credentials as may be required by the Owner.

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL DISTRICT
BOXFORD, MA**

**BIDDER'S CERTIFICATION REGARDING
BIDS BASED ON PAYMENT OF PREVAILING WAGES**

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

DATED: _____ NAME OF BIDDER: _____

BY: _____

NAME: _____

TITLE: _____

CERTIFICATE AS TO CORPORATE BIDDER

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
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BOXFORD, MA**

I _____, certify that I am the _____ of the Corporation named as bidder in the attached Bid Form; that _____, who signed said Bid Form on behalf of the bidder was then _____ of said Corporation; that I know his/her signature hereto is genuine and that said Bid Form was duly signed, sealed and executed for and in behalf of said Corporation by authority of its governing body.

(Corporate Seal)

By: _____
Name - Type or Print

Signature

This Certificate must be completed where Bidder is a Corporation and should be so completed by its Clerk. In the event that the Clerk is the person signing the Proposal on behalf of the Corporation, this certificate must be completed by another Officer of the Corporation.

REVENUE ENFORCEMENT AND PROTECTION ACT

CERTIFICATE OF TAX COMPLIANCE

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL DISTRICT
BOXFORD, MA**

Pursuant to M.G.L. Chapter. 62C, Section 49A, I certify under the penalties of perjury that the within named bidder has filed all state tax returns and paid all state taxes required under law.

Social Security Number or
Federal Identification Number

Signature of Individual
or Corporate Name

By: _____
Corporate Officer
(if applicable)

This form shall be submitted by all bidders.

MASCONOMET REGIONAL SCHOOL DISTRICT

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity, or group of individuals.

FIRM _____

SIGNATURE _____

ADDRESS _____

NAME (print) _____

TITLE _____

TELEPHONE _____

DATE _____

GENERAL BID FORM

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL DISTRICT
BOXFORD, MA**

Date: _____, 2018

To: Masconomet Regional School District – The Awarding Authority

A. The undersigned (hereinafter called the Contractor) proposes to furnish all labor, equipment and materials required for the **Roof Repairs And Associated Work At The Masconomet Regional School District, Boxford, Massachusetts** in accordance with the accompanying Plans and Specifications prepared by Gale Associates, Inc., of Weymouth, Massachusetts, for the amounts listed in Items C through below, subject to additions and deductions in accordance with the terms of the Specifications. It being understood that the Masconomet Regional School District (hereinafter called the Owner) will be the sole judge as to acceptance of Bids and Contract Award.

B. This bid includes addenda numbered:

<u>Number</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

C. BASE BID:

The proposed total contract amount to install all work associated with the Base Bid as described in and in accordance with the Contract Document is: _____ Dollars (\$_____).

D. SCHEDULE OF ALTERNATES

1. The proposed alternate contract amount to install work associated with the removal and replacement of the sealants and installation of new sheet metal flashing at the base of the curtain walls above Roof Area A as outlined in Alternate No. 1, in Section 01 23 00 Alternates as described in and in accordance with the Contract Document is:

_____ Dollars (\$_____).

2. The proposed alternate contract amount to install work associated with the removal and replacement of the partial area of Roof Area B.1, removal and replacement of throughwall flashings, and roof edges as outlined in Alternate No. 2, in Section 01 23 00 Alternates as described in and in accordance with the Contract Document is:

_____ Dollars (\$_____).

GENERAL BID FORM

3. The proposed alternate contract amount to install work associated with the roofing repairs around the roof access door on Roof Area C.2 as outlined in Alternate No. 3, in Section 01 23 00 Alternates as described in and in accordance with the Contract Document is:

_____ Dollars (\$_____).

4. The proposed alternate contract amount to install work associated with the full roof replacement of Roof Area A.2, including new parapet caps, throughwall flashings and roof accessories as outlined in Alternate No. 3, in Section 01 23 00 Alternates as described in and in accordance with the Contract Document is:

_____ Dollars (\$_____).

E. UNIT PRICES:

The Unit Prices established below are above and beyond those shown on the Contract Drawings and shall be carried by the Contractor/Subcontractor within the Base Bid Scope of Work. The Contractor's Schedule of Values will carry each item under the bid amount selected for this project. Should the unit price work not be performed on this project, the total amount, or remaining amount if portions of unit price work are performed, shall be credited to the Owner.

No.	Section	Item	Quantity	Unit of Measure	X	Unit Price Dollars/Cents Add & Deduct	=	Total Amount Dollars/Cents Add (to be carried in Base Bid)
1.	07 53 23	Remove existing roof system at wet or otherwise deteriorated locations. Install new assembly to match existing.	400	SF	X	\$	=	\$
2.	07 53 23	Install new EPDM membrane patch over existing punctured, sliced, torn, delaminated, or otherwise open EPDM membrane, or membrane patches.	50	SF	X	\$	=	\$
3.	07 53 23	Install new batten strips to re-secure existing unadhered membrane.	100	SF	X	\$	=	\$
4.	07 53 23	Remove and replace existing delaminated EPDM stripping membrane.	50	LF	X	\$	=	\$
5.	07 53 23	Re-secure existing loose or detached roof edge fascia metal.	10	LF	X	\$	=	\$
6.	07 53 23	Install new EPDM stripping membrane over existing cracked or otherwise open sheet metal flashing seams.	50	LF	X	\$	=	\$
7.	07 53 23	Remove and re-install existing loose or detached reglet flashing.	25	LF	X	\$	=	\$
8.	07 53 23	Remove and replace existing failed sealant.	100	LF	X	\$	=	\$

- F. The undersigned agrees that if selected as the Contractor, within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, the Contractor will execute a Contract in accordance with the terms of this General Bid and furnish a Performance Bond and Payment Bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, and each in the sum of 100% of the Contract Price, the premiums of which are to be paid by the Contractor and included in the Contract Price.
- G. Bidder proposes to provide all labor and materials necessary to complete the work, as specified in the Contract Documents, and as is reasonably expected due to existing conditions and required construction, within the completion time specified in this General Bid Form.
- H. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of the labor employed, or to be employed on the work, and that he will comply fully with all laws and regulations applicable to awards made subject to Chapter 149, Section 44A. The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.
- I. The undersigned hereby certifies that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.
- J. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of Section 29F of Chapter 29, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.
- K. The Contractor hereby certifies, under the pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.
- L. The Contractor hereby further certifies that the undersigned has examined the documents relating to the existing building(s).

- M. The Contractor acknowledges the stringent requirements of the Owner with respect to the Contract Time for the Work and Portions thereof, and recognizes that the construction schedule may require that work proceed on an accelerated basis. The Bidder therefore agrees that the Work of his own forces shall be performed on an overtime and/or double-shift basis, if and to the extent necessary in order that the construction schedule be met. Neither overtime nor double-shift work shall be grounds for any claims for additional compensation to the Bidder. None of the requirements herein shall be construed as relieving the Bidder of his responsibility to conduct his operations in conformance with local ordinances or requirements established by the Commonwealth.

Company Name

Address

By: _____
(Name of Authorized Signature)

Title: _____

Signature: _____

NOTE: Form shall be sealed if Bidder is a Corporation.

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL
BOXFORD, MA**

**DOCUMENT 00500
AGREEMENT (CONTRACT)**

THIS AGREEMENT, made this _____
day of _____, 2018 by and between the party of the first part, the
MASCONOMET REGIONAL SCHOOL DISTRICT, MASSACHUSETTS hereinafter called
"OWNER" or "AWARDING AUTHORITY", and the party of the second part,
_____, doing
business as a _____ located in the City/Town of _____, County
of _____, State of _____,
hereinafter called the "CONTRACTOR"

WITNESSETH: That for and in consideration of the payments and agreements hereinafter
mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the
OWNER to commence and complete the project described as follows:

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL
BOXFORD, MA**

hereinafter called the "PROJECT", for the sum of _____ Dollars (\$ _____)

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

ARTICLE 1 - CONTRACT DOCUMENTS

The Contract Documents consist of the following, and in the event of conflicts or discrepancies among them, they shall be interpreted on the basis of the following priorities:

- a. FIRST: THIS AGREEMENT;
- b. SECOND: CONTRACTOR'S BID PROPOSAL;
- c. THIRD: COPIES OF ALL REQUIRED BONDS, CERTIFICATES OF INSURANCE AND LICENSES REQUIRED UNDER THE CONTRACT
- d. ALL PLANS, DRAWINGS, AND OTHER WRITTEN DOCUMENTS THAT CONSTITUTE THE SCOPE OF WORK AND OWNER EXPECTATION REGARDING WORK PERFORMANCE.

EACH OF WHICH IS ATTACHED HERETO. These documents form the entire AGREEMENT between the parties and there are no other agreements between the parties. Any amendment or modification to this AGREEMENT must be in writing and signed by an official with the authority to bind the OWNER. The documents are to be read collectively and complementary to one another; any requirement under one shall be as binding as if required by all.

ARTICLE 2 - SCOPE OF THE WORK

The CONTRACTOR shall furnish all labor and equipment, and perform all work shown on the Contract Documents, and the CONTRACTOR agrees to do everything required by this AGREEMENT and the Contract Documents to accomplish any and all work incidental thereto:

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
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BOXFORD, MA**

ARTICLE 3 - TERM OF AGREEMENT

This AGREEMENT shall be for a term commencing on _____ and ending at the date of project completion.

This AGREEMENT shall not be renewed or extended.

ARTICLE 4 - THE CONTRACT SUM

The OWNER shall pay the CONTRACTOR for the performance of this Agreement the sum of _____ Dollars (\$_____).

ARTICLE 5 - PAYMENT

The OWNER shall make payment as follows:

- a. On a monthly basis, thirty (30) days after receipt of an invoice for work performed or materials supplied the previous month.

With any invoice, the CONTRACTOR shall submit evidence satisfactory to the OWNER that the goods or supplies have been delivered and/or that the work has been completed in accordance with this AGREEMENT, and that all payrolls, material bills and other indebtedness connected with the work have been paid. The billings shall include, if applicable, all charges for consultants, subcontractors, plans, equipment, models, renderings, travel, reproductions, postage and delivery, and all other expenses. There shall not be any markup for overhead, administration or profit for any of the above listed services. Payment shall be made only for work which has been completed to the reasonable satisfaction of the OWNER.

ARTICLE 6 - NONPERFORMANCE

In the case of any default on the part of the CONTRACTOR with respect to any of the terms of this Agreement, the OWNER shall give written notice thereof, and if said default is not made good within such time as the OWNER shall specify in writing, the OWNER shall notify the CONTRACTOR in writing that there has been a breach of the Agreement, and thereafter the OWNER shall have the right to secure the completion of the work remaining to be done on such terms and in such manner as the OWNER shall determine, and the CONTRACTOR shall pay the OWNER any money that the OWNER shall pay another CONTRACTOR for the completion of the work, in excess of what the OWNER would have paid the CONTRACTOR for the completion of the work, and the CONTRACTOR shall reimburse the OWNER for all expenses incurred by reason of said breach. In case of such breach, the CONTRACTOR shall be entitled to receive payment only for no more than work satisfactorily completed prior to said breach, less any retainage the OWNER is entitled to. The amount of any balance due the CONTRACTOR shall be determined by the OWNER and certified to the CONTRACTOR.

ARTICLE 7 - TERMINATION

In addition to the provisions of Article 6 of this Agreement, the OWNER shall have the right to terminate this Agreement if funds are not appropriated or otherwise made available to support the continuation of this Agreement.

The CONTRACTOR shall have the right to terminate this Agreement if the OWNER fails to make payment within 30 days after it is due.

ARTICLE 8 - NOTICE

All notices required to be given under this Agreement shall be in writing and shall be effective upon receipt by hand delivery or certified mail to:

- a. Masconomet Regional School District:

Name: Dr. Susan Givens
Title: Assistant Superintendent of Finances and Operations
Address: District Central Office
20 Endicott Road
Boxford, MA 01921

- b. The Contractor:

Name: _____
Title: _____
Company: _____
Address: _____

ARTICLE 9 - INSURANCE

- a. The CONTRACTOR shall, at its own expense, obtain and maintain general liability and motor vehicle liability insurance policies protecting the OWNER in connection with any operations included in this Contract, and shall have the OWNER as an additional insured on the policies. General liability coverage shall be in the amount of at least \$1,000,000/\$2,000,000 per occurrence for personal injury or death, and at least \$1,000,000 per occurrence for property damage.
- b. If the CONTRACTOR shall provide professional or design services to the OWNER, then the CONTRACTOR shall carry a professional malpractice or an errors or omissions policy in the amount of at least \$2,000,000 per claim, and may have an aggregate deductible of not more than \$2,000,000.
- c. The CONTRACTOR shall, before commencing performance of this Contract, provide insurance for the payment of compensation and the furnishing of other benefits pursuant to Massachusetts General Laws (M.G.L.) Chapter 152, as amended, the workers compensation law, to all employed under the Contract and shall continue such insurance in full force and effect during the term of the Contract.
- d. All insurance coverage shall be in force from the time of the Agreement to the date when all work under the Contract is completed and accepted by the OWNER. Certificates and any and all renewals substantiating that required insurance coverage is in effect shall be filed with this Contract. Since this insurance is normally written on a year-to-year basis, the CONTRACTOR shall notify the OWNER should coverage become unavailable or if its policy should change. Any cancellation of insurance, whether by the insurers or the insured, shall not be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the OWNER at least fifteen days prior to the intended effective date thereof, which date should be expressed in said notice. Should such insurance be maintained on claims made basis, the Contractor shall maintain such coverage for three years following the termination hereof.
- e. The CONTRACTOR shall indemnify, defend, and save the OWNER and all of the OWNER'S officers, agents and employees harmless from and against all suits and claims of liability of every name and nature, including costs of defending any action, for or on account of any injuries to persons or damage to property of the OWNER or any person, firm, corporation or association arising out of or resulting from any act, omission, or negligence of the CONTRACTOR, subcontractors and its and their agents or employees in the performance of the work covered by this Agreement and/or failure to comply with terms and conditions of this Agreement, but only in respect of such injuries or damages sustained during the performance and prior to the completion and acceptance of the work covered by this Agreement. The foregoing provisions shall not be deemed to be released, waived or modified in any respect by reason of any surety or insurance provided by the CONTRACTOR under the Contract.

- f. The Contractor shall be responsible for, shall defend and pay all costs, attorney's fees and liabilities both direct and indirect as a result of suits arising out this Contract and shall indemnify and hold harmless the Owner, its agents and employees from and against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from the performance of the works.
- g. Neither final acceptance nor occupation of the premises by the Owner shall relieve the Contract of responsibility for all claims for labor, materials, and equipment arising out of this Contract.

ARTICLE 10 - PERFORMANCE BOND AND PAYMENT BOND

Performance Bond, 100%: The CONTRACTOR shall furnish a Performance Bond from a surety company qualified to do business under the laws of the Commonwealth of Massachusetts which is satisfactory to the OWNER in the amount of 100% of the Contract Price.

Payment Bond (Labor and Materials Payment Bond), 100%: The CONTRACTOR shall furnish a Payment Bond from a surety company qualified to do business under the laws of the Commonwealth of Massachusetts which is satisfactory to the OWNER in the amount of 100% of the Contract Price.

ARTICLE 11 - SUBCONTRACTING OF WORK

The CONTRACTOR shall not subcontract any of the work which it is required to perform under this Contract to any corporation, entity or person without the prior written approval of the OWNER.

ARTICLE 12 - PREVAILING WAGE RATES

The CONTRACTOR shall pay the prevailing wage and comply with M.G.L. Ch. 149, §§ 26 - 27D, and a Statement of Compliance shall be included in the Contract Documents. Pursuant to M.G.L. Ch. 149, §§26 and 27B, the CONTRACTOR (and every subcontractor) shall file weekly certified payroll records with the OWNER for all employees who have worked on the Project. The OWNER and the CONTRACTOR shall preserve said records for a period of not less than three (3) years from the date of completion of the Contract.

ARTICLE 13 - OWNERSHIP OF DOCUMENTS

Upon completion of the final payment to the CONTRACTOR, the OWNER shall be the owner of all plans, specifications, electronic data and computations created by the CONTRACTOR that relate to this Agreement. The OWNER agrees that the information contained therein was produced specifically for this Agreement and agrees to hold the CONTRACTOR harmless from any liability for the OWNER'S use of these documents in any future project not directly related to the subject matter of this Agreement.

ARTICLE 14 - MATERIALS AND WORKMANSHIP

Unless otherwise specified, all materials and equipment incorporated in the work under the Contract shall be new. All workmanship shall be first class and by persons qualified in the respective trades.

ARTICLE 15 - GUARANTEE OF WORK

Except as otherwise specified, all work shall be guaranteed by the CONTRACTOR against all defects resulting from the use of inferior materials, equipment, or workmanship incorporated therein for two (2) years from the date of final completion of the Contract.

If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the OWNER are rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the CONTRACTOR shall, promptly upon receipt of notice from the OWNER and at its own expense:

- a. Make goods and services conform to this Agreement;
- b. Make good all damage to the site, or equipment or contents thereof, which, in the opinion of the OWNER, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract; and
- c. Make good any work or material, or the equipment or site, which is disturbed in fulfilling any such guarantee.

ARTICLE 16 - GOVERNING LAW

The CONTRACTOR shall perform the work required under this Contract in conformity with requirements and standards of the OWNER and all applicable laws of the Commonwealth of Massachusetts, its political subdivisions, and the Federal Government.

This Agreement and performance there under are governed by the laws of the Commonwealth of Massachusetts and all other applicable by-laws and administrative rules, regulations and orders.

ARTICLE 17 - BINDING AGREEMENT AND ASSIGNMENT OF INTEREST

This Agreement shall be binding upon the OWNER and the CONTRACTOR and the partners, successors, heirs, executors, administrators, assigns and legal representatives of the OWNER and the CONTRACTOR. Neither the OWNER nor the CONTRACTOR shall assign, sublet or transfer any interest in this Agreement without the written consent of each other, and such consent shall not be unreasonably withheld.

Pursuant to M.G.L. Ch. 62C, Sec. 49A: I certify under the pains and penalties of perjury that the CONTRACTOR, to my best knowledge and belief, has filed all state tax returns and paid all state taxes required under the laws of the Commonwealth of Massachusetts.

Social Security Number or Federal Identification No.

Signature of Individual or Corporate Name

Dated: _____

By: _____
Corporate Officer (if applicable)*

IN WITNESS WHEREOF the parties hereto have executed FIVE (5) copies of this AGREEMENT the day and year first above written.*

*If a Corporation, attach to each signed copy of this Contract an attested copy of the vote of the Corporation on authorizing the said signing and sealing.

CONTRACTOR:

By: _____

Title: _____

MASCONOMET REGIONAL SCHOOL DISTRICT

Susan Givens, Assistant Superintendent for Finances and Operations

END OF DOCUMENT

CONTRACTOR'S GUARANTEE

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL
BOXFORD, MA**

WHEREAS _____
(Contractor)

of _____
(Address)

herein called "the Contractor" has completed construction of the following project:

Owner: _____

Address of Owner: _____

Title of Project: _____

Location: _____

Date of Completion: _____

Date Guarantee Expires: _____

Whereas, at the inception of such work the Contractor agreed to guarantee the construction against faulty materials or workmanship for a limited period and subject to the conditions set forth:

Now, therefore, the Contractor hereby guarantees, subject to the conditions herein set forth, that during a period of two (2) years from the date of completion of said construction, it will, at its own cost and expense, following receipt of written notice, make or cause to be made such repairs to said construction resulting solely from faults or defects in materials or workmanship applied by or through the Contractor as may be necessary to maintain the construction in defect-free condition.

This guarantee is made subject to the following conditions:

Specifically excluded from this guarantee is any and all damage caused by the following lightning, hailstorm or other unusual phenomena of the elements; foundation settlement or cracking; defects or failure of materials not installed by the Contractor; faulty construction other than that installed by or for the Contractor; or fire.

1. No work shall be done on said construction, including, but without limits to equipment fastened to or set on the construction unless the contractor shall be first notified and shall make, at the expense of the Owner, the necessary related construction application thereto. Failure to observe this condition shall render this guarantee null and void.
2. The undersigned agrees to bear the expense of examination and repair of any construction defects due to improper application as specified above, and the Owner is to bear expense if resulting from other cause or causes.
3. This guarantee runs in favor of Owner only and is not transferable.

Additional Conditions: This Contractor Warranty is in Addition to all other legal and specified Warranties and Guarantees required in the project's Contract Documents for materials, systems and performance of the manufacturer or supplier.

In Witness Whereof, this instrument has been duly executed this _____ day of _____, 2018.

Name of Contractor

By: _____
Authorized Signature

(Seal)

Title: _____

NOTE: Form shall be sealed if Contractor is a Corporation.

CERTIFICATE OF DUMPING FACILITIES

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL
BOXFORD, MA**

Date _____

I, _____

certify that I have dumping facilities available at _____

and use of such facilities during the term of the contract will comply with Federal, State and local requirements.

Signature of Authorized Representative of Contractor

Name and Address of Contractor

Signature of Authorized Representative of Disposal Facility

Name and Address of Disposal Facility

**ROOF REPAIRS AND ASSOCIATED WORK AT THE
MASCONOMET REGIONAL SCHOOL
BOXFORD, MA**

**CONTRACTOR'S CERTIFICATION REGARDING
PAYMENT OF PREVAILING WAGES**

In accordance with the requirements of G.L.c.149, §27B, the Contractor shall submit, and shall require all of its sub-contractors required to keep a record of hours and wages paid to laborers employed on the project to submit to the awarding authority, on a weekly basis, copies of such records. All such weekly submissions shall be accompanied by the following certification:

The undersigned contractor hereby certifies, under the pains and penalties of perjury, that the foregoing payroll records are true and accurate records of the wages paid to laborers employed on the project for the period stated and said wages are in an amount no less than the prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned contractor agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result of (1) the Contractor's failure to pay laborers employed on the project the said applicable prevailing wage rates; (2) the failure of the foregoing payroll records to accurately state the said applicable prevailing wage rates; or (3) the failure of the foregoing payroll records to accurately represent the wages actually paid to laborers employed on the project.

DATED: _____ CONTRACTOR: _____

BY: _____

NAME: _____

TITLE: _____

END OF SECTION

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SECTION SGC SUPPLEMENTARY GENERAL CONDITIONS

SUPPLEMENTARY GENERAL CONDITIONS amend, supplement and modify the electronic format of General Conditions of the Contract for Construction, American Institute of Architects (AIA) Document No. A201, 2007 Edition, as follows:

ARTICLE 1: GENERAL PROVISIONS

1.1.1:

Change the last sentence to read: The Contract Documents include bidding documents such as Advertisement or Invitation to Bid, Instructions to Bidders, sample forms, the Contractor's Bid or portions of addenda relating to any of these or any other documents.

1.1.5:

Add at the end: The drawings and details for construction and changes show layouts as taken from available original drawings and subsequent known changes. The Contractor shall make all necessary adjustments and changes required by actual conditions now existing, at no cost to the Owner.

1.2.2:

Add at the end: In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

ARTICLE 2: OWNER

2.2.3

Delete the second sentence in its entirety.

2.2.5:

Delete sub-paragraph 2.2.5 and substitute the following: The Contractor will be furnished free of charge three (3) copies of Drawings and Project Manuals by the Owner. Additional copies will be furnished at the cost of reproduction, postage and handling.

2.3.:

Add at the end: The Owner shall have the authority to clean up or correct any situation which presents a hazard of unsafe condition or affects the Owner's use of the facility, without any notice requirements to the Contractor.

ARTICLE 3: CONTRACTOR

3.2.4:

Add at the end: If the Contractor proceeds with such work without obtaining further drawings or instructions or provides prompt prior notification to the Architect or Owner, the incorrect or improperly completed/attempted work will be corrected at the Contractor's expense.

3.2.5:

Add new paragraph as follows: Directions, specifications and recommendations by manufacturers for installation, handling, sorting, adjustment and operation of their materials or equipment shall be complied with; but the Contractor shall nonetheless have the responsibility of determining whether such directions, specifications and recommendations may safely and suitably be employed in the work, and of notifying the Owner in advance, in writing, of any deviation or modification necessary for the safe installation or proper operation of the item.

3.3.1:

Delete all on the fourth line to the end of the paragraph starting with the sentence; "If the Contract"

3.4.2:

In the second line, add the word "written" after "the" and before "consent".

3.4.4:

Add new paragraph as follows: The Contractor shall take all necessary steps to insure labor harmony on the project. The Contractor shall perform work in accordance with local labor regulation; no extra payment shall be due for doing work under this provision, or for delays or damages for failure to observe such requirements.

3.4.5:

Add new paragraph as follows: The Contractor is solely responsible for the proper and safe operation and maintenance of all utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner, and until the Owner has notified the Contractor that other arrangements have been made. The Contractor shall maintain and operate appurtenances within the construction area which serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by any representative or personnel of the Owner shall not relieve the Contractor of responsibilities in connection with operation and maintenance of these facilities and equipment. The Contractor shall notify the Owner's representatives at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off any steam, electric, water or other service from the Owner's supply systems. The actual operation shall be witnessed and approved by authorized representatives of the Owner. All plumbing, heating and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where any work requires interruption of any service, the Contractor shall make advance arrangements with Owner for dealing with such interruption.

3.4.6:

Add new paragraph as follows: The Owner will supply to the Contractor all water and electricity reasonably required for all construction requirements. Utilities furnished by the Owner will be discontinued if, in the opinion of the Owner, it is wastefully used. The Contractor shall supply all hoses, extension cords, etc. necessary for the proper installation of the work.

3.4.7:

Add new paragraph as follows: Adequate toilet facilities for use during construction shall be provided by the Contractor.

3.4.8:

Add new paragraph as follows: The Contractor shall be responsible for materials which are removed from the work and to be built back into the work later. The costs of damage to or loss of such materials while removed from the work shall be borne by the Contractor.

3.6.2:

Add new paragraph as follows: The Owner is a Tax Exempt Entity and as such this project is free from State Sales Tax requirements. The Owner's Tax Exempt number will be provided to the Contractor for use on this project.

3.7.1:

Add at the end: The Contractor shall provide the Architect with reproductions of all permits, licenses, and permissions.

3.9.1:

Add at the end: The Owner shall reserve the right to request an alternative superintendent. The Contractor shall provide the Owner with after hours telephone numbers by which the superintendent may be contacted in the event of emergencies.

3.12.6:

Add at the end: The Owner and Architect shall be entitled to rely upon the accuracy and completeness of all calculations and certifications required by the Contract Documents.

3.12.10:

Delete in its entirety.

3.13.1:

Add new paragraph as follows: Use only specifically assigned areas for parking, storage of materials and construction operations unless other areas are authorized by the Owner. Comply with local municipal regulations regarding the use of and parking on public streets.

3.13.2:

Add new paragraph as follows: Repair streets, drives, curbs, sidewalks, landscape and the existing improvements where disturbed by construction operations, and leave them in as good condition after completion of the work as before operations started.

3.13.3:

Add new paragraph as follows: The Contractor shall provide his own access to the existing building, and shall not block, nor interfere with building operations, traffic or parking facilities, except as authorized in writing by the Owner.

3.13.4:

Add new paragraph as follows: The Contractor shall be assigned and use one access to the site and facility. This site access shall be clearly posted with a project sign approved by the Owner.

3.14.3:

Add new paragraph as follows: Install all required sleeves and inserts for any built-in building component. Do not cut any finished materials or structural work without the Architect's approval, and submit appropriate detail drawings. Cutting and patching of all building elements caused by failure to provide or properly locate sleeves, forms and inserts, incorrect location of work or failure to cooperate with other trades, shall be done without additional cost to the Owner. Such repair work shall be carried out by mechanics skilled in the repair trade concerned, with due regard to trade practices, and with suitable protection of existing work all at no cost to the Owner.

3.15.3:

Add new paragraph as follows: The Contractor shall remove all stains, spots, marks, debris and dirt resulting from construction operations from all surfaces; and the building and grounds shall be absolutely clean when the work is complete to the satisfaction of the Owner.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1.1:

Change to read: The person variously referred to in the Contract Documents as the Architect or Engineer is one and the same, is the person or organization identified in the Agreement, and includes his authorized representative.

4.2.1:

Change the first line to read: The Architect, if retained by the Owner, will provide administration of the Contract.....

Add at the end: All of the Architect's services described in this subparagraph and all other subparagraphs under paragraph 4.2 and other references to the Architects Administration of the Contract throughout this document will be performed by the Architect if retained by the Owner. If the Owner does not retain the Architect for these services the Contractor shall be provided with written notice of the parties responsible for these duties.

4.2.2:

Add paragraph: The Owner may elect to have an observer present during the work. This observer will record and report to the Owner the departures from the Contract Documents and job progress. The observer does not have the authority to change the Contract Documents, direct the work (including starting and stopping the work), or approve shop drawings.

4.2.6:

Add at the end: Any such rejection of work shall not relieve the Contractor of the responsibility for maintaining protection of the work and the Owner's property.

4.2.7:

Change in the first line the word "approve" to "comment".

15.1.1:

Add at the end: All changes in the work shall be approved before the start of any work through written consent by both Owner and Architect in accordance with the procedure above. Changes not approved in writing by the Architect in advance shall not be recognized as a valid claim at a later date, except where the Owner and Architect agree in writing that the change shall be started, subject to an equitable price adjustment at a later date, in the interest of job progress.

15.1.6:

Delete in its entirety.

ARTICLE 7: CHANGES IN THE WORK

7.3.7:

Add after the first sentence: The allowance for overhead and profit shall be 15% to the Contractor for own work; or 15% to the Subcontractor plus 5% to the Contractor for work by the Subcontractor.

ARTICLE 9: PAYMENTS AND COMPLETION

9.3.2:

Add at the end: The Contractor shall assume responsibility to protect all such materials from loss or damage at no cost to the Owner, until they are finally incorporated into the work, whether or not they have been paid for by the Owner.

9.3.3:

Add at the end: In addition to the provisions of Subparagraph 9.6.7, second paragraph, the Contractor shall submit a "lien-release" from all Subcontractors, suppliers and other parties supplying labor, equipment and materials to the project.

9.4.1:

Change first line to read: The Architect will, within ten (10) days.....

9.6.7:

Delete in its entirety and substitute the following: The Owner will make partial payment to the Contractor no later than the first of each calendar month on the basis of a certified, approved estimate of the work performed, provided that the estimate is submitted to the Architect by the first calendar day of the preceding month. Submission by the Contractor shall be on AIA Document G 702, most recent edition, entitled, "Application and Certificate for Payment", and AIA Document G 703, most recent edition entitled, "Continuations Sheet". In addition to amounts withheld pursuant to paragraph 9.5, the Owner will retain 5% of the amount of each such estimate sixty-five (65) days after final completion and acceptance of all work covered by this Contract.

On all applications for payment, the Contractor shall indicate the sums of money being requisitioned for payment of principal suppliers and subcontractors, and shall include a sworn certificate that the money will be used to pay these suppliers and subcontractors promptly after receipt of payment from the Owner. Applications for payment shall be consistent with the Schedule of Values, paragraph 9.2.1. Upon completion of the work, the Contractor shall sign a sworn to and notarized release form, certifying that all payrolls, materials, bills and other obligations in connection with the work have been paid; and in consideration of all prior payments and the final payment, releasing and forever discharging the Owner from all claims, demands, obligations and liability of every kind and nature arising out of or relating to the Contract.

9.7.1:

Change: In the 1st, 2nd and 4th lines, the words "seven days" to "ten working days".

9.9.1.

Add at the end: The facility shall be occupied and open to normal use during part or all of the construction period. Such normal usage of the facilities shall in no way affect the insurance coverages required under Article 11.

9.10.3:

In the first sentence after the phrase "Through no fault of the Contractor or", add "Subcontractors or".

9.11: LIQUIDATED DAMAGES

9.11.1:

Add new paragraph as follows: The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums stipulated as liquidated damages as determined in the contract for each calendar day of delay beyond the date established in the Contract Documents as amended by agreement for substantial completion until the work is substantially complete. These liquidated damages are a minimum damage figure to compensate the Owner for administrative costs in the event of delay and should not limit in any way the liability of the Contractor for damages in excess of the defined amount for other non-administrative damages, in particular, damages for breach of contract.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.2.8:

Add new paragraph as follows: The Contractor shall protect and maintain in operation all pipelines, conduits, sewers, drains, poles, wiring and the like that in any way interfere with the work, whether or not they are specifically shown on the drawings. The Contractor shall see that all items are protected, supported and/or moved as necessary to adjust them to the new work.

10.2.9:

Add new paragraph as follows: Fire Protection: During any flame cutting and/or welding operation, incombustible curtains and blankets shall be used to intercept and catch hot metal, sparks and burning embers. The Contractor shall employ a watchperson, equipped with portable fire extinguishing equipment, to maintain a fire watch continuously during all flame cutting and welding operation and for 4 hours minimum thereafter. No flammable rubbish or liquid shall be kept in any part of the buildings, except one-gallon quantities in approved safety cans or sealed metal containers. All fire doors shall be kept clear of rubbish and in operating condition, and closed during non-working hours. The Contractor shall not allow any locking and blocking of any door in the building, except entrance doors, during non-working hours. Used construction materials, solvent soaked rags, empty volatile containers and any other material or container which may be combustible shall be removed from the construction site daily and at the end of the work.

10.4.2:

Add new paragraph as follows: The Contractor shall furnish the Owner and Architect, in writing, the names, addresses and telephone numbers of Contractor personnel to be contacted in the event of an after-hours emergency.

ARTICLE 11: INSURANCE AND BONDS

11.1.1.9:

Add new sub-subparagraph as follows: The Contractor shall, before commencing performance of this Contract, provide by insurance for the payment of compensation and the furnishing of other benefits as required under the laws applicable to the project site to all persons to be employed under the Contract. Failure to provide and continue in force such insurance shall be deemed a material breach of the Contract and shall operate as an immediate termination thereof.

11.1.1.10:

Add new sub-subparagraph as follows: Notice of cancellation shall be by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be sufficient notice. An affidavit of any officer, agent or employee of the insurer or of the insured, as the case may be, duly authorized for the purpose, that such notice has been sent addressed as aforesaid, shall be prima facie evidence of the sending thereof as aforesaid. This section shall apply to the legal representative, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of any such Contractor.

11.1.1.11:

Add new sub-subparagraph as follows: Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises Operations (including X, C, and U coverages as applicable).
2. Independent Contractor's Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual, including specified provision for Contractor's obligation under paragraph 3.18.
6. Owned, non-owned and hired motor vehicles.
7. Inland Marine Policy with an installation floater to cover the entire cost of the project's construction.
8. Broad Form Property Damage including Completed Operations.

11.1.1.12:

Add new sub-subparagraph as follows: If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

11.1.2.1:

Add the following sub-subparagraph:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law:

1. Worker's Compensation:
 - a. State: Statutory
 - b. Applicable Federal Statutory
(e.g., Longshoremen's)
 - c. Employer's Liability \$_____ per Accident
\$_____ Disease, Policy Limit
\$_____ Disease, Each Employee
2. Comprehensive or Commercial General Liability (including Premises Operations; Independent Contractor's; Broad Form Property Damage):
 - a. Bodily Injury:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - b. Property Damage:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - c. Products and Completed Operations to be maintained for three years after final payment:
\$2,000,000 Aggregate
 - d. Property Damage Liability Insurance shall provide X, C and U coverage.
 - e. Broad Form Property Damage Coverage shall include Completed Operations.

3. Contractual Liability:
 - a. Bodily Injury:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - b. Property Damage:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
4. Personal Injury, with Employment Exclusion deleted:
\$3,000,000 Aggregate
5. Business Auto Liability (including owned, non-owned and hired vehicles):
 - a. Bodily Injury:
\$1,000,000 Each Person
\$1,000,000 Each Occurrence
6. If the General Liability coverages are provided by a Commercial Liability policy, the:
 - a. General Aggregate shall be not less than \$2,000,000 and it shall apply, in total to this Project only.
 - b. Fire Damage Limit shall be not less than \$1,000,000 on any one fire.
 - c. Medical Expense Limit shall be not less than \$1,000,000 on any one person.
7. Umbrella Excess Liability:
\$5,000,000 over primary insurance.
\$5,000,000 retention for self-insured hazards each occurrence.

11.1.3:

Add the following sentence to Subparagraph 11.1.3: If this insurance is written on the Comprehensive General Liability policy form, the Certificate shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACORD form 25S will be acceptable.

11.1.4:

Add new subparagraph as follows: Each Subcontractor and Sub-subcontractor shall purchase and maintain the insurance required by the provisions of Paragraph 11.1 in the amount and type at least equal to that required of the Contractor, and provisions of Article 11 shall be equally applicable to them. Each Subcontractor and Sub-subcontractor shall be required to furnish the certificates of such insurance to the Owner and to the Architect, unless such shall be included in the certifications submitted by the Contractor and approved by the Owner.

11.1.6:

Add new Subparagraph as follows: The Contractor shall give prompt written notice to the Owner of all occurrences under the coverages of Article 11.

11.1.7:

Add new sub-paragraph as follows: The Owner and Architect shall be listed as additional insureds on the certificate. The Owner and Contractor intend that any policy provided in response to Article 11 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insureds or additional insureds.

11.3.1.1:

Add the following sentence: The form of policy for this coverage shall be _____.

11.3.1.5:

Delete in its entirety and substitute the following: The building shall be occupied by the Owner during the work. Insurance shall not lapse or be canceled on account of this occupancy. The insurance certificates required under this Contract shall include this requirement.

11.4.1:

Delete in its entirety and substitute the following: The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds must be obtained through a surety acceptable to the Owner, and legally registered to do business in the locality of the work. The cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum.

11.4.1.1:

Add new sub-subparagraph as follows: The Contractor shall deliver the required bonds to the Owner not later than five (5) days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

11.4.1.2:

Add new sub-subparagraph as follows: The Contractor 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 the power of attorney.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.2.2.1:

Substitute for the phrase "one year" where it appears in the first line the phrase "two years". Delete the following; starting on the sixth line . . . "The Owner shall give. . . up to and ending on the ninth line. . .claim for breach of warranty."

12.2.2.2:

Substitute for the phrase "one year" where it appears in the first line the phrase "two years".

12.2.2.3

Substitute for the phrase "one year" where it appears in the first line the phrase "two years".

12.2.5:

Substitute for the phrase "one year" where it appears in the second line the phrase "two years".

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General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)
Masconomet Regional High School
Boxford, MA

THE OWNER:

(Name, legal status and address)
Masconomet Regional School District District Central
20 Endicott Road
Boxford, MA 01921

THE ARCHITECT:

(Name, legal status and address)
Gale Associates, Inc.
163 Libbey Parkway
Weymouth, MA 02189

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- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

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. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

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.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 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.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner’s approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term “Owner” means the Owner or the Owner’s authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic’s lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner’s interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or

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the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 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, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

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.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 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.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 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, transportation, and other

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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.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

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.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume

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the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

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

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 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. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, 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.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

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§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be

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required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

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.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish 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.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them 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 that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 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 the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

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§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, 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

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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.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that

the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 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:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

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.4 As provided in Section 7.3.7.

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

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor’s control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor’s right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;

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- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 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 or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended

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appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect

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will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them 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 in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, 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), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction

of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or

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otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, 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 Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the

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Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

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

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§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

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- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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 employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 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.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services 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 be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

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§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

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§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an

init.

additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

Init.

Additions and Deletions Report for **AIA® Document A201™ – 2007**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 11:34:07 ET on 11/28/2018.

PAGE 1

Masconomet Regional High School
Boxford, MA

...

Masconomet Regional School District District Central
20 Endicott Road
Boxford, MA 01921

...

Gale Associates, Inc.
163 Libbey Parkway
Weymouth, MA 02189

Certification of Document's Authenticity
AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:34:07 ET on 11/28/2018 under Order No. 1801348164 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ - 2007, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

SECTION SGC SUPPLEMENTARY GENERAL CONDITIONS

SUPPLEMENTARY GENERAL CONDITIONS amend, supplement and modify the electronic format of General Conditions of the Contract for Construction, American Institute of Architects (AIA) Document No. A201, 2007 Edition, as follows:

ARTICLE 1: GENERAL PROVISIONS

1.1.1:

Change the last sentence to read: The Contract Documents include bidding documents such as Advertisement or Invitation to Bid, Instructions to Bidders, sample forms, the Contractor's Bid or portions of addenda relating to any of these or any other documents.

1.1.5:

Add at the end: The drawings and details for construction and changes show layouts as taken from available original drawings and subsequent known changes. The Contractor shall make all necessary adjustments and changes required by actual conditions now existing, at no cost to the Owner.

1.2.2:

Add at the end: In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

ARTICLE 2: OWNER

2.2.3

Delete the second sentence in its entirety.

2.2.5:

Delete sub-paragraph 2.2.5 and substitute the following: The Contractor will be furnished free of charge three (3) copies of Drawings and Project Manuals by the Owner. Additional copies will be furnished at the cost of reproduction, postage and handling.

2.3.:

Add at the end: The Owner shall have the authority to clean up or correct any situation which presents a hazard of unsafe condition or affects the Owner's use of the facility, without any notice requirements to the Contractor.

ARTICLE 3: CONTRACTOR

3.2.4:

Add at the end: If the Contractor proceeds with such work without obtaining further drawings or instructions or provides prompt prior notification to the Architect or Owner, the incorrect or improperly completed/attempted work will be corrected at the Contractor's expense.

3.2.5:

Add new paragraph as follows: Directions, specifications and recommendations by manufacturers for installation, handling, sorting, adjustment and operation of their materials or equipment shall be complied with; but the Contractor shall nonetheless have the responsibility of determining whether such directions, specifications and recommendations may safely and suitably be employed in the work, and of notifying the Owner in advance, in writing, of any deviation or modification necessary for the safe installation or proper operation of the item.

3.3.1:

Delete all on the fourth line to the end of the paragraph starting with the sentence; "If the Contract"

3.4.2:

In the second line, add the word "written" after "the" and before "consent".

3.4.4:

Add new paragraph as follows: The Contractor shall take all necessary steps to insure labor harmony on the project. The Contractor shall perform work in accordance with local labor regulation; no extra payment shall be due for doing work under this provision, or for delays or damages for failure to observe such requirements.

3.4.5:

Add new paragraph as follows: The Contractor is solely responsible for the proper and safe operation and maintenance of all utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner, and until the Owner has notified the Contractor that other arrangements have been made. The Contractor shall maintain and operate appurtenances within the construction area which serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by any representative or personnel of the Owner shall not relieve the Contractor of responsibilities in connection with operation and maintenance of these facilities and equipment. The Contractor shall notify the Owner's representatives at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off any steam, electric, water or other service from the Owner's supply systems. The actual operation shall be witnessed and approved by authorized representatives of the Owner. All plumbing, heating and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where any work requires interruption of any service, the Contractor shall make advance arrangements with Owner for dealing with such interruption.

3.4.6:

Add new paragraph as follows: The Owner will supply to the Contractor all water and electricity reasonably required for all construction requirements. Utilities furnished by the Owner will be discontinued if, in the opinion of the Owner, it is wastefully used. The Contractor shall supply all hoses, extension cords, etc. necessary for the proper installation of the work.

3.4.7:

Add new paragraph as follows: Adequate toilet facilities for use during construction shall be provided by the Contractor.

3.4.8:

Add new paragraph as follows: The Contractor shall be responsible for materials which are removed from the work and to be built back into the work later. The costs of damage to or loss of such materials while removed from the work shall be borne by the Contractor.

3.6.2:

Add new paragraph as follows: The Owner is a Tax Exempt Entity and as such this project is free from State Sales Tax requirements. The Owner's Tax Exempt number will be provided to the Contractor for use on this project.

3.7.1:

Add at the end: The Contractor shall provide the Architect with reproductions of all permits, licenses, and permissions.

3.9.1:

Add at the end: The Owner shall reserve the right to request an alternative superintendent. The Contractor shall provide the Owner with after hours telephone numbers by which the superintendent may be contacted in the event of emergencies.

3.12.6:

Add at the end: The Owner and Architect shall be entitled to rely upon the accuracy and completeness of all calculations and certifications required by the Contract Documents.

3.12.10:

Delete in its entirety.

3.13.1:

Add new paragraph as follows: Use only specifically assigned areas for parking, storage of materials and construction operations unless other areas are authorized by the Owner. Comply with local municipal regulations regarding the use of and parking on public streets.

3.13.2:

Add new paragraph as follows: Repair streets, drives, curbs, sidewalks, landscape and the existing improvements where disturbed by construction operations, and leave them in as good condition after completion of the work as before operations started.

3.13.3:

Add new paragraph as follows: The Contractor shall provide his own access to the existing building, and shall not block, nor interfere with building operations, traffic or parking facilities, except as authorized in writing by the Owner.

3.13.4:

Add new paragraph as follows: The Contractor shall be assigned and use one access to the site and facility. This site access shall be clearly posted with a project sign approved by the Owner.

3.14.3:

Add new paragraph as follows: Install all required sleeves and inserts for any built-in building component. Do not cut any finished materials or structural work without the Architect's approval, and submit appropriate detail drawings. Cutting and patching of all building elements caused by failure to provide or properly locate sleeves, forms and inserts, incorrect location of work or failure to cooperate with other trades, shall be done without additional cost to the Owner. Such repair work shall be carried out by mechanics skilled in the repair trade concerned, with due regard to trade practices, and with suitable protection of existing work all at no cost to the Owner.

3.15.3:

Add new paragraph as follows: The Contractor shall remove all stains, spots, marks, debris and dirt resulting from construction operations from all surfaces; and the building and grounds shall be absolutely clean when the work is complete to the satisfaction of the Owner.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1.1:

Change to read: The person variously referred to in the Contract Documents as the Architect or Engineer is one and the same, is the person or organization identified in the Agreement, and includes his authorized representative.

4.2.1:

Change the first line to read: The Architect, if retained by the Owner, will provide administration of the Contract.....

Add at the end: All of the Architect's services described in this subparagraph and all other subparagraphs under paragraph 4.2 and other references to the Architects Administration of the Contract throughout this document will be performed by the Architect if retained by the Owner. If the Owner does not retain the Architect for these services the Contractor shall be provided with written notice of the parties responsible for these duties.

4.2.2:

Add paragraph: The Owner may elect to have an observer present during the work. This observer will record and report to the Owner the departures from the Contract Documents and job progress. The observer does not have the authority to change the Contract Documents, direct the work (including starting and stopping the work), or approve shop drawings.

4.2.6:

Add at the end: Any such rejection of work shall not relieve the Contractor of the responsibility for maintaining protection of the work and the Owner's property.

4.2.7:

Change in the first line the word "approve" to "comment".

15.1.1:

Add at the end: All changes in the work shall be approved before the start of any work through written consent by both Owner and Architect in accordance with the procedure above. Changes not approved in writing by the Architect in advance shall not be recognized as a valid claim at a later date, except where the Owner and Architect agree in writing that the change shall be started, subject to an equitable price adjustment at a later date, in the interest of job progress.

15.1.6:

Delete in its entirety.

ARTICLE 7: CHANGES IN THE WORK

7.3.7:

Add after the first sentence: The allowance for overhead and profit shall be 15% to the Contractor for own work; or 15% to the Subcontractor plus 5% to the Contractor for work by the Subcontractor.

ARTICLE 9: PAYMENTS AND COMPLETION

9.3.2:

Add at the end: The Contractor shall assume responsibility to protect all such materials from loss or damage at no cost to the Owner, until they are finally incorporated into the work, whether or not they have been paid for by the Owner.

9.3.3:

Add at the end: In addition to the provisions of Subparagraph 9.6.7, second paragraph, the Contractor shall submit a "lien-release" from all Subcontractors, suppliers and other parties supplying labor, equipment and materials to the project.

9.4.1:

Change first line to read: The Architect will, within ten (10) days.....

9.6.7:

Delete in its entirety and substitute the following: The Owner will make partial payment to the Contractor no later than the first of each calendar month on the basis of a certified, approved estimate of the work performed, provided that the estimate is submitted to the Architect by the first calendar day of the preceding month. Submission by the Contractor shall be on AIA Document G 702, most recent edition, entitled, "Application and Certificate for Payment", and AIA Document G 703, most recent edition entitled, "Continuations Sheet". In addition to amounts withheld pursuant to paragraph 9.5, the Owner will retain 5% of the amount of each such estimate sixty-five (65) days after final completion and acceptance of all work covered by this Contract.

On all applications for payment, the Contractor shall indicate the sums of money being requisitioned for payment of principal suppliers and subcontractors, and shall include a sworn certificate that the money will be used to pay these suppliers and subcontractors promptly after receipt of payment from the Owner. Applications for payment shall be consistent with the Schedule of Values, paragraph 9.2.1. Upon completion of the work, the Contractor shall sign a sworn to and notarized release form, certifying that all payrolls, materials, bills and other obligations in connection with the work have been paid; and in consideration of all prior payments and the final payment, releasing and forever discharging the Owner from all claims, demands, obligations and liability of every kind and nature arising out of or relating to the Contract.

9.7.1:

Change: In the 1st, 2nd and 4th lines, the words "seven days" to "ten working days".

9.9.1.

Add at the end: The facility shall be occupied and open to normal use during part or all of the construction period. Such normal usage of the facilities shall in no way affect the insurance coverages required under Article 11.

9.10.3:

In the first sentence after the phrase "Through no fault of the Contractor or", add "Subcontractors or".

9.11: LIQUIDATED DAMAGES

9.11.1:

Add new paragraph as follows: The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums stipulated as liquidated damages as determined in the contract for each calendar day of delay beyond the date established in the Contract Documents as amended by agreement for substantial completion until the work is substantially complete. These liquidated damages are a minimum damage figure to compensate the Owner for administrative costs in the event of delay and should not limit in any way the liability of the Contractor for damages in excess of the defined amount for other non-administrative damages, in particular, damages for breach of contract.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.2.8:

Add new paragraph as follows: The Contractor shall protect and maintain in operation all pipelines, conduits, sewers, drains, poles, wiring and the like that in any way interfere with the work, whether or not they are specifically shown on the drawings. The Contractor shall see that all items are protected, supported and/or moved as necessary to adjust them to the new work.

10.2.9:

Add new paragraph as follows: Fire Protection: During any flame cutting and/or welding operation, incombustible curtains and blankets shall be used to intercept and catch hot metal, sparks and burning embers. The Contractor shall employ a watchperson, equipped with portable fire extinguishing equipment, to maintain a fire watch continuously during all flame cutting and welding operation and for 4 hours minimum thereafter. No flammable rubbish or liquid shall be kept in any part of the buildings, except one-gallon quantities in approved safety cans or sealed metal containers. All fire doors shall be kept clear of rubbish and in operating condition, and closed during non-working hours. The Contractor shall not allow any locking and blocking of any door in the building, except entrance doors, during non-working hours. Used construction materials, solvent soaked rags, empty volatile containers and any other material or container which may be combustible shall be removed from the construction site daily and at the end of the work.

10.4.2:

Add new paragraph as follows: The Contractor shall furnish the Owner and Architect, in writing, the names, addresses and telephone numbers of Contractor personnel to be contacted in the event of an after-hours emergency.

ARTICLE 11: INSURANCE AND BONDS

11.1.1.9:

Add new sub-subparagraph as follows: The Contractor shall, before commencing performance of this Contract, provide by insurance for the payment of compensation and the furnishing of other benefits as required under the laws applicable to the project site to all persons to be employed under the Contract. Failure to provide and continue in force such insurance shall be deemed a material breach of the Contract and shall operate as an immediate termination thereof.

11.1.1.10:

Add new sub-subparagraph as follows: Notice of cancellation shall be by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be sufficient notice. An affidavit of any officer, agent or employee of the insurer or of the insured, as the case may be, duly authorized for the purpose, that such notice has been sent addressed as aforesaid, shall be prima facie evidence of the sending thereof as aforesaid. This section shall apply to the legal representative, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of any such Contractor.

11.1.1.11:

Add new sub-subparagraph as follows: Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises Operations (including X, C, and U coverages as applicable).
2. Independent Contractor's Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual, including specified provision for Contractor's obligation under paragraph 3.18.
6. Owned, non-owned and hired motor vehicles.
7. Inland Marine Policy with an installation floater to cover the entire cost of the project's construction.
8. Broad Form Property Damage including Completed Operations.

11.1.1.12:

Add new sub-subparagraph as follows: If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

11.1.2.1:

Add the following sub-subparagraph:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law:

1. Worker's Compensation:
 - a. State: Statutory
 - b. Applicable Federal Statutory
(e.g., Longshoremen's)
 - c. Employer's Liability \$_____ per Accident
\$_____ Disease, Policy Limit
\$_____ Disease, Each Employee
2. Comprehensive or Commercial General Liability (including Premises Operations; Independent Contractor's; Broad Form Property Damage):
 - a. Bodily Injury:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - b. Property Damage:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - c. Products and Completed Operations to be maintained for three years after final payment:
\$2,000,000 Aggregate
 - d. Property Damage Liability Insurance shall provide X, C and U coverage.
 - e. Broad Form Property Damage Coverage shall include Completed Operations.

3. Contractual Liability:
 - a. Bodily Injury:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
 - b. Property Damage:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate
4. Personal Injury, with Employment Exclusion deleted:
\$3,000,000 Aggregate
5. Business Auto Liability (including owned, non-owned and hired vehicles):
 - a. Bodily Injury:
\$1,000,000 Each Person
\$1,000,000 Each Occurrence
6. If the General Liability coverages are provided by a Commercial Liability policy, the:
 - a. General Aggregate shall be not less than \$2,000,000 and it shall apply, in total to this Project only.
 - b. Fire Damage Limit shall be not less than \$1,000,000 on any one fire.
 - c. Medical Expense Limit shall be not less than \$1,000,000 on any one person.
7. Umbrella Excess Liability:
\$5,000,000 over primary insurance.
\$5,000,000 retention for self-insured hazards each occurrence.

11.1.3:

Add the following sentence to Subparagraph 11.1.3: If this insurance is written on the Comprehensive General Liability policy form, the Certificate shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACORD form 25S will be acceptable.

11.1.4:

Add new subparagraph as follows: Each Subcontractor and Sub-subcontractor shall purchase and maintain the insurance required by the provisions of Paragraph 11.1 in the amount and type at least equal to that required of the Contractor, and provisions of Article 11 shall be equally applicable to them. Each Subcontractor and Sub-subcontractor shall be required to furnish the certificates of such insurance to the Owner and to the Architect, unless such shall be included in the certifications submitted by the Contractor and approved by the Owner.

11.1.6:

Add new Subparagraph as follows: The Contractor shall give prompt written notice to the Owner of all occurrences under the coverages of Article 11.

11.1.7:

Add new sub-paragraph as follows: The Owner and Architect shall be listed as additional insureds on the certificate. The Owner and Contractor intend that any policy provided in response to Article 11 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insureds or additional insureds.

11.3.1.1:

Add the following sentence: The form of policy for this coverage shall be _____.

11.3.1.5:

Delete in its entirety and substitute the following: The building shall be occupied by the Owner during the work. Insurance shall not lapse or be canceled on account of this occupancy. The insurance certificates required under this Contract shall include this requirement.

11.4.1:

Delete in its entirety and substitute the following: The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds must be obtained through a surety acceptable to the Owner, and legally registered to do business in the locality of the work. The cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum.

11.4.1.1:

Add new sub-subparagraph as follows: The Contractor shall deliver the required bonds to the Owner not later than five (5) days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

11.4.1.2:

Add new sub-subparagraph as follows: The Contractor 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 the power of attorney.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.2.2.1:

Substitute for the phrase "one year" where it appears in the first line the phrase "two years". Delete the following; starting on the sixth line . . . "The Owner shall give. . . up to and ending on the ninth line. . .claim for breach of warranty."

12.2.2.2:

Substitute for the phrase "one year" where it appears in the first line the phrase "two years".

12.2.2.3

Substitute for the phrase "one year" where it appears in the first line the phrase "two years".

12.2.5:

Substitute for the phrase "one year" where it appears in the second line the phrase "two years".

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

Prevailing Wage Rates

**As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H**

CHARLES D. BAKER
Governor

ROSALIN ACOSTA
Secretary

KARYN E. POLITO
Lt. Governor

WILLIAM D MCKINNEY
Director

Awarding Authority: Masconomet Regional School District
Contract Number: **City/Town:** BOXFORD
Description of Work: Low Slope Rubber Roof Repairs for school district located in Boxford, MA
Job Location: 20 Endicott Rd, Masconomet Regional Schools

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$97.80	\$9.90	\$21.15	\$0.00	\$128.85
	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.84	\$7.70	\$14.02	\$0.00	\$56.56
	06/01/2019	\$35.71	\$7.70	\$14.02	\$0.00	\$57.43
	12/01/2019	\$36.57	\$7.70	\$14.02	\$0.00	\$58.29
	06/01/2020	\$37.46	\$7.70	\$14.02	\$0.00	\$59.18
	12/01/2020	\$38.35	\$7.70	\$14.02	\$0.00	\$60.07
	06/01/2021	\$39.27	\$7.70	\$14.02	\$0.00	\$60.99
	12/01/2021	\$40.18	\$7.70	\$14.02	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2018	\$37.90	\$11.50	\$7.10	\$0.00	\$56.50
	06/01/2019	\$38.90	\$11.50	\$7.10	\$0.00	\$57.50
	12/01/2019	\$39.90	\$11.50	\$7.10	\$0.00	\$58.50
	06/01/2020	\$40.90	\$11.50	\$7.10	\$0.00	\$59.50
	12/01/2020	\$41.90	\$11.50	\$7.10	\$0.00	\$60.50
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.84	\$7.70	\$14.02	\$0.00	\$56.56
	06/01/2019	\$35.71	\$7.70	\$14.02	\$0.00	\$57.43
	12/01/2019	\$36.57	\$7.70	\$14.02	\$0.00	\$58.29
	06/01/2020	\$37.46	\$7.70	\$14.02	\$0.00	\$59.18
	12/01/2020	\$38.35	\$7.70	\$14.02	\$0.00	\$60.07
	06/01/2021	\$39.27	\$7.70	\$14.02	\$0.00	\$60.99
	12/01/2021	\$40.18	\$7.70	\$14.02	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	03/01/2018	\$43.57	\$7.07	\$17.46	\$0.00	\$68.10
	01/01/2019	\$44.71	\$7.07	\$17.72	\$0.00	\$69.50
	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 03/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$28.32	\$7.07	\$11.37	\$0.00	\$46.76
2	65	\$28.32	\$7.07	\$11.37	\$0.00	\$46.76
3	70	\$30.50	\$7.07	\$12.23	\$0.00	\$49.80
4	75	\$32.68	\$7.07	\$13.11	\$0.00	\$52.86
5	80	\$34.86	\$7.07	\$13.97	\$0.00	\$55.90
6	85	\$37.03	\$7.07	\$14.86	\$0.00	\$58.96
7	90	\$39.21	\$7.07	\$15.72	\$0.00	\$62.00
8	95	\$41.39	\$7.07	\$16.61	\$0.00	\$65.07

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.06	\$7.07	\$11.52	\$0.00	\$47.65
2	65	\$29.06	\$7.07	\$11.52	\$0.00	\$47.65
3	70	\$31.30	\$7.07	\$12.40	\$0.00	\$50.77
4	75	\$33.53	\$7.07	\$13.30	\$0.00	\$53.90
5	80	\$35.77	\$7.07	\$14.18	\$0.00	\$57.02
6	85	\$38.00	\$7.07	\$15.07	\$0.00	\$60.14
7	90	\$40.24	\$7.07	\$15.95	\$0.00	\$63.26
8	95	\$42.47	\$7.07	\$16.84	\$0.00	\$66.38

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2018	\$52.91	\$10.75	\$20.66	\$0.00	\$84.32
BRICKLAYERS LOCAL 3 (LYNN)	02/01/2019	\$53.55	\$10.75	\$20.66	\$0.00	\$84.96
	08/01/2019	\$54.90	\$10.75	\$20.80	\$0.00	\$86.45
	02/01/2020	\$55.54	\$10.75	\$20.80	\$0.00	\$87.09
	08/01/2020	\$56.89	\$10.75	\$20.95	\$0.00	\$88.59
	02/01/2021	\$57.53	\$10.75	\$20.95	\$0.00	\$89.23
	08/01/2021	\$58.93	\$10.75	\$21.11	\$0.00	\$90.79
	02/01/2022	\$59.52	\$10.75	\$21.11	\$0.00	\$91.38

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.46	\$10.75	\$20.66	\$0.00	\$57.87
2	60	\$31.75	\$10.75	\$20.66	\$0.00	\$63.16
3	70	\$37.04	\$10.75	\$20.66	\$0.00	\$68.45
4	80	\$42.33	\$10.75	\$20.66	\$0.00	\$73.74
5	90	\$47.62	\$10.75	\$20.66	\$0.00	\$79.03

Effective Date - 02/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.78	\$10.75	\$20.66	\$0.00	\$58.19
2	60	\$32.13	\$10.75	\$20.66	\$0.00	\$63.54
3	70	\$37.49	\$10.75	\$20.66	\$0.00	\$68.90
4	80	\$42.84	\$10.75	\$20.66	\$0.00	\$74.25
5	90	\$48.20	\$10.75	\$20.66	\$0.00	\$79.61

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2018	\$40.05	\$7.70	\$15.40	\$0.00	\$63.15
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$41.05	\$7.70	\$15.40	\$0.00	\$64.15
	12/01/2019	\$42.05	\$7.70	\$15.40	\$0.00	\$65.15
	06/01/2020	\$43.04	\$7.70	\$15.40	\$0.00	\$66.14
	12/01/2020	\$44.02	\$7.70	\$15.40	\$0.00	\$67.12
	06/01/2021	\$45.04	\$7.70	\$15.40	\$0.00	\$68.14
	12/01/2021	\$46.05	\$7.70	\$15.40	\$0.00	\$69.15

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2018	\$38.90	\$7.70	\$15.40	\$0.00	\$62.00
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$39.90	\$7.70	\$15.40	\$0.00	\$63.00
	12/01/2019	\$40.90	\$7.70	\$15.40	\$0.00	\$64.00
	06/01/2020	\$41.89	\$7.70	\$15.40	\$0.00	\$64.99
	12/01/2020	\$42.87	\$7.70	\$15.40	\$0.00	\$65.97
	06/01/2021	\$43.89	\$7.70	\$15.40	\$0.00	\$66.99
	12/01/2021	\$44.90	\$7.70	\$15.40	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2018	\$38.90	\$7.70	\$15.40	\$0.00	\$62.00
	06/01/2019	\$39.90	\$7.70	\$15.40	\$0.00	\$63.00
	12/01/2019	\$40.90	\$7.70	\$15.40	\$0.00	\$64.00
	06/01/2020	\$41.89	\$7.70	\$15.40	\$0.00	\$64.99
	12/01/2020	\$42.87	\$7.70	\$15.40	\$0.00	\$65.97
	06/01/2021	\$43.89	\$7.70	\$15.40	\$0.00	\$66.99
	12/01/2021	\$44.90	\$7.70	\$15.40	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2018	\$41.32	\$9.90	\$17.50	\$0.00	\$68.72
	03/01/2019	\$42.35	\$9.90	\$17.50	\$0.00	\$69.75

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.66	\$9.90	\$1.73	\$0.00	\$32.29
2	60	\$24.79	\$9.90	\$1.73	\$0.00	\$36.42
3	70	\$28.92	\$9.90	\$12.31	\$0.00	\$51.13
4	75	\$30.99	\$9.90	\$12.31	\$0.00	\$53.20
5	80	\$33.06	\$9.90	\$14.04	\$0.00	\$57.00
6	80	\$33.06	\$9.90	\$14.04	\$0.00	\$57.00
7	90	\$37.19	\$9.90	\$15.77	\$0.00	\$62.86
8	90	\$37.19	\$9.90	\$15.77	\$0.00	\$62.86

Effective Date - 03/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.18	\$9.90	\$1.73	\$0.00	\$32.81
2	60	\$25.41	\$9.90	\$1.73	\$0.00	\$37.04
3	70	\$29.65	\$9.90	\$12.31	\$0.00	\$51.86
4	75	\$31.76	\$9.90	\$12.31	\$0.00	\$53.97
5	80	\$33.88	\$9.90	\$14.04	\$0.00	\$57.82
6	80	\$33.88	\$9.90	\$14.04	\$0.00	\$57.82
7	90	\$38.12	\$9.90	\$15.77	\$0.00	\$63.79
8	90	\$38.12	\$9.90	\$15.77	\$0.00	\$63.79

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$30.22/ 3&4 \$36.03/ 5&6 \$52.86/ 7&8 \$58.73

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	10/01/2018	\$27.09	\$7.07	\$7.86	\$0.00	\$42.02
<i>CARPENTERS -ZONE 2 (Wood Frame)</i>	04/01/2019	\$27.52	\$7.07	\$7.86	\$0.00	\$42.45
	10/01/2019	\$27.95	\$7.07	\$7.86	\$0.00	\$42.88

All Aspects of New Wood Frame Work - As of 9/1/09 Carpentry work on wood-frame WEATHERIZATION projects shall be paid the WOOD FRAME CARPENTER rate.

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 10/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.25	\$7.07	\$0.00	\$0.00	\$23.32
2	60	\$16.25	\$7.07	\$0.00	\$0.00	\$23.32
3	65	\$17.61	\$7.07	\$7.86	\$0.00	\$32.54
4	70	\$18.96	\$7.07	\$7.86	\$0.00	\$33.89
5	75	\$20.32	\$7.07	\$7.86	\$0.00	\$35.25
6	80	\$21.67	\$7.07	\$7.86	\$0.00	\$36.60
7	85	\$23.03	\$7.07	\$7.86	\$0.00	\$37.96
8	90	\$24.38	\$7.07	\$7.86	\$0.00	\$39.31

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.51	\$7.07	\$0.00	\$0.00	\$23.58
2	60	\$16.51	\$7.07	\$0.00	\$0.00	\$23.58
3	65	\$17.89	\$7.07	\$7.86	\$0.00	\$32.82
4	70	\$19.26	\$7.07	\$7.86	\$0.00	\$34.19
5	75	\$20.64	\$7.07	\$7.86	\$0.00	\$35.57
6	80	\$22.02	\$7.07	\$7.86	\$0.00	\$36.95
7	85	\$23.39	\$7.07	\$7.86	\$0.00	\$38.32
8	90	\$24.77	\$7.07	\$7.86	\$0.00	\$39.70

Notes:
 % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$19.26/ 3&4 \$26.72/ 5&6 \$33.89/ 7&8 \$36.60

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	07/01/2018	\$46.20	\$12.42	\$22.41	\$0.30	\$81.33
<i>BRICKLAYERS LOCAL 3 (LYNN)</i>	01/01/2019	\$47.58	\$12.42	\$22.41	\$0.30	\$82.71
	07/01/2019	\$48.32	\$12.42	\$22.41	\$0.30	\$83.45
	01/01/2020	\$49.72	\$12.42	\$22.41	\$0.30	\$84.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Lynn)

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.10	\$12.42	\$15.41	\$0.00	\$50.93
2	60	\$27.72	\$12.42	\$17.41	\$0.30	\$57.85
3	65	\$30.03	\$12.42	\$18.41	\$0.30	\$61.16
4	70	\$32.34	\$12.42	\$19.41	\$0.30	\$64.47
5	75	\$34.65	\$12.42	\$20.41	\$0.30	\$67.78
6	80	\$36.96	\$12.42	\$21.41	\$0.30	\$71.09
7	90	\$41.58	\$12.42	\$22.41	\$0.30	\$76.71

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.79	\$12.42	\$15.41	\$0.00	\$51.62
2	60	\$28.55	\$12.42	\$17.41	\$0.30	\$58.68
3	65	\$30.93	\$12.42	\$18.41	\$0.30	\$62.06
4	70	\$33.31	\$12.42	\$19.41	\$0.30	\$65.44
5	75	\$35.69	\$12.42	\$20.41	\$0.30	\$68.82
6	80	\$38.06	\$12.42	\$21.41	\$0.30	\$72.19
7	90	\$42.82	\$12.42	\$22.41	\$0.30	\$77.95

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 2	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	12/01/2018	\$71.30	\$11.00	\$15.50	\$0.00	\$97.80
	06/01/2019	\$72.87	\$11.00	\$15.50	\$0.00	\$99.37
	12/01/2019	\$74.50	\$11.00	\$15.50	\$0.00	\$101.00
	06/01/2020	\$76.06	\$11.00	\$15.50	\$0.00	\$102.56
	12/01/2020	\$77.69	\$11.00	\$15.50	\$0.00	\$104.19
	06/01/2021	\$79.25	\$11.00	\$15.50	\$0.00	\$105.75
	12/01/2021	\$80.88	\$11.00	\$15.50	\$0.00	\$107.38

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$32.68	\$11.00	\$15.50	\$0.00	\$59.18
	06/01/2019	\$33.43	\$11.00	\$15.50	\$0.00	\$59.93
	12/01/2019	\$34.22	\$11.00	\$15.50	\$0.00	\$60.72
	06/01/2020	\$34.97	\$11.00	\$15.50	\$0.00	\$61.47
	12/01/2020	\$35.75	\$11.00	\$15.50	\$0.00	\$62.25
	06/01/2021	\$36.50	\$11.00	\$15.50	\$0.00	\$63.00
	12/01/2021	\$37.29	\$11.00	\$15.50	\$0.00	\$63.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2018	\$50.01	\$8.15	\$20.15	\$0.00	\$78.31
	01/01/2019	\$50.36	\$8.15	\$20.85	\$0.00	\$79.36
	07/01/2019	\$51.46	\$8.15	\$20.85	\$0.00	\$80.46
	01/01/2020	\$52.56	\$8.15	\$20.85	\$0.00	\$81.56
	07/01/2020	\$53.66	\$8.15	\$20.85	\$0.00	\$82.66
	01/01/2021	\$54.76	\$8.15	\$20.85	\$0.00	\$83.76

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.01	\$8.15	\$0.00	\$0.00	\$33.16
2	55	\$27.51	\$8.15	\$5.34	\$0.00	\$41.00
3	60	\$30.01	\$8.15	\$5.82	\$0.00	\$43.98
4	65	\$32.51	\$8.15	\$6.31	\$0.00	\$46.97
5	70	\$35.01	\$8.15	\$17.24	\$0.00	\$60.40
6	75	\$37.51	\$8.15	\$17.73	\$0.00	\$63.39
7	80	\$40.01	\$8.15	\$18.21	\$0.00	\$66.37
8	90	\$45.01	\$8.15	\$19.18	\$0.00	\$72.34

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$8.15	\$0.00	\$0.00	\$33.33
2	55	\$27.70	\$8.15	\$5.64	\$0.00	\$41.49
3	60	\$30.22	\$8.15	\$6.15	\$0.00	\$44.52
4	65	\$32.73	\$8.15	\$6.66	\$0.00	\$47.54
5	70	\$35.25	\$8.15	\$17.78	\$0.00	\$61.18
6	75	\$37.77	\$8.15	\$18.29	\$0.00	\$64.21
7	80	\$40.29	\$8.15	\$18.80	\$0.00	\$67.24
8	90	\$45.32	\$8.15	\$19.83	\$0.00	\$73.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 2</i>	12/01/2018	\$39.10	\$7.70	\$15.20	\$0.00	\$62.00
	06/01/2019	\$40.10	\$7.70	\$15.20	\$0.00	\$63.00
	12/01/2019	\$41.10	\$7.70	\$15.20	\$0.00	\$64.00

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$40.10	\$7.70	\$15.20	\$0.00	\$63.00
	06/01/2019	\$41.10	\$7.70	\$15.20	\$0.00	\$64.00
	12/01/2019	\$42.10	\$7.70	\$15.20	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 2</i>	12/01/2018	\$39.85	\$7.70	\$15.20	\$0.00	\$62.75
	06/01/2019	\$40.85	\$7.70	\$15.20	\$0.00	\$63.75
	12/01/2019	\$41.85	\$7.70	\$15.20	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	12/01/2018	\$40.10	\$7.70	\$15.20	\$0.00	\$63.00
	06/01/2019	\$41.10	\$7.70	\$15.20	\$0.00	\$64.00
	12/01/2019	\$42.10	\$7.70	\$15.20	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$39.85	\$7.70	\$15.20	\$0.00	\$62.75
	06/01/2019	\$40.85	\$7.70	\$15.20	\$0.00	\$63.75
	12/01/2019	\$41.85	\$7.70	\$15.20	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	12/01/2018	\$39.10	\$7.70	\$15.20	\$0.00	\$62.00
	06/01/2019	\$40.10	\$7.70	\$15.20	\$0.00	\$63.00
	12/01/2019	\$41.10	\$7.70	\$15.20	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$65.20	\$9.90	\$21.15	\$0.00	\$96.25
	08/01/2019	\$68.52	\$9.90	\$21.15	\$0.00	\$99.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$46.57	\$9.90	\$21.15	\$0.00	\$77.62
	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$69.86	\$9.90	\$21.15	\$0.00	\$100.91
	08/01/2019	\$73.41	\$9.90	\$21.15	\$0.00	\$104.46
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$97.80	\$9.90	\$21.15	\$0.00	\$128.85
	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$50.62	\$13.00	\$18.37	\$0.00	\$81.99
	03/01/2019	\$51.10	\$13.00	\$18.88	\$0.00	\$82.98
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$50.62	\$13.00	\$18.37	\$0.00	\$81.99
	03/01/2019	\$51.10	\$13.00	\$18.88	\$0.00	\$82.98

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.25	\$13.00	\$0.61	\$0.00	\$33.86
2	40	\$20.25	\$13.00	\$0.61	\$0.00	\$33.86
3	45	\$22.78	\$13.00	\$13.97	\$0.00	\$49.75
4	45	\$22.78	\$13.00	\$13.97	\$0.00	\$49.75
5	50	\$25.31	\$13.00	\$14.38	\$0.00	\$52.69
6	55	\$27.84	\$13.00	\$14.78	\$0.00	\$55.62
7	60	\$30.37	\$13.00	\$15.17	\$0.00	\$58.54
8	65	\$32.90	\$13.00	\$15.58	\$0.00	\$61.48
9	70	\$35.43	\$13.00	\$15.97	\$0.00	\$64.40
10	75	\$37.97	\$13.00	\$16.37	\$0.00	\$67.34

Effective Date - 03/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.44	\$13.00	\$0.61	\$0.00	\$34.05
2	40	\$20.44	\$13.00	\$0.61	\$0.00	\$34.05
3	45	\$23.00	\$13.00	\$14.34	\$0.00	\$50.34
4	45	\$23.00	\$13.00	\$14.34	\$0.00	\$50.34
5	50	\$25.55	\$13.00	\$14.76	\$0.00	\$53.31
6	55	\$28.11	\$13.00	\$15.17	\$0.00	\$56.28
7	60	\$30.66	\$13.00	\$15.58	\$0.00	\$59.24
8	65	\$33.22	\$13.00	\$16.00	\$0.00	\$62.22
9	70	\$35.77	\$13.00	\$16.40	\$0.00	\$65.17
10	75	\$38.33	\$13.00	\$16.82	\$0.00	\$68.15

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2018	\$57.62	\$15.43	\$16.61	\$0.00	\$89.66
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2019	\$59.47	\$15.58	\$17.51	\$0.00	\$92.56
	01/01/2020	\$61.42	\$15.73	\$18.41	\$0.00	\$95.56
	01/01/2021	\$63.47	\$15.88	\$19.31	\$0.00	\$98.66
	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.81	\$15.43	\$0.00	\$0.00	\$44.24
2	55	\$31.69	\$15.43	\$16.61	\$0.00	\$63.73
3	65	\$37.45	\$15.43	\$16.61	\$0.00	\$69.49
4	70	\$40.33	\$15.43	\$16.61	\$0.00	\$72.37
5	80	\$46.10	\$15.43	\$16.61	\$0.00	\$78.14

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.74	\$15.58	\$0.00	\$0.00	\$45.32
2	55	\$32.71	\$15.58	\$17.51	\$0.00	\$65.80
3	65	\$38.66	\$15.58	\$17.51	\$0.00	\$71.75
4	70	\$41.63	\$15.58	\$17.51	\$0.00	\$74.72
5	80	\$47.58	\$15.58	\$17.51	\$0.00	\$80.67

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2018	\$40.33	\$15.43	\$16.61	\$0.00	\$72.37
	01/01/2019	\$41.63	\$15.58	\$17.51	\$0.00	\$74.72
	01/01/2020	\$42.99	\$15.73	\$18.41	\$0.00	\$77.13
	01/01/2021	\$44.43	\$15.88	\$19.31	\$0.00	\$79.62
	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2018	\$43.19	\$11.00	\$15.50	\$0.00	\$69.69
	05/01/2019	\$44.33	\$11.00	\$15.50	\$0.00	\$70.83
	11/01/2019	\$45.33	\$11.00	\$15.50	\$0.00	\$71.83
	05/01/2020	\$46.48	\$11.00	\$15.50	\$0.00	\$72.98
	11/01/2020	\$47.48	\$11.00	\$15.50	\$0.00	\$73.98
	05/01/2021	\$48.68	\$11.00	\$15.50	\$0.00	\$75.18
	11/01/2021	\$49.63	\$11.00	\$15.50	\$0.00	\$76.13
	05/01/2022	\$50.78	\$11.00	\$15.50	\$0.00	\$77.28

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2018	\$44.67	\$11.00	\$15.50	\$0.00	\$71.17
	05/01/2019	\$45.82	\$11.00	\$15.50	\$0.00	\$72.32
	11/01/2019	\$46.83	\$11.00	\$15.50	\$0.00	\$73.33
	05/01/2020	\$47.98	\$11.00	\$15.50	\$0.00	\$74.48
	11/01/2020	\$48.99	\$11.00	\$15.50	\$0.00	\$75.49
	05/01/2021	\$50.15	\$11.00	\$15.50	\$0.00	\$76.65
	11/01/2021	\$51.16	\$11.00	\$15.50	\$0.00	\$77.66
	05/01/2022	\$52.32	\$11.00	\$15.50	\$0.00	\$78.82
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2018	\$22.45	\$11.00	\$15.50	\$0.00	\$48.95
	05/01/2019	\$23.13	\$11.00	\$15.50	\$0.00	\$49.63
	11/01/2019	\$23.72	\$11.00	\$15.50	\$0.00	\$50.22
	05/01/2020	\$24.39	\$11.00	\$15.50	\$0.00	\$50.89
	11/01/2020	\$24.98	\$11.00	\$15.50	\$0.00	\$51.48
	05/01/2021	\$25.66	\$11.00	\$15.50	\$0.00	\$52.16
	11/01/2021	\$26.26	\$11.00	\$15.50	\$0.00	\$52.76
	05/01/2022	\$26.93	\$11.00	\$15.50	\$0.00	\$53.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$50.62	\$13.00	\$18.37	\$0.00	\$81.99
	03/01/2019	\$51.10	\$13.00	\$18.88	\$0.00	\$82.98
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$37.97	\$13.00	\$16.35	\$0.00	\$67.32
	03/01/2019	\$38.33	\$13.00	\$16.82	\$0.00	\$68.15
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$39.78	\$11.00	\$15.50	\$0.00	\$66.28
	06/01/2019	\$40.69	\$11.00	\$15.50	\$0.00	\$67.19
	12/01/2019	\$41.64	\$11.00	\$15.50	\$0.00	\$68.14
	06/01/2020	\$42.55	\$11.00	\$15.50	\$0.00	\$69.05
	12/01/2020	\$43.50	\$11.00	\$15.50	\$0.00	\$70.00
	06/01/2021	\$44.41	\$11.00	\$15.50	\$0.00	\$70.91
12/01/2021	\$45.36	\$11.00	\$15.50	\$0.00	\$71.86	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	12/01/2018	\$22.50	\$7.70	\$14.02	\$0.00	\$44.22
	06/01/2019	\$22.50	\$7.70	\$14.02	\$0.00	\$44.22
	12/01/2019	\$23.50	\$7.70	\$14.02	\$0.00	\$45.22
	06/01/2020	\$23.50	\$7.70	\$14.02	\$0.00	\$45.22
	12/01/2020	\$24.50	\$7.70	\$14.02	\$0.00	\$46.22
	06/01/2021	\$24.50	\$7.70	\$14.02	\$0.00	\$46.22
	12/01/2021	\$24.50	\$7.70	\$14.02	\$0.00	\$46.22
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE I</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

Notes: Steps are 750 hrs.
 % After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$30.55/ 3&4 \$36.49/ 5&6 \$53.33/ 7&8 \$59.33

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$32.68	\$11.00	\$15.50	\$0.00	\$59.18
	06/01/2019	\$33.43	\$11.00	\$15.50	\$0.00	\$59.93
	12/01/2019	\$34.22	\$11.00	\$15.50	\$0.00	\$60.72
	06/01/2020	\$34.97	\$11.00	\$15.50	\$0.00	\$61.47
	12/01/2020	\$35.75	\$11.00	\$15.50	\$0.00	\$62.25
	06/01/2021	\$36.50	\$11.00	\$15.50	\$0.00	\$63.00
	12/01/2021	\$37.29	\$11.00	\$15.50	\$0.00	\$63.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2018	\$39.51	\$8.15	\$20.15	\$0.00	\$67.81
	01/01/2019	\$39.86	\$8.15	\$20.85	\$0.00	\$68.86
	07/01/2019	\$40.96	\$8.15	\$20.85	\$0.00	\$69.96
	01/01/2020	\$42.06	\$8.15	\$20.85	\$0.00	\$71.06
	07/01/2020	\$43.16	\$8.15	\$20.85	\$0.00	\$72.16
	01/01/2021	\$44.26	\$8.15	\$20.85	\$0.00	\$73.26

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.76	\$8.15	\$0.00	\$0.00	\$27.91
2	55	\$21.73	\$8.15	\$5.34	\$0.00	\$35.22
3	60	\$23.71	\$8.15	\$5.82	\$0.00	\$37.68
4	65	\$25.68	\$8.15	\$6.31	\$0.00	\$40.14
5	70	\$27.66	\$8.15	\$17.24	\$0.00	\$53.05
6	75	\$29.63	\$8.15	\$17.73	\$0.00	\$55.51
7	80	\$31.61	\$8.15	\$18.21	\$0.00	\$57.97
8	90	\$35.56	\$8.15	\$19.18	\$0.00	\$62.89

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.93	\$8.15	\$0.00	\$0.00	\$28.08
2	55	\$21.92	\$8.15	\$5.64	\$0.00	\$35.71
3	60	\$23.92	\$8.15	\$6.15	\$0.00	\$38.22
4	65	\$25.91	\$8.15	\$6.66	\$0.00	\$40.72
5	70	\$27.90	\$8.15	\$17.78	\$0.00	\$53.83
6	75	\$29.90	\$8.15	\$18.29	\$0.00	\$56.34
7	80	\$31.89	\$8.15	\$18.80	\$0.00	\$58.84
8	90	\$35.87	\$8.15	\$19.83	\$0.00	\$63.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
OPERATING ENGINEERS LOCAL 4	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.53	\$11.00	\$0.00	\$0.00	\$37.53
2	60	\$28.94	\$11.00	\$15.50	\$0.00	\$55.44
3	65	\$31.35	\$11.00	\$15.50	\$0.00	\$57.85
4	70	\$33.76	\$11.00	\$15.50	\$0.00	\$60.26
5	75	\$36.17	\$11.00	\$15.50	\$0.00	\$62.67
6	80	\$38.58	\$11.00	\$15.50	\$0.00	\$65.08
7	85	\$41.00	\$11.00	\$15.50	\$0.00	\$67.50
8	90	\$43.41	\$11.00	\$15.50	\$0.00	\$69.91

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.13	\$11.00	\$0.00	\$0.00	\$38.13
2	60	\$29.60	\$11.00	\$15.50	\$0.00	\$56.10
3	65	\$32.06	\$11.00	\$15.50	\$0.00	\$58.56
4	70	\$34.53	\$11.00	\$15.50	\$0.00	\$61.03
5	75	\$37.00	\$11.00	\$15.50	\$0.00	\$63.50
6	80	\$39.46	\$11.00	\$15.50	\$0.00	\$65.96
7	85	\$41.93	\$11.00	\$15.50	\$0.00	\$68.43
8	90	\$44.40	\$11.00	\$15.50	\$0.00	\$70.90

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$50.62	\$13.00	\$18.37	\$0.00	\$81.99
	03/01/2019	\$51.10	\$13.00	\$18.88	\$0.00	\$82.98
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING - WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2018	\$48.61	\$9.95	\$18.74	\$0.00	\$77.30
	09/01/2019	\$50.11	\$9.95	\$18.74	\$0.00	\$78.80
	09/01/2020	\$51.61	\$9.95	\$18.74	\$0.00	\$80.30
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2018	\$48.61	\$9.95	\$18.74	\$0.00	\$77.30
	09/01/2019	\$50.11	\$9.95	\$18.74	\$0.00	\$78.80
	09/01/2020	\$51.61	\$9.95	\$18.74	\$0.00	\$80.30
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.84	\$7.70	\$14.02	\$0.00	\$56.56
	06/01/2019	\$35.71	\$7.70	\$14.02	\$0.00	\$57.43
	12/01/2019	\$36.57	\$7.70	\$14.02	\$0.00	\$58.29
	06/01/2020	\$37.46	\$7.70	\$14.02	\$0.00	\$59.18
	12/01/2020	\$38.35	\$7.70	\$14.02	\$0.00	\$60.07
	06/01/2021	\$39.27	\$7.70	\$14.02	\$0.00	\$60.99
	12/01/2021	\$40.18	\$7.70	\$14.02	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2018	\$49.34	\$11.75	\$14.20	\$0.00	\$75.29
	09/01/2019	\$51.84	\$11.75	\$14.20	\$0.00	\$77.79

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

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$11.75	\$10.45	\$0.00	\$46.87
2	60	\$29.60	\$11.75	\$11.20	\$0.00	\$52.55
3	70	\$34.54	\$11.75	\$11.95	\$0.00	\$58.24
4	80	\$39.47	\$11.75	\$12.70	\$0.00	\$63.92

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.92	\$11.75	\$10.45	\$0.00	\$48.12
2	60	\$31.10	\$11.75	\$11.20	\$0.00	\$54.05
3	70	\$36.29	\$11.75	\$11.95	\$0.00	\$59.99
4	80	\$41.47	\$11.75	\$12.70	\$0.00	\$65.92

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (LAWRENCE AREA)</i>	09/16/2018	\$41.66	\$8.00	\$22.85	\$0.00	\$72.51
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Lawrence

Effective Date - 09/16/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.00	\$8.00	\$22.85	\$0.00	\$55.85
2	70	\$29.16	\$8.00	\$22.85	\$0.00	\$60.01
3	75	\$31.25	\$8.00	\$22.85	\$0.00	\$62.10
4	80	\$33.33	\$8.00	\$22.85	\$0.00	\$64.18
5	85	\$35.41	\$8.00	\$22.85	\$0.00	\$66.26
6	90	\$37.49	\$8.00	\$22.85	\$0.00	\$68.34

Notes:

Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 2	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 12/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.45	\$7.70	\$14.02	\$0.00	\$42.17
2	70	\$23.86	\$7.70	\$14.02	\$0.00	\$45.58
3	80	\$27.27	\$7.70	\$14.02	\$0.00	\$48.99
4	90	\$30.68	\$7.70	\$14.02	\$0.00	\$52.40

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.98	\$7.70	\$14.02	\$0.00	\$42.70
2	70	\$24.47	\$7.70	\$14.02	\$0.00	\$46.19
3	80	\$27.97	\$7.70	\$14.02	\$0.00	\$49.69
4	90	\$31.46	\$7.70	\$14.02	\$0.00	\$53.18

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 2	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	12/01/2018	\$34.29	\$7.70	\$13.97	\$0.00	\$55.96
	06/01/2019	\$35.16	\$7.70	\$13.97	\$0.00	\$56.83
	12/01/2019	\$36.02	\$7.70	\$13.97	\$0.00	\$57.69

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2018	\$40.40	\$10.75	\$18.97	\$0.00	\$70.12
	02/01/2019	\$40.91	\$10.75	\$18.97	\$0.00	\$70.63
	08/01/2019	\$41.99	\$10.75	\$19.11	\$0.00	\$71.85
	02/01/2020	\$42.50	\$10.75	\$19.11	\$0.00	\$72.36
	08/01/2020	\$43.58	\$10.75	\$19.26	\$0.00	\$73.59
	02/01/2021	\$44.09	\$10.75	\$19.26	\$0.00	\$74.10
	08/01/2021	\$45.21	\$10.75	\$19.42	\$0.00	\$75.38
	02/01/2022	\$45.68	\$10.75	\$19.42	\$0.00	\$75.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.20	\$10.75	\$18.97	\$0.00	\$49.92
2	60	\$24.24	\$10.75	\$18.97	\$0.00	\$53.96
3	70	\$28.28	\$10.75	\$18.97	\$0.00	\$58.00
4	80	\$32.32	\$10.75	\$18.97	\$0.00	\$62.04
5	90	\$36.36	\$10.75	\$18.97	\$0.00	\$66.08

Effective Date - 02/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.46	\$10.75	\$18.97	\$0.00	\$50.18
2	60	\$24.55	\$10.75	\$18.97	\$0.00	\$54.27
3	70	\$28.64	\$10.75	\$18.97	\$0.00	\$58.36
4	80	\$32.73	\$10.75	\$18.97	\$0.00	\$62.45
5	90	\$36.82	\$10.75	\$18.97	\$0.00	\$66.54

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	08/01/2018	\$52.95	\$10.75	\$20.66	\$0.00	\$84.36
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2019	\$53.57	\$10.75	\$20.66	\$0.00	\$84.98
	08/01/2019	\$54.92	\$10.75	\$20.80	\$0.00	\$86.47
	02/01/2020	\$55.55	\$10.75	\$20.80	\$0.00	\$87.10
	08/01/2020	\$56.90	\$10.75	\$20.95	\$0.00	\$88.60
	02/01/2021	\$57.54	\$10.75	\$20.95	\$0.00	\$89.24
	08/01/2021	\$58.94	\$10.75	\$21.11	\$0.00	\$90.80
	02/01/2022	\$59.51	\$10.75	\$21.11	\$0.00	\$91.37

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.48	\$10.75	\$20.66	\$0.00	\$57.89
2	60	\$31.77	\$10.75	\$20.66	\$0.00	\$63.18
3	70	\$37.07	\$10.75	\$20.66	\$0.00	\$68.48
4	80	\$42.36	\$10.75	\$20.66	\$0.00	\$73.77
5	90	\$47.66	\$10.75	\$20.66	\$0.00	\$79.07

Effective Date - 02/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.79	\$10.75	\$20.66	\$0.00	\$58.20
2	60	\$32.14	\$10.75	\$20.66	\$0.00	\$63.55
3	70	\$37.50	\$10.75	\$20.66	\$0.00	\$68.91
4	80	\$42.86	\$10.75	\$20.66	\$0.00	\$74.27
5	90	\$48.21	\$10.75	\$20.66	\$0.00	\$79.62

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	10/01/2018	\$38.02	\$9.90	\$18.50	\$0.00	\$66.42
	04/01/2019	\$38.87	\$9.90	\$18.50	\$0.00	\$67.27

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 10/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.91	\$9.90	\$5.31	\$0.00	\$36.12
2	65	\$24.71	\$9.90	\$15.13	\$0.00	\$49.74
3	75	\$28.52	\$9.90	\$16.10	\$0.00	\$54.52
4	85	\$32.32	\$9.90	\$17.06	\$0.00	\$59.28

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.38	\$9.90	\$5.31	\$0.00	\$36.59
2	65	\$25.27	\$9.90	\$15.13	\$0.00	\$50.30
3	75	\$29.15	\$9.90	\$16.10	\$0.00	\$55.15
4	85	\$33.04	\$9.90	\$17.06	\$0.00	\$60.00

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 2	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2018	\$23.71	\$11.00	\$15.50	\$0.00	\$50.21
	06/01/2019	\$24.26	\$11.00	\$15.50	\$0.00	\$50.76
	12/01/2019	\$24.83	\$11.00	\$15.50	\$0.00	\$51.33
	06/01/2020	\$25.38	\$11.00	\$15.50	\$0.00	\$51.88
	12/01/2020	\$25.95	\$11.00	\$15.50	\$0.00	\$52.45
	06/01/2021	\$26.50	\$11.00	\$15.50	\$0.00	\$53.00
	12/01/2021	\$27.08	\$11.00	\$15.50	\$0.00	\$53.58

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2018	\$28.07	\$11.00	\$15.50	\$0.00	\$54.57
	06/01/2019	\$28.72	\$11.00	\$15.50	\$0.00	\$55.22
	12/01/2019	\$29.39	\$11.00	\$15.50	\$0.00	\$55.89
	06/01/2020	\$30.04	\$11.00	\$15.50	\$0.00	\$56.54
	12/01/2020	\$30.72	\$11.00	\$15.50	\$0.00	\$57.22
	06/01/2021	\$31.36	\$11.00	\$15.50	\$0.00	\$57.86
	12/01/2021	\$32.04	\$11.00	\$15.50	\$0.00	\$58.54

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2018	\$50.01	\$8.15	\$20.15	\$0.00	\$78.31
	01/01/2019	\$50.36	\$8.15	\$20.85	\$0.00	\$79.36
	07/01/2019	\$51.46	\$8.15	\$20.85	\$0.00	\$80.46
	01/01/2020	\$52.56	\$8.15	\$20.85	\$0.00	\$81.56
	07/01/2020	\$53.66	\$8.15	\$20.85	\$0.00	\$82.66
	01/01/2021	\$54.76	\$8.15	\$20.85	\$0.00	\$83.76

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.01	\$8.15	\$0.00	\$0.00	\$33.16
2	55	\$27.51	\$8.15	\$5.34	\$0.00	\$41.00
3	60	\$30.01	\$8.15	\$5.82	\$0.00	\$43.98
4	65	\$32.51	\$8.15	\$6.31	\$0.00	\$46.97
5	70	\$35.01	\$8.15	\$17.24	\$0.00	\$60.40
6	75	\$37.51	\$8.15	\$17.73	\$0.00	\$63.39
7	80	\$40.01	\$8.15	\$18.21	\$0.00	\$66.37
8	90	\$45.01	\$8.15	\$19.18	\$0.00	\$72.34

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$8.15	\$0.00	\$0.00	\$33.33
2	55	\$27.70	\$8.15	\$5.64	\$0.00	\$41.49
3	60	\$30.22	\$8.15	\$6.15	\$0.00	\$44.52
4	65	\$32.73	\$8.15	\$6.66	\$0.00	\$47.54
5	70	\$35.25	\$8.15	\$17.78	\$0.00	\$61.18
6	75	\$37.77	\$8.15	\$18.29	\$0.00	\$64.21
7	80	\$40.29	\$8.15	\$18.80	\$0.00	\$67.24
8	90	\$45.32	\$8.15	\$19.83	\$0.00	\$73.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2018	\$40.91	\$8.15	\$20.15	\$0.00	\$69.21
	01/01/2019	\$41.26	\$8.15	\$20.85	\$0.00	\$70.26
	07/01/2019	\$42.36	\$8.15	\$20.85	\$0.00	\$71.36
	01/01/2020	\$43.46	\$8.15	\$20.85	\$0.00	\$72.46
	07/01/2020	\$44.56	\$8.15	\$20.85	\$0.00	\$73.56
	01/01/2021	\$45.66	\$8.15	\$20.85	\$0.00	\$74.66

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.46	\$8.15	\$0.00	\$0.00	\$28.61
2	55	\$22.50	\$8.15	\$5.34	\$0.00	\$35.99
3	60	\$24.55	\$8.15	\$5.82	\$0.00	\$38.52
4	65	\$26.59	\$8.15	\$6.31	\$0.00	\$41.05
5	70	\$28.64	\$8.15	\$17.24	\$0.00	\$54.03
6	75	\$30.68	\$8.15	\$17.73	\$0.00	\$56.56
7	80	\$32.73	\$8.15	\$18.21	\$0.00	\$59.09
8	90	\$36.82	\$8.15	\$19.18	\$0.00	\$64.15

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.63	\$8.15	\$0.00	\$0.00	\$28.78
2	55	\$22.69	\$8.15	\$5.64	\$0.00	\$36.48
3	60	\$24.76	\$8.15	\$6.15	\$0.00	\$39.06
4	65	\$26.82	\$8.15	\$6.66	\$0.00	\$41.63
5	70	\$28.88	\$8.15	\$17.78	\$0.00	\$54.81
6	75	\$30.95	\$8.15	\$18.29	\$0.00	\$57.39
7	80	\$33.01	\$8.15	\$18.80	\$0.00	\$59.96
8	90	\$37.13	\$8.15	\$19.83	\$0.00	\$65.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2018	\$38.97	\$8.15	\$20.15	\$0.00	\$67.27
	01/01/2019	\$39.32	\$8.15	\$20.85	\$0.00	\$68.32
	07/01/2019	\$40.42	\$8.15	\$20.85	\$0.00	\$69.42
	01/01/2020	\$41.52	\$8.15	\$20.85	\$0.00	\$70.52
	07/01/2020	\$42.62	\$8.15	\$20.85	\$0.00	\$71.62
	01/01/2021	\$43.72	\$8.15	\$20.85	\$0.00	\$72.72

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.49	\$8.15	\$0.00	\$0.00	\$27.64
2	55	\$21.43	\$8.15	\$5.34	\$0.00	\$34.92
3	60	\$23.38	\$8.15	\$5.82	\$0.00	\$37.35
4	65	\$25.33	\$8.15	\$6.31	\$0.00	\$39.79
5	70	\$27.28	\$8.15	\$17.24	\$0.00	\$52.67
6	75	\$29.23	\$8.15	\$17.73	\$0.00	\$55.11
7	80	\$31.18	\$8.15	\$18.21	\$0.00	\$57.54
8	90	\$35.07	\$8.15	\$19.18	\$0.00	\$62.40

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.66	\$8.15	\$0.00	\$0.00	\$27.81
2	55	\$21.63	\$8.15	\$5.64	\$0.00	\$35.42
3	60	\$23.59	\$8.15	\$6.15	\$0.00	\$37.89
4	65	\$25.56	\$8.15	\$6.66	\$0.00	\$40.37
5	70	\$27.52	\$8.15	\$17.78	\$0.00	\$53.45
6	75	\$29.49	\$8.15	\$18.29	\$0.00	\$55.93
7	80	\$31.46	\$8.15	\$18.80	\$0.00	\$58.41
8	90	\$35.39	\$8.15	\$19.83	\$0.00	\$63.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)	12/01/2018	\$34.09	\$7.70	\$14.02	\$0.00	\$55.81
LABORERS - ZONE 2	06/01/2019	\$34.96	\$7.70	\$14.02	\$0.00	\$56.68
	12/01/2019	\$35.82	\$7.70	\$14.02	\$0.00	\$57.54
	06/01/2020	\$36.71	\$7.70	\$14.02	\$0.00	\$58.43
	12/01/2020	\$37.60	\$7.70	\$14.02	\$0.00	\$59.32
	06/01/2021	\$38.52	\$7.70	\$14.02	\$0.00	\$60.24
	12/01/2021	\$39.43	\$7.70	\$14.02	\$0.00	\$61.15

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *	07/01/2018	\$39.51	\$8.15	\$20.15	\$0.00	\$67.81
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2019	\$39.86	\$8.15	\$20.85	\$0.00	\$68.86
	07/01/2019	\$40.96	\$8.15	\$20.85	\$0.00	\$69.96
	01/01/2020	\$42.06	\$8.15	\$20.85	\$0.00	\$71.06
	07/01/2020	\$43.16	\$8.15	\$20.85	\$0.00	\$72.16
	01/01/2021	\$44.25	\$8.15	\$20.85	\$0.00	\$73.25

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.76	\$8.15	\$0.00	\$0.00	\$27.91
2	55	\$21.73	\$8.15	\$5.34	\$0.00	\$35.22
3	60	\$23.71	\$8.15	\$5.82	\$0.00	\$37.68
4	65	\$25.68	\$8.15	\$6.31	\$0.00	\$40.14
5	70	\$27.66	\$8.15	\$17.24	\$0.00	\$53.05
6	75	\$29.63	\$8.15	\$17.73	\$0.00	\$55.51
7	80	\$31.61	\$8.15	\$18.21	\$0.00	\$57.97
8	90	\$35.56	\$8.15	\$19.18	\$0.00	\$62.89

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.93	\$8.15	\$0.00	\$0.00	\$28.08
2	55	\$21.92	\$8.15	\$5.64	\$0.00	\$35.71
3	60	\$23.92	\$8.15	\$6.15	\$0.00	\$38.22
4	65	\$25.91	\$8.15	\$6.66	\$0.00	\$40.72
5	70	\$27.90	\$8.15	\$17.78	\$0.00	\$53.83
6	75	\$29.90	\$8.15	\$18.29	\$0.00	\$56.34
7	80	\$31.89	\$8.15	\$18.80	\$0.00	\$58.84
8	90	\$35.87	\$8.15	\$19.83	\$0.00	\$63.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2018	\$37.57	\$8.15	\$20.15	\$0.00	\$65.87
PAINTERS LOCAL 35 - ZONE 2	01/01/2019	\$37.92	\$8.15	\$20.85	\$0.00	\$66.92
	07/01/2019	\$39.02	\$8.15	\$20.85	\$0.00	\$68.02
	01/01/2020	\$40.12	\$8.15	\$20.85	\$0.00	\$69.12
	07/01/2020	\$41.22	\$8.15	\$20.85	\$0.00	\$70.22
	01/01/2021	\$42.32	\$8.15	\$20.85	\$0.00	\$71.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.79	\$8.15	\$0.00	\$0.00	\$26.94
2	55	\$20.66	\$8.15	\$5.34	\$0.00	\$34.15
3	60	\$22.54	\$8.15	\$5.82	\$0.00	\$36.51
4	65	\$24.42	\$8.15	\$6.31	\$0.00	\$38.88
5	70	\$26.30	\$8.15	\$17.24	\$0.00	\$51.69
6	75	\$28.18	\$8.15	\$17.73	\$0.00	\$54.06
7	80	\$30.06	\$8.15	\$18.21	\$0.00	\$56.42
8	90	\$33.81	\$8.15	\$19.18	\$0.00	\$61.14

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.96	\$8.15	\$0.00	\$0.00	\$27.11
2	55	\$20.86	\$8.15	\$5.64	\$0.00	\$34.65
3	60	\$22.75	\$8.15	\$6.15	\$0.00	\$37.05
4	65	\$24.65	\$8.15	\$6.66	\$0.00	\$39.46
5	70	\$26.54	\$8.15	\$17.78	\$0.00	\$52.47
6	75	\$28.44	\$8.15	\$18.29	\$0.00	\$54.88
7	80	\$30.34	\$8.15	\$18.80	\$0.00	\$57.29
8	90	\$34.13	\$8.15	\$19.83	\$0.00	\$62.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$46.57	\$9.90	\$21.15	\$0.00	\$77.62
For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2018	\$46.57	\$9.90	\$21.15	\$0.00	\$77.62
	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.29	\$9.90	\$21.15	\$0.00	\$54.34
2	60	\$27.94	\$9.90	\$21.15	\$0.00	\$58.99
3	70	\$32.60	\$9.90	\$21.15	\$0.00	\$63.65
4	75	\$34.93	\$9.90	\$21.15	\$0.00	\$65.98
5	80	\$37.26	\$9.90	\$21.15	\$0.00	\$68.31
6	80	\$37.26	\$9.90	\$21.15	\$0.00	\$68.31
7	90	\$41.91	\$9.90	\$21.15	\$0.00	\$72.96
8	90	\$41.91	\$9.90	\$21.15	\$0.00	\$72.96

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.47	\$9.90	\$21.15	\$0.00	\$55.52
2	60	\$29.36	\$9.90	\$21.15	\$0.00	\$60.41
3	70	\$34.26	\$9.90	\$21.15	\$0.00	\$65.31
4	75	\$36.71	\$9.90	\$21.15	\$0.00	\$67.76
5	80	\$39.15	\$9.90	\$21.15	\$0.00	\$70.20
6	80	\$39.15	\$9.90	\$21.15	\$0.00	\$70.20
7	90	\$44.05	\$9.90	\$21.15	\$0.00	\$75.10
8	90	\$44.05	\$9.90	\$21.15	\$0.00	\$75.10

Notes:

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER	09/01/2018	\$48.61	\$9.95	\$18.74	\$0.00	\$77.30
PIPEFITTERS LOCAL 537 (Local 138)	09/01/2019	\$50.11	\$9.95	\$18.74	\$0.00	\$78.80
	09/01/2020	\$51.61	\$9.95	\$18.74	\$0.00	\$80.30

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER Local 537 (Local 138)

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.44	\$9.95	\$7.75	\$0.00	\$37.14
2	45	\$21.87	\$9.95	\$18.74	\$0.00	\$50.56
3	60	\$29.17	\$9.95	\$18.74	\$0.00	\$57.86
4	70	\$34.03	\$9.95	\$18.74	\$0.00	\$62.72
5	80	\$38.89	\$9.95	\$18.74	\$0.00	\$67.58

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.04	\$9.95	\$7.75	\$0.00	\$37.74
2	45	\$22.55	\$9.95	\$18.74	\$0.00	\$51.24
3	60	\$30.07	\$9.95	\$18.74	\$0.00	\$58.76
4	70	\$35.08	\$9.95	\$18.74	\$0.00	\$63.77
5	80	\$40.09	\$9.95	\$18.74	\$0.00	\$68.78

Notes:

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

Apprentice to Journeyworker Ratio:**

PIPELAYER	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
LABORERS - ZONE 2	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

PLUMBER	09/01/2018	\$51.61	\$11.82	\$16.01	\$0.00	\$79.44
PLUMBERS & GASFITTERS LOCAL 12 (Local 138)	03/01/2019	\$53.11	\$11.82	\$16.01	\$0.00	\$80.94
	09/01/2019	\$54.61	\$11.82	\$16.01	\$0.00	\$82.44
	03/01/2020	\$56.11	\$11.82	\$16.01	\$0.00	\$83.94
	09/01/2020	\$57.61	\$11.82	\$16.01	\$0.00	\$85.44
	03/01/2021	\$59.11	\$11.82	\$16.01	\$0.00	\$86.94

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/GASFITTER - Local 12 (Local 138)

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.06	\$11.82	\$5.81	\$0.00	\$35.69
2	40	\$20.64	\$11.82	\$6.59	\$0.00	\$39.05
3	55	\$28.39	\$11.82	\$8.98	\$0.00	\$49.19
4	65	\$33.55	\$11.82	\$10.53	\$0.00	\$55.90
5	75	\$38.71	\$11.82	\$12.13	\$0.00	\$62.66

Effective Date - 03/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.59	\$11.82	\$5.81	\$0.00	\$36.22
2	40	\$21.24	\$11.82	\$6.59	\$0.00	\$39.65
3	55	\$29.21	\$11.82	\$8.98	\$0.00	\$50.01
4	65	\$34.52	\$11.82	\$10.53	\$0.00	\$56.87
5	75	\$39.83	\$11.82	\$12.13	\$0.00	\$63.78

Notes:

Steps are 1 yr
Step 4 with lic\$59.27, Step5 with lic\$66.02

Apprentice to Journeyworker Ratio:1:5

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2018	\$48.61	\$9.95	\$18.74	\$0.00	\$77.30
	09/01/2019	\$50.11	\$9.95	\$18.74	\$0.00	\$78.80
	09/01/2020	\$51.61	\$9.95	\$18.74	\$0.00	\$80.30

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2018	\$35.09	\$7.70	\$14.02	\$0.00	\$56.81
	06/01/2019	\$35.96	\$7.70	\$14.02	\$0.00	\$57.68
	12/01/2019	\$36.82	\$7.70	\$14.02	\$0.00	\$58.54
	06/01/2020	\$37.71	\$7.70	\$14.02	\$0.00	\$59.43
	12/01/2020	\$38.60	\$7.70	\$14.02	\$0.00	\$60.32
	06/01/2021	\$39.52	\$7.70	\$14.02	\$0.00	\$61.24
	12/01/2021	\$40.43	\$7.70	\$14.02	\$0.00	\$62.15

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$32.68	\$11.00	\$15.50	\$0.00	\$59.18
	06/01/2019	\$33.43	\$11.00	\$15.50	\$0.00	\$59.93
	12/01/2019	\$34.22	\$11.00	\$15.50	\$0.00	\$60.72
	06/01/2020	\$34.97	\$11.00	\$15.50	\$0.00	\$61.47
	12/01/2020	\$35.75	\$11.00	\$15.50	\$0.00	\$62.25
	06/01/2021	\$36.50	\$11.00	\$15.50	\$0.00	\$63.00
	12/01/2021	\$37.29	\$11.00	\$15.50	\$0.00	\$63.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 42</i>	05/01/2018	\$24.24	\$8.49	\$12.46	\$0.00	\$45.19
	04/30/2019	\$24.24	\$8.49	\$12.92	\$0.00	\$45.65
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2018	\$42.36	\$11.35	\$15.90	\$0.00	\$69.61
	02/01/2019	\$43.51	\$11.35	\$15.90	\$0.00	\$70.76

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.18	\$11.35	\$3.69	\$0.00	\$36.22
2	60	\$25.42	\$11.35	\$15.90	\$0.00	\$52.67
3	65	\$27.53	\$11.35	\$15.90	\$0.00	\$54.78
4	75	\$31.77	\$11.35	\$15.90	\$0.00	\$59.02
5	85	\$36.01	\$11.35	\$15.90	\$0.00	\$63.26

Effective Date - 02/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.76	\$11.35	\$3.69	\$0.00	\$36.80
2	60	\$26.11	\$11.35	\$15.90	\$0.00	\$53.36
3	65	\$28.28	\$11.35	\$15.90	\$0.00	\$55.53
4	75	\$32.63	\$11.35	\$15.90	\$0.00	\$59.88
5	85	\$36.98	\$11.35	\$15.90	\$0.00	\$64.23

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

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	08/01/2018	\$42.61	\$11.35	\$15.90	\$0.00	\$69.86
	02/01/2019	\$43.76	\$11.35	\$15.90	\$0.00	\$71.01
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.64	\$12.20	\$5.61	\$0.00	\$35.45
2	40	\$17.64	\$12.20	\$5.61	\$0.00	\$35.45
3	45	\$19.85	\$12.20	\$10.85	\$1.29	\$44.19
4	45	\$19.85	\$12.20	\$10.85	\$1.29	\$44.19
5	50	\$22.06	\$12.20	\$11.80	\$1.38	\$47.44
6	50	\$22.06	\$12.20	\$12.05	\$1.39	\$47.70
7	60	\$26.47	\$12.20	\$13.70	\$1.57	\$53.94
8	65	\$28.67	\$12.20	\$14.65	\$1.67	\$57.19
9	75	\$33.08	\$12.20	\$16.56	\$1.86	\$63.70
10	85	\$37.49	\$12.20	\$17.96	\$2.03	\$69.68

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
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Apprentice - SIGN ERECTOR - Local 35 Zone 2

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
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SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPRINKLER FITTER	10/01/2018	\$52.68	\$9.12	\$18.90	\$0.00	\$80.70
<i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	01/01/2019	\$52.18	\$9.47	\$19.10	\$0.00	\$80.75
	03/01/2019	\$53.53	\$9.47	\$19.10	\$0.00	\$82.10
	10/01/2019	\$54.88	\$9.47	\$19.10	\$0.00	\$83.45
	03/01/2020	\$56.23	\$9.47	\$19.10	\$0.00	\$84.80
	10/01/2020	\$57.58	\$9.47	\$19.10	\$0.00	\$86.15
	03/01/2021	\$58.93	\$9.47	\$19.10	\$0.00	\$87.50

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 10/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.44	\$9.12	\$8.90	\$0.00	\$36.46
2	40	\$21.07	\$9.12	\$8.90	\$0.00	\$39.09
3	45	\$23.71	\$9.12	\$8.90	\$0.00	\$41.73
4	50	\$26.34	\$9.12	\$8.90	\$0.00	\$44.36
5	55	\$28.97	\$9.12	\$8.90	\$0.00	\$46.99
6	60	\$31.61	\$9.12	\$10.40	\$0.00	\$51.13
7	65	\$34.24	\$9.12	\$10.40	\$0.00	\$53.76
8	70	\$36.88	\$9.12	\$10.40	\$0.00	\$56.40
9	75	\$39.51	\$9.12	\$10.40	\$0.00	\$59.03
10	80	\$42.14	\$9.12	\$10.40	\$0.00	\$61.66

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.26	\$9.47	\$9.10	\$0.00	\$36.83
2	40	\$20.87	\$9.47	\$9.10	\$0.00	\$39.44
3	45	\$23.48	\$9.47	\$9.10	\$0.00	\$42.05
4	50	\$26.09	\$9.47	\$9.10	\$0.00	\$44.66
5	55	\$28.70	\$9.47	\$9.10	\$0.00	\$47.27
6	60	\$31.31	\$9.47	\$10.60	\$0.00	\$51.38
7	65	\$33.92	\$9.47	\$10.60	\$0.00	\$53.99
8	70	\$36.53	\$9.47	\$10.60	\$0.00	\$56.60
9	75	\$39.14	\$9.47	\$10.60	\$0.00	\$59.21
10	80	\$41.74	\$9.47	\$10.60	\$0.00	\$61.81

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2018	\$37.97	\$13.00	\$16.35	\$0.00	\$67.32
	03/01/2019	\$38.33	\$13.00	\$16.82	\$0.00	\$68.15

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.19	\$13.00	\$0.46	\$0.00	\$28.65
2	40	\$15.19	\$13.00	\$0.46	\$0.00	\$28.65
3	45	\$17.09	\$13.00	\$13.06	\$0.00	\$43.15
4	45	\$17.09	\$13.00	\$13.06	\$0.00	\$43.15
5	50	\$18.99	\$13.00	\$13.37	\$0.00	\$45.36
6	55	\$20.88	\$13.00	\$13.67	\$0.00	\$47.55
7	60	\$22.78	\$13.00	\$13.96	\$0.00	\$49.74
8	65	\$24.68	\$13.00	\$14.26	\$0.00	\$51.94
9	70	\$26.58	\$13.00	\$14.56	\$0.00	\$54.14
10	75	\$28.48	\$13.00	\$14.85	\$0.00	\$56.33

Effective Date - 03/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.33	\$13.00	\$0.46	\$0.00	\$28.79
2	40	\$15.33	\$13.00	\$0.46	\$0.00	\$28.79
3	45	\$17.25	\$13.00	\$13.42	\$0.00	\$43.67
4	45	\$17.25	\$13.00	\$13.42	\$0.00	\$43.67
5	50	\$19.17	\$13.00	\$13.73	\$0.00	\$45.90
6	55	\$21.08	\$13.00	\$14.03	\$0.00	\$48.11
7	60	\$23.00	\$13.00	\$14.34	\$0.00	\$50.34
8	65	\$24.91	\$13.00	\$14.66	\$0.00	\$52.57
9	70	\$26.83	\$13.00	\$14.96	\$0.00	\$54.79
10	75	\$28.75	\$13.00	\$15.27	\$0.00	\$57.02

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	08/01/2018	\$51.85	\$10.75	\$20.66	\$0.00	\$83.26
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2019	\$52.49	\$10.75	\$20.66	\$0.00	\$83.90
	08/01/2019	\$53.84	\$10.75	\$20.80	\$0.00	\$85.39
	02/01/2020	\$54.48	\$10.75	\$20.80	\$0.00	\$86.03
	08/01/2020	\$55.83	\$10.75	\$20.95	\$0.00	\$87.53
	02/01/2021	\$56.47	\$10.75	\$20.95	\$0.00	\$88.17
	08/01/2021	\$57.87	\$10.75	\$21.11	\$0.00	\$89.73
	02/01/2022	\$58.46	\$10.75	\$21.11	\$0.00	\$90.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.93	\$10.75	\$20.03	\$0.00	\$56.71
2	60	\$31.11	\$10.75	\$20.03	\$0.00	\$61.89
3	70	\$36.30	\$10.75	\$20.03	\$0.00	\$67.08
4	80	\$41.48	\$10.75	\$20.03	\$0.00	\$72.26
5	90	\$46.67	\$10.75	\$20.03	\$0.00	\$77.45

Effective Date - 02/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.25	\$10.75	\$20.03	\$0.00	\$57.03
2	60	\$31.49	\$10.75	\$20.03	\$0.00	\$62.27
3	70	\$36.74	\$10.75	\$20.03	\$0.00	\$67.52
4	80	\$41.99	\$10.75	\$20.03	\$0.00	\$72.77
5	90	\$47.24	\$10.75	\$20.03	\$0.00	\$78.02

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2018	\$40.30	\$7.70	\$15.40	\$0.00	\$63.40
	06/01/2019	\$41.30	\$7.70	\$15.40	\$0.00	\$64.40
	12/01/2019	\$42.30	\$7.70	\$15.40	\$0.00	\$65.40
	06/01/2020	\$43.29	\$7.70	\$15.40	\$0.00	\$66.39
	12/01/2020	\$44.27	\$7.70	\$15.40	\$0.00	\$67.37
	06/01/2021	\$45.29	\$7.70	\$15.40	\$0.00	\$68.39
	12/01/2021	\$46.30	\$7.70	\$15.40	\$0.00	\$69.40

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2018	\$39.02	\$7.70	\$15.40	\$0.00	\$62.12
	06/01/2019	\$40.02	\$7.70	\$15.40	\$0.00	\$63.12
	12/01/2019	\$41.02	\$7.70	\$15.40	\$0.00	\$64.12
	06/01/2020	\$42.01	\$7.70	\$15.40	\$0.00	\$65.11
	12/01/2020	\$42.99	\$7.70	\$15.40	\$0.00	\$66.09
	06/01/2021	\$44.01	\$7.70	\$15.40	\$0.00	\$67.11
	12/01/2021	\$45.02	\$7.70	\$15.40	\$0.00	\$68.12

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2018	\$38.90	\$7.70	\$15.40	\$0.00	\$62.00
	06/01/2019	\$39.90	\$7.70	\$15.40	\$0.00	\$63.00
	12/01/2019	\$40.90	\$7.70	\$15.40	\$0.00	\$64.00
	06/01/2020	\$41.89	\$7.70	\$15.40	\$0.00	\$64.99
	12/01/2020	\$42.87	\$7.70	\$15.40	\$0.00	\$65.97
	06/01/2021	\$43.89	\$7.70	\$15.40	\$0.00	\$66.99
	12/01/2021	\$44.90	\$7.70	\$15.40	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$47.75	\$11.00	\$15.50	\$0.00	\$74.25
	06/01/2019	\$48.84	\$11.00	\$15.50	\$0.00	\$75.34
	12/01/2019	\$49.98	\$11.00	\$15.50	\$0.00	\$76.48
	06/01/2020	\$51.06	\$11.00	\$15.50	\$0.00	\$77.56
	12/01/2020	\$52.20	\$11.00	\$15.50	\$0.00	\$78.70
	06/01/2021	\$53.29	\$11.00	\$15.50	\$0.00	\$79.79
	12/01/2021	\$54.43	\$11.00	\$15.50	\$0.00	\$80.93
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2018	\$51.18	\$7.70	\$15.80	\$0.00	\$74.68
	06/01/2019	\$52.18	\$7.70	\$15.80	\$0.00	\$75.68
	12/01/2019	\$53.18	\$7.70	\$15.80	\$0.00	\$76.68
	06/01/2020	\$54.17	\$7.70	\$15.80	\$0.00	\$77.67
	12/01/2020	\$55.15	\$7.70	\$15.80	\$0.00	\$78.65
	06/01/2021	\$56.17	\$7.70	\$15.80	\$0.00	\$79.67
	12/01/2021	\$57.18	\$7.70	\$15.80	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2018	\$53.18	\$7.70	\$15.80	\$0.00	\$76.68
	06/01/2019	\$54.18	\$7.70	\$15.80	\$0.00	\$77.68
	12/01/2019	\$55.18	\$7.70	\$15.80	\$0.00	\$78.68
	06/01/2020	\$56.17	\$7.70	\$15.80	\$0.00	\$79.67
	12/01/2020	\$57.15	\$7.70	\$15.80	\$0.00	\$80.65
	06/01/2021	\$58.17	\$7.70	\$15.80	\$0.00	\$81.67
	12/01/2021	\$59.18	\$7.70	\$15.80	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2018	\$43.25	\$7.70	\$15.80	\$0.00	\$66.75
	06/01/2019	\$44.25	\$7.70	\$15.80	\$0.00	\$67.75
	12/01/2019	\$45.25	\$7.70	\$15.80	\$0.00	\$68.75
	06/01/2020	\$46.24	\$7.70	\$15.80	\$0.00	\$69.74
	12/01/2020	\$47.22	\$7.70	\$15.80	\$0.00	\$70.72
	06/01/2021	\$48.24	\$7.70	\$15.80	\$0.00	\$71.74
	12/01/2021	\$49.25	\$7.70	\$15.80	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2018	\$45.25	\$7.70	\$15.80	\$0.00	\$68.75
	06/01/2019	\$46.25	\$7.70	\$15.80	\$0.00	\$69.75
	12/01/2019	\$47.25	\$7.70	\$15.80	\$0.00	\$70.75
	06/01/2020	\$48.24	\$7.70	\$15.80	\$0.00	\$71.74
	12/01/2020	\$49.22	\$7.70	\$15.80	\$0.00	\$72.72
	06/01/2021	\$50.24	\$7.70	\$15.80	\$0.00	\$73.74
	12/01/2021	\$51.25	\$7.70	\$15.80	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2018	\$34.34	\$7.70	\$14.02	\$0.00	\$56.06
	06/01/2019	\$35.21	\$7.70	\$14.02	\$0.00	\$56.93
	12/01/2019	\$36.07	\$7.70	\$14.02	\$0.00	\$57.79
	06/01/2020	\$36.96	\$7.70	\$14.02	\$0.00	\$58.68
	12/01/2020	\$37.85	\$7.70	\$14.02	\$0.00	\$59.57
	06/01/2021	\$38.77	\$7.70	\$14.02	\$0.00	\$60.49
	12/01/2021	\$39.68	\$7.70	\$14.02	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2018	\$48.23	\$11.00	\$15.50	\$0.00	\$74.73
	06/01/2019	\$49.33	\$11.00	\$15.50	\$0.00	\$75.83
	12/01/2019	\$50.48	\$11.00	\$15.50	\$0.00	\$76.98
	06/01/2020	\$51.58	\$11.00	\$15.50	\$0.00	\$78.08
	12/01/2020	\$52.73	\$11.00	\$15.50	\$0.00	\$79.23
	06/01/2021	\$53.83	\$11.00	\$15.50	\$0.00	\$80.33
	12/01/2021	\$54.98	\$11.00	\$15.50	\$0.00	\$81.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i>	09/01/2018	\$51.61	\$11.82	\$16.01	\$0.00	\$79.44
	03/01/2019	\$53.11	\$11.82	\$16.01	\$0.00	\$80.94
	09/01/2019	\$54.61	\$11.82	\$16.01	\$0.00	\$82.44
	03/01/2020	\$56.11	\$11.82	\$16.01	\$0.00	\$83.94
	09/01/2020	\$57.61	\$11.82	\$16.01	\$0.00	\$85.44
	03/01/2021	\$59.11	\$11.82	\$16.01	\$0.00	\$86.94
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/03/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.14	\$7.75	\$3.31	\$0.00	\$38.20
2	65	\$29.40	\$7.75	\$3.38	\$0.00	\$40.53
3	70	\$31.66	\$7.75	\$3.45	\$0.00	\$42.86
4	75	\$33.92	\$7.75	\$5.02	\$0.00	\$46.69
5	80	\$36.18	\$7.75	\$5.09	\$0.00	\$49.02
6	85	\$38.45	\$7.75	\$5.15	\$0.00	\$51.35
7	90	\$40.71	\$7.75	\$7.22	\$0.00	\$55.68

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/05/2018	\$29.98	\$4.70	\$3.15	\$0.00	\$37.83
	02/04/2019	\$30.73	\$4.70	\$3.17	\$0.00	\$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/05/2018	\$28.22	\$4.70	\$3.10	\$0.00	\$36.02
	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/05/2018	\$28.22	\$4.70	\$3.10	\$0.00	\$36.02
	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
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This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

Additional Apprentice Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

SUMMARY OF WORK

SECTION 01 10 00

PART 1 - GENERAL

1.1 DESCRIPTION

In general, the Contractor shall supply all labor, materials, equipment, temporary protection, tools and appliances necessary for the proper completion of the work, as required in the Specifications, in accordance with good construction practice, and as required by the materials manufacturer. The work includes, but is not limited to, the following items.

- A. Supply all temporary shoring, lighting, barricades, signage and protection necessary to protect the building areas, building systems, building patrons and public. Maintain such protection for the complete duration of the project.
- B. Supply all disposal facilities, transportation and labor necessary to dispose of all demolished materials, dirt, and debris off-site in a legal dumping area. The Contractor shall obtain all permits necessary to transport and dispose of all materials, rubbish and debris.
- C. Complete all associated work in accordance with the project specifications and Contract Drawings.
- D. Clean and restore all areas affected by the work.
- E. The Contractor shall provide all lifts, cranes, and equipment necessary to perform the work.
- F. Coordinate the work with that of the Owner.
- G. Remove and replace existing EPDM roof assembly, including EPDM membrane, cover board, insulation, vapor retarder, and base board as required, down to the existing roof deck at areas of wet insulation.
- H. Install batten bars over areas of unadhered EPDM roofing membrane to re-secure the membrane. Strip in the batten bars with EPDM membrane.
- I. Remove and replace delaminated or failed EPDM membrane patches and stripping membrane.
- J. Patch all tears and open EPDM membrane areas.
- K. Remove and replace pourable sealer pocket sealant at mechanical penetrations as indicated in the Construction Drawings.

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- L. Re-secure and repair all sheet metal roof edge metal defects as indicated in the Construction Drawings.
- M. Strip-in cracked sheet metal and solder joints on sheet metal flashings with EPDM membrane.
- N. Strip-in failed parapet cap flashing joints and seams with EPDM membrane.
- O. Repair or replace low vent pipe flashings and other low flashing as indicated on the Contract Drawings to provide a minimum 8" flashing height above finished roof.
- P. Strip-in bubbled EPDM stripping membrane at roof edges.
- Q. Reset and repair failed reglet joint flashings.
- R. Remove and replace all failed sealant at reglet flashings.
- S. Remove spray foam insulation from weeps and replace damaged or clogged weep baffles.
- T. Coordinate the temporary shut down and disconnection/reconnection of various mechanical equipment as required to complete the work.
- U. Perform all other miscellaneous work as required to complete the project in its entirety.

1.2 ALTERNATES

- A. Alternate No. 1 shall include all labor, equipment, materials, overhead, profit, and accessories related to the removal and replacement of the sealants and installation of new sheet metal flashing at the base of the curtain walls above Roof Area A. Refer to Alternates – Section 01 23 00 for additional information.
- B. Alternate No. 2 shall include all labor, equipment, materials, overhead, profit, and accessories related to the removal and replacement of the partial area of Roof Area B.1, removal and replacement of throughwall flashings, and roof edges. Refer to Alternates – Section 01 23 00 for additional information.
- C. Alternate No. 3 shall include all labor, equipment, materials, overhead, profit, and accessories related to the roofing repairs around the roof access door on Roof Area C.2. Refer to Alternates – Section 01 23 00 for additional information.
- D. Alternate No. 4 shall include all labor, equipment, materials, overhead, profit, and accessories related to the full roof replacement of Roof Area A.2, including new parapet caps, throughwall flashings and roof accessories. Refer to Alternates – Section 01 23 00 for additional information.

1.3 PROJECT CONDITIONS

- A. The Owner's Representative shall review the Contractor's work schedule submittal prior to the start of any work. After defining the locations of the work progress, the Owner shall arrange to control occupancy in the building area adjacent to each day's work. It shall be the responsibility of the Contractor to inform the Owner's Representative if their work locations(s) for each day is different from the schedule and to update any changes into the schedule.
- B. The Contractor will be required to provide their own fall arrest system as required to access and work.
- C. The Contractor shall supply, install and maintain all barriers, protection, warning lines, lighting and personnel required to segregate the work area(s) and to prevent damage to the buildings, their occupants and the surrounding paved areas. All applicable OSHA and D.L.I. requirements shall be observed by the Contractor. Refer to Section 01 50 00 – Temporary Facilities for additional information.
- D. The Owner requires the Contractor to conform to all requirements of this specification as well as those of the approved manufacturers.
- E. All materials and workmanship shall be of the best construction practice. Refer to the requirements of the manufacturer, their recommendations, and these specifications for handling and installation of all materials.
- F. Protect the building and site areas not included in the construction. The Contractor shall replace or repair all building and site damage as a result of the construction to the satisfaction of the Owner at no cost to the Owner.
- G. The Contractor shall provide protection for existing roof membrane and other roof top equipment, penetrations, and similar items to protect from damage. Items damaged as a result of the work in this section shall be repaired or replaced by the Contractor to the satisfaction of and at no additional cost to the Owner.
- H. Supply all labor, vacuums, tools, appliances, shoring, supports or other items required to properly support, elevate and protect fixtures, equipment, and facilities affected by the work and to properly install the work.
- I. The building and site will be occupied and in use during construction. The Contractors shall take all necessary precautions to create as little disturbance or disruption to the building and their occupants as possible during the course of the work. All entries and exits outside the immediate work area must be kept clear at all times and accessible by all parties. All access for emergency equipment must be kept clear at all times.

Roof Repairs and Associated Work at the
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- J. The building and site will be occupied and in use during construction. The Contractor shall have all personnel and Subcontractors that will work on site CORI checked through the Masconomet Regional School District prior to accessing the site. Coordinate with the Owner for specific CORI check requirements and procedures. Any personnel that can no successfully pass the CORI check will not be allowed on site.
- K. The Contractor and all Sub-Contractors shall be professional and courteous to all tenants and the general public. Any employee acting non-professional, or presents lewd comments will be removed permanently from the site.
- L. The Contractor shall be responsible for submitting all required permits. This shall include, but not be limited to building, fire, dumping, hoisting, etc. The Contractor shall be responsible for all police and fire details as required to properly complete the work. This shall include the redirection of traffic during the removal and storage of roof materials from transportation vehicles.
- M. At the end of each work day, the Contractor shall confirm and make the site safe and secure to all public access to the building's interior.
- N. The Contractor shall notify the Owner at least one week in advance of doing any interior work so that the Owner may provide entry into the required areas.
- O. All debris, dust and dirt shall be swept clean from all exterior and interior surfaces affected by the work. Any interior finishes and floors which are damaged, soiled or affected by the work shall be cleaned, repaired or replaced by the Contractor with a system equal in color, texture, and finish at no additional cost to the Owner.
- P. Any open ducts, grills, electric boxes or similar fixtures and items which can be soiled or affected by the work shall be masked, protected and cleaned by the Contractor at no additional cost to the Owner.
- Q. Provide an adequate number of skilled workmen who are trained and experienced in the necessary crafts and are completely familiar with the specified requirements and the methods needed for proper performance of the work of each trade.
- R. Schedule and execute all work without exposing the interior of the building to the effects of inclement weather. Protect the building, its contents and occupants against such risks, and repair/replace all work-related damage to the satisfaction of the Owner.
- S. Upon completion of the work, all temporary protection installed by the Contractor shall be removed and areas shall be cleaned to the satisfaction of the Owner.
- T. Remove only as much roofing, flashing, and associated assemblies as can be completely replaced and/or made weather tight each day, including all flashing work.

- U. A disposal plan shall be submitted by the Contractor (for Owner and Engineer's approval) outlining all techniques to be used for the transportation of materials to ground level.
- V. Supply all necessary disposal facilities, transportation and labor necessary to dispose of all demolished materials, dirt and debris off-site in a legal dumping area. The Contractor shall obtain all permits necessary to transport and dispose of all materials, rubbish and debris.

1.3 EMERGENCY RESPONSE

- A. The Contractor shall provide the Owner with after-hours (24 hour), emergency telephone numbers of the Contractor's Project Manager, Superintendent and Foreman.
- B. The Contractor must respond to emergency situations or calls within two (2) hours.

1.4 PRE-CONSTRUCTION CONFERENCE

A Pre-construction Conference will be held with the Owner, Engineer, and Contractor to discuss all aspects of the project. The Contractor's foreman or field representative will attend this Conference. The Conference will not be held until all shop drawings and submittals have been received and reviewed by the Owner and the Engineer.

1.5 CONSTRUCTION SCHEDULE

- A. The Owner shall review the Contractor's Construction Schedule prior to the start of any work. After defining the location(s) of the work progress, the Owner shall notify the building tenants within the work area to allow for the proper coordination of the work. It shall be the responsibility of the Contractor to supply the Owner with written notice, 48 hours in advance, if their work location(s) for a workday differs from the schedule. The Contractor shall submit the original schedule in accordance with Section 01 33 00 - Shop Drawings and Submittals, and shall update their Construction Schedule weekly, and submit a copy each week to the Owner for review.
- B. Areas of the buildings contained in this contract are sensitive to noise and disruption. The Contractor shall coordinate construction in these areas to minimize disturbance. The Contractor must notify the Owner in advance for review of any construction work that will cause excessive noise.
- C. It is the intent of this project for the contractor to mobilize the (FILL IN) in September. The contractor shall set up all the staging and have all the materials delivered to the site in order for demolition of the roof to commence. All materials and equipment shall be delivered to the site and available for installation by this date. All work shall achieve the following completion dates:

Substantial Completion: June 14, 2019
Final Condition: June 21, 2019

- D. Final Completion of all work in the Contract shall be determined after the Contractor certifies in writing completion of all remaining items noted on the Architect/Engineer or Owner's punch list.

1.6 WORK HOURS

- A. Regular work hours shall be from 7:00 AM to 5:00 PM Monday through Friday.
- B. Interior work shall be performed during off-hours and coordinated with the School a minimum of 72 hours in advance.
- C. Weekend work is not anticipated but will be considered should inclement weather be encountered during the work week. Work hours shall be discussed with the Owner prior to proceeding but are not anticipated to begin until after 9:00am.

1.7 DIMENSIONS AND QUANTITIES

- A. All dimensions and quantities shall be field-verified by the Contractor. The Contract Documents have been compiled from various sources, and may not reflect the actual field conditions at the time of construction.
- B. The Contractor is cautioned to take all necessary precautions and make all necessary investigations to properly supply and install the proposed work.
- C. The Owner will not consider unfamiliarity with the project as a basis for any additional compensation.
- D. The general nature, quantity and distribution of the various work items are shown on the Contract Drawings.

1.8 WARRANTIES

- A. Upon completion of the work, and prior to final payment, the Contractor shall submit a Guarantee of his work to be free from defect in materials and workmanship. This Guarantee shall be for a period of two (2) years, and shall be signed by a Principal of the Contractor's firm, and sealed if a corporation.
- B. Upon completion of the work, and prior to final payment, the Contractor shall submit the guarantees for the specified components as described in the appropriate specification sections.

1.9 INDEMNIFICATION AND WAIVER OF LIENS

- A. Beginning with the second Application for Payment and thereafter, the Contractor, Subcontractors, Sub-subcontractors, and suppliers, shall submit an Indemnification and Waiver of Liens for the construction period covered by the previous application.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

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UNIT PRICES

SECTION 01 22 00

PART 1 - GENERAL

1.1 GENERAL

- A. The Bidders shall submit with their Bids, prices for the performance of Unit Price work. The general scope of the Unit Price work is defined within this section.
- B. The successful Bidder shall coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each Unit Price Item is complete and fully integrated into the project.
- C. The specific quantities of Unit Price Work included in the Base Bid are provided herein. This applies to items whose exact quantities are unknown but are anticipated to exist, for example, deteriorated roof decking.
- D. Unit Price given for each repair shall be the same value for either additional quantities (over-runs) or for lesser quantities (under-runs). Different unit prices for the same unit repair type will not be allowed.

1.2 SCHEDULE OF UNIT PRICES:

The Unit Prices established below are above and beyond those shown on the Contract Drawings and shall be carried by the Contractor/Subcontractor within the Base Bid Scope of Work. The Contractor's Schedule of Values will carry each item under the bid amount selected for this project. Should the unit price work not be performed on this project, the total amount, or remaining amount if portions of unit price work are performed, shall be credited to the Owner.

No.	Section	Item	Quantity	Unit of Measure	X	Unit Price Dollars/Cents Add & Deduct	=	Total Amount Dollars/Cents Add (to be carried in Base Bid)
1.	07 53 23	Remove existing roof system at wet or otherwise deteriorated locations. Install new assembly to match existing.	400	SF	X	\$	=	\$
2.	07 53 23	Install new EPDM membrane patch over existing punctured, sliced, torn, delaminated, or otherwise open EPDM membrane, or membrane patches.	50	SF	X	\$	=	\$
3.	07 53 23	Install new batten strips to re-secure existing unadhered membrane.	100	SF	X	\$	=	\$
4.	07 53 23	Remove and replace existing delaminated EPDM stripping membrane.	50	LF	X	\$	=	\$

Roof Repairs and Associated Work at the
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No.	Section	Item	Quantity	Unit of Measure	X	Unit Price Dollars/Cents Add & Deduct	=	Total Amount Dollars/Cents Add (to be carried in Base Bid)
5.	07 53 23	Re-secure existing loose or detached roof edge fascia metal.	10	LF	X	\$	=	\$
6.	07 53 23	Install new EPDM stripping membrane over existing cracked or otherwise open sheet metal flashing seams.	50	LF	X	\$	=	\$
7.	07 53 23	Remove and re-install existing loose or detached reglet flashing.	25	LF	X	\$	=	\$
8.	07 53 23	Remove and replace existing failed sealant.	100	LF	X	\$	=	\$

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

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ALTERNATES

SECTION 01 23 00

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. The Bidders shall submit with their Bids, prices for the performance of Alternate Scopes of Work. The scopes of the Alternate Work are defined within this Section.
- B. The successful Bidder shall coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by the Alternate is complete and fully integrated into the project.
- C. Where a quantity of Unit Price work is included in the Base Bid, it is also included in the Alternates as defined in Section 01 22 00 – Unit Prices. Selection of an Alternate does not delete any Unit Price work carried in the Base Bid.
- D. The successful Bidder shall coordinate all related work, and modify or adjust adjacent work as necessary to ensure that work affected by the accepted Alternate is complete and fully integrated into the Project.
- E. Alternate Bid amount shall include the Work of each Technical Specification section, including related drawings, shown for the Base Bid except those sections indicated with an Alternate section.
- F. Alternate Bid amount shall include costs associated with furnishing, erecting and maintaining temporary constructions including overhead sidewalk protection, scaffolding, shoring and temporary barrier construction, waterproofing and dust proofing the interior of the building, as well as all overhead and profit associated.

1.2 BASE BID

- A. The Base Bid shall include all labor, equipment, materials and accessories necessary to perform all renovations associated with the roof operations at the designated locations, in accordance with the Contract Documents and as described in Section 01 11 00 – Summary of Work.

1.3 SCHEDULE OF ALTERNATES

- A. **Alternate Number One (1)** shall include all labor, equipment, materials, overhead, profit, and accessories related to the removal and replacement of the sealants and installation of new sheet metal flashing at the base of the curtain walls above Roof Area A. Refer to Alternates – Section 08 44 13 GLAZED ALUMINUM CURTAIN WALLS and the Contract Drawings for additional information.

- B. **Alternate Number Two (2)** shall include all labor, equipment, materials, overhead, profit, and accessories related to the removal and replacement of the partial area of Roof Area B.1, removal and replacement of throughwall flashings, and roof edges. Refer to Section 07 53 23 EPDM ROOFING and the Contract Drawings for additional information.
- C. **Alternate Number Three (3)** shall include all labor, equipment, materials, overhead, profit, and accessories related to the roofing repairs around the roof access door on Roof Area C.2. Refer to Section 07 53 23 EPDM ROOFING and the Contract Drawings for additional information.
- D. **Alternate Number Four (4)** shall include all labor, equipment, materials, overhead, profit, and accessories related to the full roof replacement of Roof Area A.2, including new parapet caps, throughwall flashings and roof accessories. Refer to Section 07 53 23 EPDM ROOFING and the Contract Drawings for additional information.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SHOP DRAWINGS AND SUBMITTALS

SECTION 01 33 00

PART 1 - GENERAL

1.1 DESCRIPTION

The following submittals will be required of all construction materials and systems from the General Contractor:

- A. List of materials stating manufacturer's name and address, as well as material trade name and manufacturer's designation
- B. Shop Drawings
- C. Samples
- D. Catalog Data
- E. Manufacturer's Instructions
- F. Contractor's Schedule as it affects the contracted completion date and sequence of construction
- G. Certificate of Dumping Facilities
- H. Material Safety Data Sheets (MSDS)

1.2 TIME OF SUBMITTALS

The following submittals are required during the various phases of the Contract. Each submittal item shall have the technical section and paragraph number clearly indicated. All submittal items without the proper designations will be returned and will not be reviewed.

- A. Bid Submission: shall include three (3) copies of the following information and submittals.
 - 1. List of Materials and Manufacturers. Include system designations and manufacturer's literature, and a sample of manufacturer's warranties.
 - 2. Construction Schedule showing the sequence of construction, starting date, completion date and monthly status checklist.
 - 3. Letter of compliance from the selected roof membrane manufacturer that all materials proposed for the new roof systems, including but not limited to roof insulation's, flashing assemblies and fasteners, are acceptable for the roof membrane manufacturer's standard warranty listed in Section 01 11 00.

- B. Contract Submissions: After the successful Bidder has received the Notice to Proceed or Letter of Intent to Enter the Contract the Bidder shall, within ten (10) working days, provide four (4) copies of the following submittals to the Engineer:
1. Complete Materials List
 2. Manufacturer's Technical Literature as selected
 3. Manufacturer's Instructions
 4. Catalog Data ("SPEC-DATA" Sheets)
 5. Material Safety Data Sheets (MSDS)
 6. Samples of all materials of construction, including but not limited to caulking, sealants, fasteners, and sheet metal.
 7. Shop Drawings
 8. Construction Schedule as submitted during bid stage, updated if necessary
 9. Certificates as approved Applicator by Manufacturer
 10. List of proposed storage facilities and their location(s)
 11. Proposed location(s) of dumpsters
 12. Schedule of Values (**Note:** each trade including labor and materials, as well as all unit price items, are to be included in the schedule of values. It is recommended that each individual roof area is further broken out for ease of payment approval.)
 13. Certificate of Dumping Facilities.
 14. Disposal Plan.
 15. Temporary protection plan and containment plan.
 16. The Contractor shall provide a detailed safety plan outlining the securement of equipment, staging, etc. related to the activities associated with working at the site.
- C. The Contractor shall make contract submissions in full packages. Any list of required submittals provided to the Contractor shall be responded to fully by the Contractor. Formal submissions by the Contractor which do not address every open article of the submittal list shall be returned to the Contractor for completion prior to review. Time issues resulting from the above shall be borne by the Contractor.

- D. Bi-weekly Submissions: At the end of each second weekly period during construction, the Contractor shall submit an updated construction schedule which will show the status of the work with respect to the schedule and anticipated completion date. A list of all completed work is also required. The Contractor shall pay particular attention to scheduling and coordinating interior access to perform the various renovations. The Contractor is cautioned that interior access may be required in the various clinical areas and patient rooms, and will need to be coordinated in advance.
- E. Prior to start of construction, the Contractor is to provide the Owner with copies of all building permits, etc.

1.3 SHOP DRAWINGS

- A. Original Submittal: Three (3) prints of all shop drawings shall be submitted for approval within five (5) days of Award of Contract.
- B. Shop drawings for all aspects of this project shall be submitted. The shop drawings shall include existing conditions, all applicable dimensions, new products to be installed, locations, etc.
- C. Resubmittal: When a resubmittal is required, one (1) copy so indicating will be returned to the Contractor. After revision, three (3) new prints shall be submitted for review.
- D. Review: The above procedure shall be repeated until approval is obtained. One (1) copy of the reviewed shop drawing will be returned to the Contractor, at which time the Contractor shall make prints in sufficient numbers for the Engineer (three copies), as well as sufficient copies for his use.
- E. Shop drawings of an engineering nature shall be sent directly to the Engineer for review, with a copy of the transmittal and one (1) print sent to the Owner.
- F. Transmittal: All reproducibles shall be transmitted rolled in mailing tubes and not folded.

1.4 RECORD DRAWINGS

The Contractor shall provide a copy of all Contract Drawings showing as-built conditions and any Contract changes to the Owner at the completion of the project.

1.5 SAMPLES

- A. Original Submittal: Three (3) samples, unless otherwise specified, of each item for which samples are required shall be furnished for approval. Approval shall be obtained prior to delivery of the materials to the project site. Such samples shall be representative of the actual material proposed for use in the project and of sufficient size to demonstrate design, color, texture and finish when these attributes will be exposed to view in the finished work.

- B. Resubmittal: All rejected samples will be returned upon request, and any or all resubmittals shall consist of three (3) new samples.
- C. Review: Upon approval by the Engineer, one sample so noted will be returned and the remainder will be retained by the Engineer until completion of the work. When requested, all approved samples will be returned for installation, provided their identity is maintained in an approved manner until final acceptance of the project.
- D. Important specific samples are specified in Technical Sections of the Specifications. The Contractor is cautioned to quickly provide specified samples.
- E. Each submittal item shall have the technical section and paragraph number clearly indicated. All submittal items without the proper designations will be returned and will not be reviewed.

1.6 CATALOG DATA

- A. Submittals: Three (3) copies of catalog data are required for the original submittal and each subsequent resubmittal along with shop drawings. Following review, one (1) copy will be returned with its status noted. If approved, such additional copies may be requested by the Engineer and shall be furnished without additional cost.
- B. Data: Each submittal shall have all pertinent data contained therein that is applicable to the item submitted for review, adequately and permanently designated.

1.7 MANUFACTURER'S INSTRUCTIONS

Where in these specifications an item is called for to be installed in accordance with the manufacturer's directions, specifications or recommendations, the Contractor shall furnish the Engineer with two (2) printed copies of said directions, specifications or recommendations, before the item is installed.

1.8 CERTIFICATES AND GUARANTEES

- A. Certificates of performance, treatment and conformance to specified standards shall be submitted prior to initiating work on the project.
- B. Copies of all guarantees required on the project shall be submitted for review and acceptance as to form.

1.9 IDENTIFICATION

- A. Data: All submittals for review shall have the following identification data, as applicable, contained thereon or permanently adhered thereto:
 - 1. Project name and location.
 - 2. Engineer's name.

3. Subcontractor's, Vendor's and/or Manufacturer's name and address.
 4. Product Identification. (It is important that the specific product intended for use is indicated on manufacturer's literature).
 5. Shop drawing title, drawing number, revision number and date of drawing and revision.
 6. Applicable Contract Drawings and Specification Section numbers.
- B. Catalog Data: Each separate catalog, brochure or single page submitted shall have the identification required hereinbefore.
1. Catalogs or brochures submitted containing multiple items for approval need the identification on the exterior and on each specific item clearly circled, flagged or otherwise identified.
 2. In the event that one or more of the multiple items are not approved in any submittal, the additional copies required will not be requested until all items are approved.
- C. Space: Vacant space approximately two and one-half inches wide by four inches high shall be provided adjacent to the identification data to receive the Engineer's status stamp.

1.10 CONTRACTOR'S RESPONSIBILITY

- A. Representation: By his submittal of any shop drawing or catalog data, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, or will do so, and that he has checked and coordinated each item with other applicable approved shop drawings and the Contract requirements. Certification shall appear on each shop drawing stating that the General Contractor has made this check. All drawings without this certification will be returned without examination.
- B. Deviations: Approval of shop drawings, samples or catalog data by the Engineer shall not authorize any deviation from the requirements of the Contract Documents, nor shall such approval relieve the Contractor from responsibility for errors or omissions therein. If the shop drawings deviate, or are intended to deviate from the Contract Documents, the Contractor shall so advise the Engineer in writing at the time the shop drawings are submitted, stating the difference between the Contract requirements and that denoted by the shop drawings. A brief explanation of the purpose for the change shall also accompany the deviated shop drawings.
- C. Prohibitions: No portion of the work requiring a shop drawing, sample or catalog data shall be started, nor shall any materials be fabricated or installed, prior to the approval of such item.

- D. Review: Project work, materials, fabrication and installation shall conform to approved shop drawings, applicable samples and catalog data.
- E. Failure to submit shop drawings in ample time for review, approval and resubmission (if required) prior to the commencement of construction shall not affect the completion date of the Contract.
- F. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Designer's receipt of submittal.
1. Initial Review: Allow **10** calendar days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Engineer will advise the Contractor when a submittal being processed must be delayed for coordination.
 2. Concurrent Review: Where concurrent review of submittals by the Engineer's consultants, or other parties is required, allow **10** calendar days for initial review of each submittal.
 3. Direct Transmittal to Consultant: Where the Contract Documents indicate that submittals may be transmitted directly to Engineer's consultants, provide duplicate copy of the transmittal to the Engineer. The submittal will be returned to Engineer before being returned to Contractor.
 4. If intermediate submittal is necessary, process it in same manner as initial submittal.
 5. Allow **10** calendar days for processing each re-submittal.
 6. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

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TEMPORARY FACILITIES

SECTION 01 50 00

PART 1 - GENERAL

1.1 DESCRIPTION

This Section contains instructions and requirements for the provision and utilization of temporary facilities to protect the Owner's property, the site and construction materials; and daily protection, maintenance and cleanup of the site, equipment, etc. during the project.

1.2 STORAGE FACILITIES

See Section 01 56 00, Weather Protection and Materials Storage.

1.3 SANITARY FACILITIES

A. Sanitary facilities shall be provided as required by local and state statute. They are to be provided by the General Contractor and located at Owner approved locations.

1.4 TEMPORARY PROTECTION

A. The Contractor shall supply, install and maintain all temporary fencing, barriers, protection, warning lines, lighting and personnel required to segregate the work area(s) and to prevent damage to the buildings, their occupants and the surrounding landscaped and paved areas. All applicable OSHA and D.L.I. requirements shall be observed by the Contractor.

B. Protect the building, roof areas and site areas not included in the construction. The Contractor shall replace or repair all building and site damage as a result of the construction to the satisfaction of the Owner at no cost to the Owner.

C. The Contractor shall provide guard lights on all barriers and all lighting necessary to prevent vandalism of work and storage areas. The Owner is not responsible for Contractor's losses due to damage or theft by vandals.

1.5 BARRIERS

A. The Contractor shall install temporary fencing, warning lines, barriers and the like, as required, to segregate the construction areas from existing facilities, occupants and the public. In the event that access cannot be interrupted in the construction area, the Contractor shall provide protection above doorways and walks in the construction area.

B. The Contractor is required to conform to OSHA requirements and all local, state and federal safety regulations.

- C. The Contractor shall provide warning lines inside of doors and adjacent to areas being renovated.

1.6 ELECTRICAL SERVICE

- A. Electrical service will be supplied by the Owner as long as use is limited. The Owner reserves the right to charge the Contractor for excessive electrical service usage. Should charges be considered, the Owner will notify the Contractor in writing. The use of a generator may be required to operate the automatic welding machines.

1.7 WATER

- A. The Owner will provide reasonable access to this service by identifying connection points that are reasonable in their distance from the work area. The Contractor must include the cost of extending this service to the work zone and providing suitable distribution at the work zone.
- B. Water will be provided by the Owner as long as use is limited. The Owner reserves the right to charge the Contractor for excessive use. Should charges be considered, the Owner will notify the Contractor in writing. The Contractor shall provide his/her own drinking water.

1.8 RUBBISH

- A. The Contractor shall supply adequate covered receptacles for waste, debris and rubbish.
- B. All receptacles must be immediately removed from the site when full and at the end of each workday.
- C. The grounds in the area of the receptacle must be cleaned daily and prior to moving the receptacle to another location on the project. Disposal shall be off-site in a legal dump intended for that use.
- D. The receptacles shall be located in areas designated by the Owner. Receptacles shall not remain adjacent to the building overnight.
- E. Receptacles shall be removed from the site daily. If, for any reason, receptacle removal is not possible on any given day, the Contractor shall move the receptacle a minimum of 50 feet from the building or as required by local fire officials.

1.9 EXISTING COMPONENT REMOVAL

- A. Under no circumstances shall the Contractor remove the existing systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.

1.10 PREPARATORY WORK BY THE CONTRACTOR

The Contractor will perform the following preparatory work to the building contents below the work areas:

- A. Protect all interior and exterior building elements. Seal all openings in the building as required to provide other containment/protection measures during removal operations.
- B. Upon completion of the work, remove all masking and protection and clean and restore the area to the satisfaction of the Owner.
- C. Soiled, stained or damaged interiors will be cleaned, repaired, or replaced by the Contractor to the satisfaction of and at no additional cost to the Owner.

1.11 CLEAN-UP

- A. Site clean-up shall be complete and to the satisfaction of the Owner. Site clean-up shall be performed daily.
- B. All building (interior and exterior), paved walks and adjacent streets shall be cleaned of all trash, debris, and dirt caused by or associated with the work.
- C. All landscape areas damaged or littered due to the work shall be raked clean and re-seeded if required.
- D. All paved areas shall be swept clean of debris daily.
- E. All areas stained, dirtied, discolored or otherwise damaged due to the work shall be cleaned, restored or replaced as required.
- F. All trash and debris shall be completely removed from the site daily during the work and at the completion of the project. All debris shall be legally disposed of offsite.

1.12 ACCESS TO THE WORK

- A. The Contractor must secure the permission of the Owner prior to entering the building or performing work at the building interior or exterior.
- B. The Contractors shall be responsible for any damages or stained interior components.
- C. The Owner will designate which portions of the site the Contractor may utilize and access for the performances of the work. The Contractor must submit a site plan indicating his locations of set up, staging and material storage.

1.13 PARKING

- A. It is assumed that limited space will be available at the site. The Contractor is encouraged to car pool.
- B. The Contractor will be responsible for obtaining and paying for all parking for the duration of the project.
- C. All on site parking shall be coordinated with the Owner.

1.14 TRAFFIC CONTROL

- A. The Contractor shall arrange and pay for all police details required to control traffic affected by any part of the work.

1.15 USE OF SITE

- A. Coordinate with the Owner an acceptable location for the set-up and storage area prior to mobilization. The Contractor may not utilize any other locations unless permission is obtained from the Owner.
- B. The Contractor must comply with all parking regulations of the School and the City/Town. Contractors are strongly encouraged to make arrangements for off-site parking. One (1) parking space will be available for the project superintendent. The Contractor will make any arrangements to shuttle workers from remote lots to the site or shall coordinate the use of public transportation or off-site parking.
- C. No other parking spaces are anticipated at the site at this time.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

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WEATHER PROTECTION AND MATERIALS STORAGE

SECTION 01 56 00

PART 1 - GENERAL

1.1 DESCRIPTION

This Section contains instructions and requirements for the provision and maintenance of adequate delivery, storage and handling on site of products and materials to be utilized in the Work.

1.2 MATERIAL DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in sufficient quantity to allow continuity of work. Deliver materials to the site in original sealed containers bearing manufacturer's name and brand designation. Where materials are covered by a referenced specification, containers or packages shall bear specification number, type and class as applicable. Do not deliver materials that are not approved for use. Remove such materials from the site immediately.
- B. Store materials in designated storage locations approved by the Owner. All flammable substances shall be brought to the site daily, and unused materials removed at the end of the workday.
- C. Store products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- D. Handle materials with equipment selected and operated so as not to damage the materials. Seal containers when their contents are not being used to prevent premature curing or damage to materials. Damaged or improperly stored materials shall be marked and removed from the site immediately.
- E. In the event that materials are exposed to the elements, they shall be marked as unacceptable and immediately removed from the site. They may not be used.
- F. On-site storage of materials is the responsibility of the Contractor. The Owner is not responsible for Contractor's losses due to damage or vandalism.

1.3 WEATHER PROTECTION

- A. Weather protection shall mean the temporary protection of that work adversely affected by moisture, wind, heat and cold by covering, patching, sealing, enclosing, ventilating, cooling and/or heating. This protection shall be provided for all work areas, the building and its contents, trafficked adjacent areas, and all construction materials and accessories.

- B. The cost of heat, fuel and power necessary for proper weather protection shall be the responsibility of the Contractor.
- C. Installation of weather protection shall comply with all safety regulations, including provisions for adequate ventilation and fire protection devices.

1.4 FIRE PROTECTION

- A. The Contractor shall provide all necessary temporary fire protection for the building, building contents and materials during construction. The Contractor shall provide incombustible protective blankets where necessary to protect surfaces or building contents from damage.
- B. At no time shall any combustibles be stored inside the building. All adhesives, caulks and cleaning solvents shall be stored well away from the building in a method approved by local fire officials.
- C. Should any cutting, burning or welding be necessary, the Contractor shall provide a fire watch continuously during the work and for a minimum of four (4) hours after the process is complete.
- D. At no time shall open flames be present around adhesives, caulks or cleaning solvents as they will readily ignite. Rags soaked with cleaning solvents shall not be discarded in the dumpsters, but shall be stored in a metal receptacle and removed from the site daily.
- E. The Contractor shall be required to comply with all local fire codes and shall obtain all permits necessary from the local fire department and provide one (1) copy to the Engineer.
- F. The Contractor shall provide recently tested, fully charged fire extinguishers around the storage area, rubbish receptacle and two (2) within 100 feet of the work area or as specifically required by local fire official's safety procedures.

1.5 NOTIFICATION

- A. If, during the Contract period, the Contractor is notified of insufficient weather protection, he shall, immediately, properly restore the weather protection and repair or replace any damaged unprotected materials and systems.
- B. Should the Contractor not enact immediate repair or replacement when notified, the Owner shall have the proper protection installed at the Contractor's expense. The Contractor is responsible for all damages to the building as a result of leaks.

1.6 MANUFACTURER'S INFORMATION

- A. The manufacturers of all the materials shall supply written instructions concerning the storage and handling of all supplied materials, including sealants, and accessories. The manufacturer shall also provide information concerning storage and handling of flammable or volatile materials.
- B. Storage facilities shall be acceptable to the manufacturer and conform to his written requirements concerning temperature, humidity, ventilation and the like.
- C. The "shelf-life" of materials shall be provided with the date of manufacture of all perishables, including volatiles, caulking and mastics.
- D. The Contractor shall supply a copy of all manufacturers' written instructions to the Owner and Engineer as outlined in Section 01 33 00 - Shop Drawings and Submittals. The Contractor shall comply with all storage and handling requests and instructions of the manufacturer.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

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PROJECT CLOSE-OUT

SECTION 01 70 00

PART 1 - GENERAL

1.1 DESCRIPTION

When the project is established to be substantially complete, preparations will be made to close out the project. The preparations are as follows:

1.2 PUNCH LIST

After the project is determined to be substantially complete, a representative of the Owner will tour the project and compile a "punch list" of minor unsatisfactory conditions. A copy of this list will be sent to the Contractor who shall then correct the unsatisfactory conditions. When all items on the list have been corrected, the Contractor shall notify the Owner's representative and a reinspection will be made by that representative. Minor "punch list" items shall be only those items which have been installed and are functional, requiring cosmetic repair or cleaning which does not affect the integrity of the system. Any work specified within the Contract Documents which has not been performed, or has been performed in a non-conforming manner to the Contract Documents shall not be defined as minor "punch-list" items, and must be performed or corrected as appropriate in order to achieve substantial completion.

1.3 PUNCH LIST REINSPECTIONS

After providing written notification to the Owner and Engineer that the punch list work has been completed, the Owner and Engineer will perform one final inspection.

Should additional re-inspections be required due to punch list items which are not completed or improperly completed, the costs of these re-inspections will be assessed to the Contractor as liquidated damages.

1.4 MANUFACTURER'S INSPECTION

After the reinspection by the Owner's representative, the Materials Manufacturer's representative will be required to tour the site. The representative shall determine if the materials have been installed as required by the Manufacturer. Any items the representative determines were not so installed shall be reinstalled so as to comply with the Manufacturer's intended use. The Manufacturer shall forward a copy of the list of all items determined to be not installed as intended by the Manufacturer to the Engineer.

1.5 GUARANTEES

When both the Owner's representative and the Manufacturer's representative agree that the Contractor has performed according to the Specifications, and has installed the materials to the satisfaction of the Manufacturer, the Contractor shall petition the Manufacturer for the materials guarantee. They shall forward this guarantee to the Owner and provide a copy for the Engineer.

The Contractor will be required to provide lien releases for their work. The Contractor shall then forward their guarantee covering the construction to the Owner and provide one (1) copy for the Engineer.

1.6 DOCUMENTS REQUIRED FROM THE CONTRACTOR PRIOR TO FINAL PAYMENT

A minimum of four (4) sets of close-out documents are to be placed in individual three ring binders and submitted to the Engineer for review. Three sets will be issued to the Owner, and one set retained by the Engineer.

- A. All applicable manufacturers' warranties stipulated in appropriate technical sections.
- B. Contractor's Two (2) Year Warranty.
- C. Executed Punch List Inspection letter.
- D. Consent of Surety Company to Final Payment.
- E. Contractor's Affidavit of Release of Liens and Lien Releases
- F. Contractor's Affidavit of Payment of Debts and Claims.
- G. Final Application and Certificate for Payment.
- H. Other documents which may be specifically required by the Owner, or the Engineer.

1.7 RETAINAGE RELEASE

When all guarantees, certifications and requested lien releases have been received, the Owner shall release to the Contractor the project retainage and any other monies retained by the Owner to guarantee project completion.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

MASONRY

SECTION 04 21 00

PART 1 - GENERAL

1.1 IN GENERAL

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

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 06 10 00 – Rough Carpentry
- B. Section 07 53 23 – EPDM Roofing

1.3 DESCRIPTION OF WORK

- A. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 2 remove existing masonry to accommodate new through wall flashing installation, rebuild masonry wall, including all accessories, and joint sealants as indicated in the contract drawings.
- B. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 4 remove existing masonry and metal wall panels to accommodate new through wall flashing installation, rebuild masonry wall, modify and reinstall metal panels including all accessories, and joint sealants as indicated in the contract drawings.

1.4 ALTERNATES

- A. Refer to specifications Section 01 23 00 ALTERNATES for scope of work.

1.5 JOB CONDITIONS

- A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.
- B. The Contractor shall use dust collection vacuums (HEPA vacuums) to limit airborne dust associated with grinding the existing mortar joints. All costs associated with additional power generators shall be the Contractor's responsibility.
- C. Coordinate the work in this section with the work by other trades to ensure the orderly progress of the work. All above roof line masonry repairs will be performed prior to the roof rehabilitations.

- D. Masonry repairs to be performed from the roof, including, throughwall flashing replacement and associated work shall be completed and accepted prior to initiating the roof replacement work. Under no circumstances shall this work be performed above newly installed roof systems.
- E. Materials which have a temperature other than the application temperatures of the manufacturer shall not be applied.
- F. Cold Weather Application - (Applies only to rebuilding, no repointing shall be completed when air temperature is less than 40°F). The Contractor shall comply with the following cold weather masonry construction requirements at no change in contract price and provide all necessary heat:
 1. The cold weather construction and protection requirements shall be closely followed.
 2. Construction materials shall be received, stored, and protected in ways that prevent water from entering the materials.
 3. If climatic conditions warrant, temperatures of construction materials should be measured. Frozen sand and wet masonry units must be thawed. Masonry units below 20°F must be heated above 20°F without overheating.
 4. Sufficient mortar ingredients should be heated to produce mortar temperatures between 40°F and 120°F. Every effort should be made to produce consecutive batches of mortar with the same temperatures falling within this range. The mortar temperature after mixing and before use should be above 40°F, maintainable either by auxiliary heaters under the mortar board or by more frequent mixing of mortar batches. Heated mortar on mortar boards should not become excessively hot (greater than 120°F).
 5. During below-normal temperatures, masonry should be placed only on sound unfrozen foundations. Masonry should never be placed on a snow or ice-covered surface, because of the danger of movement when the base thaws and the possibility of very little bond being developed between the mortar and the supporting surface.
 6. At the end of the day, the top surface of all masonry should be protected to prevent moisture, as rain, snow or sleet, from entering the masonry. This protection must cover the top surface and should extend a minimum of 2 feet down all sides of the masonry.

<u>WORK DAY TEMPERATURE</u>	<u>CONSTRUCTION REQUIREMENT</u>	<u>PROTECTION REQUIREMENT</u>
Above 40°F	Normal masonry procedures.	<i>Cover walls with plastic or canvas at end of work day to prevent water entering masonry.</i>
40°F - 32°F	Heat mixing water to produce mortar temperatures between 40°F - 120°F.	<i>Cover walls and materials to prevent wetting and freezing. Covers should be plastic or canvas.</i>

<u>WORK DAY TEMPERATURE</u>	<u>CONSTRUCTION REQUIREMENT</u>	<u>PROTECTION REQUIREMENT</u>
32°F - 25°F	Heat mixing water and sand to produce mortar temperatures between 40°F - 120°F.	<i>With wind velocities over 15 mph provide windbreaks during day and cover walls and materials at the end of the work day to prevent wetting and freezing.</i>
25°F - 20°F	Mortar on boards should be maintained above 40°F.	<i>Maintain masonry above freezing for 16 hours using auxiliary heat or insulated blankets.</i>
20°F - 0°F and below	Heat mixing water and sand to produce mortar temperatures between 40°F - 120°F.	<i>Provide enclosures and supply sufficient heat to maintain masonry enclosure above 32°F for 24 hours.</i>

Note: Construction requirements, while work is in progress, are based on *ambient* temperatures. Protections requirements, after masonry is placed, are based on *mean* daily temperatures.

- G. Hot Weather Application - The Contractor shall keep the areas being built sufficiently moist at all times during the operations. Mortar mixed and ready for application shall be used within one hour's time and continually remixed to prevent excessive evaporation of moisture from the mortar. Discard all mortar which has begun to set or is not used within two hours' time. Water for tempering shall be available at all times.
- H. Under no circumstances shall the Contractor remove existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.
- I. All areas of existing brick masonry removed shall be replaced or made secure and weathertight during the same day. No building interiors, whether new or existing shall be left exposed to the weather at the end of each workday.
- J. During removal operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures or personal property. Specific attention is drawn to the use of chemicals and cleaners.
- K. The Contractor shall put silt debris protection within the adjacent roofing drains to collect masonry dust from entering the leader lines.
- L. Fully charged, inspected and approved fire extinguishers shall be on site at all times. No cutting, grinding or welding of any kind shall proceed without an approved fully charged fire extinguisher.

- M. The general nature, quantity and surface area of the various work items are shown on the Contract Drawings.
- N. The Contractor shall provide a dust proof site during the course of the work. Wet cutting methods, dust tight staging and enclosures as well as other methods shall be employed as necessary to meet this requirement.

1.6 ROOF PROTECTION

- A. The roof systems are required to be totally protected in the masonry repair work areas by installing a layer of rigid board insulation followed by a layer of plywood. Plywood shall be adequately ballasted to prevent wind uplift of the plywood and roof system. The Contractor is responsible for any damages to the existing or new roof systems.
- B. Install tarpaulins secured with duct tape over all wall penetrations and over roof systems during brick masonry repair work and cleaning.
- C. The Contractor is responsible for the prompt repair of any damage to the roof systems resulting from the work at the project at no additional cost to the Owner.
- D. Masonry work will be performed prior to roof replacement.

1.7 DIMENSIONS AND QUANTITIES

- A. All dimensions and quantities shall be determined or verified by the Contractor. The Contract Drawings have been compiled from various sources and may not reflect the actual condition at the moment of construction. The Contractor is cautioned to take all precautions and make all investigations necessary to install the proposed work. The Owner will not consider unfamiliarity with the job conditions as a basis for additional compensation.

1.8 SUBMITTALS

- A. Submittals shall be made in accordance with the General Conditions and Section 01 33 00 – Submittals and Shop Drawings.
- B. The Contractor shall submit the following items with their submittal package:
 - 1. Methods of removal of materials
 - 2. Temporary protection procedures
 - 3. Staging/set-up procedures
 - 4. Program for containment of cleaning chemicals
- C. Submit a range of brick masonry units to match the existing color, size and texture.
- D. Proposed method for providing shoring during installation of new throughwall flashing.

- E. Proposed method of providing a dust proof site (dust removal) during masonry demolition work.
- F. Proposed method of protection for adjacent landscaping, pavement, walkways, site plantings, and related site work from damage.

1.9 TEST AREAS

- A. Before full scale work is commenced, execute the following work for trial work areas to be reviewed by the Owner as to acceptability of color, texture and appearance match with the existing construction. Test areas will be at locations established by the Owner and Engineer:
 - 1. 2 linear feet of throughwall flashing mock-up, including soldered connections, into the wall system
 - 2. 5 individual brick masonry units showing the range and blend of the colors
 - 3. 1 square feet of brick masonry cleaning
 - 4. 1 linear feet of sealant (per color options as selected by the Owner)
- B. A minimum of three (3) mortar samples will be required for the owner's review. However additional samples may be required due to the number of individual roof areas and wall elevations which are to be worked upon. In wall samples are preferred for large scale repointing, whereas sample cubes will be considered for isolated repair locations to match the existing mortar.
- C. Prepare, install and cure all materials in accordance with these specifications and the manufacturer's instructions.
- D. Trial areas shall be repeated until acceptable results are obtained. The accepted work shall be a standard for all subsequent work. Areas of masonry repointing shall be allowed to weather for seven days prior to Owner acceptance.

1.10 CLEAN-UP

- A. Site clean-up shall be complete and performed daily to the satisfaction of the Owner.
- B. All roof, building (interior and exterior), landscape and parking areas shall be cleaned of all trash, debris and dirt caused by, or associated with, the work.
- C. All trash and debris shall be completely removed from the site daily during the work and at the completion of the work. All debris shall be legally disposed of off-site.

1.11 GUARANTEES

- A. Upon completion of the work and prior to final payment, the Contractor shall submit a guarantee of his work as free from defect in materials and workmanship. The guarantee shall be for a period of one (1) year. The guarantee shall be signed by an officer of the Contractor's firm and sealed if a corporation.

PART 2 - MATERIALS

2.1 SALVAGED MATERIALS AND ITEMS

- A. All building materials, equipment and debris of whatever nature from the portions of the existing structure removed under this project and not designated to be reused or reinstalled shall become the property of the Contractor and legally disposed of offsite. The Contractor will be required to place all discarded materials in the appropriate rubbish receptacles for legal disposal by the Contractor.

2.2 BRICK MASONRY

- A. Replacement brick masonry shall conform to ASTM C 216, Grade SW, Type FBS specifications. Brick shall match existing in size, configuration, color and texture. The majority of the brick masonry units appear to be 2-1/4" x 3-1/2" x 7-3/4" in dimension. However, these units vary and will require confirmation prior to ordering.
- B. All brick shall be submitted to the Owner for acceptability as to color and appearance match with the existing brick. The Contractor may be required to submit additional brick samples for approval. No brick shall be purchased or installed until approval by the Owner is obtained.

2.3 MORTAR

- A. Mortar for rebuilding and replacing brick masonry shall be Type N, conforming to ASTM C270 specifications and shall match the existing in color, texture and appearance. Mortar shall conform to Parts 8 and 11 E of the BIA Technical Notes
- B. Mortar for repointing shall be Type N, conforming to ASTM C270 specifications and shall match the existing in color, texture and appearance. Mortar shall be prehydrated and conform to Part 7 of the BIA Technical Notes.
- C. Portland cement shall be Type II (Type III may be used only if previously approved) conforming to ASTM C150, specifications.
- D. Hydrated lime shall conform to ASTM C207, Type S specifications.
- E. Sand shall conform to ASTM C144, amended as follows:

Sieve Size	% Passing (By Weight)
#4	100
#8	95-100
#16	70-100
#30	40-75
#50	20-40
#100	10-25
#200	0-10

- F. Tinting or coloring agent shall be added to the sand, lime cement to color the fully-cured, in-place mortar to match the physical and chemical characteristics and specified requirements of the Type N mortar.
- G. Admixtures - No admixtures shall be allowed.
- H. Water shall be clean, potable tap water.

2.4 MASONRY CLEANERS

- A. Cleaner for newly-installed brick masonry and repointing areas shall be Sure-Kleen 101 lime solvent by Pro-So-Co, Inc., Hydroclean HT 455 by Hydrochemical Techniques, Inc. 200 Lime-Solv as manufactured by Diedrich Technologies, or approved equal. The cleaner shall be specifically recommended by the manufacturers for the removal of stains and efflorescence from brick masonry.
- B. Masking materials shall be commercially available masking or duct tape of appropriate width. Self-adhesive materials shall be completely strippable, leaving no adhesive residue when removed.
- C. Plastic sheet for masking tape areas shall be 4 mil. thick minimum polyethylene sheet of appropriate size to cover the required areas.

2.5 WEEPS

- A. Baffles to be installed in full head joint weeps of brick masonry shall be 3/8" x 2-1/2" x 3-3/8" baffle comprised of a bonded cellular material such as Wire Bond - Cell Vent, No. 3601 as manufactured by Masonry Reinforcing Corporation of America, Quadro-Vent by Hohmann & Barnard, Inc., Mortar Maze Cell Vent by Advanced Building Products, Inc. or approved equal.

2.6 MASONRY WALL TIES

- A. Lateral masonry ties shall be stainless steel, #345 BT - Flexible Tie as manufactured by Hohmann & Barnard, Inc., #103-C Triangular Wire Veneer Anchor with #316 Triangle Tie as manufactured by Heckman Building Products, Inc., or and approved equivalent acceptable to the Designer.
- B. Fasteners for securing brick masonry ties shall be 1/4" diameter hammer drive anchors with zinc sheaths, stainless steel pins and flat heads such as Zamac Nailins by Powers Fasteners, HIT anchor by Hilti, Masonry Anchor by Olympic Fasteners or approved equal. Fasteners shall penetrate the substrate 1-1/2" minimum.

2.7 SHEET METAL FLASINGS, PREFORMED FLASHINGS, AND ACCESSORIES

- A. Tin-Zinc coated copper shall conform to ASTM B370 specifications, and shall be 16 oz. as specified. Sheet length shall be 8' maximum.
- B. Copper fabric flashing shall consist of a full 5 oz. copper sheet permanently bonded between two layers of textured, woven high tensile strength glass fabric with asphalt compound or epoxy based coating. Primers and mastic adhesive required for the proper installation of the fabric flashing shall be as specifically recommended by the fabric flashing manufacturer. Fabric flashings shall be as manufactured by York Manufacturing, Inc., Advanced Building Products, Inc., Hohmann & Barnard, Inc. or approved equal.
- C. All accessories, including but not limited to nails, screws and clips shall be stainless steel or galvanized steel and completely compatible with the surrounding metal to prevent galvanic reaction. Galvanizing shall be per ASTM A153-09.
- D. Termination bars shall be 1/8" x 1" stainless steel or aluminum bar (as required to prevent galvanic action with the flashings being secured) with pre-punched holes at 6" on center, or as required by the membrane manufacturer.
- E. Rivets shall be 3/16" diameter copper or stainless steel as required by the metal being secured.
- F. Fasteners for securing termination bar at top of throughwall flashing shall be 1" to 1-1/2" long drive pins with zinc alloy sheaths as manufactured by Star, Rawl, or approved equal.
- G. Solder and flux for copper shall be 50% block tin and 50% pig lead conforming to ASTM B32, grade Sn60 and Type IS respectively.
- H. Sheet metal flashings shall be shop fabricated. All breaks, bends and hems shall be uniform, clean, straight lines.
 - 1. All aluminum joints shall be adequately overlapped, back-sealed, and riveted.
 - 2. Flanges shall be 4" wide minimum.
 - 3. Drip edges shall be hemmed 3/4" wide and break at a 30° angle.
 - 4. Where cleats and clips are fastened to substrate, edge of metal shall be folded back over the fastener head.
 - 5. Clips shall be 2" wide.
 - 6. All copper joints shall be soldered.
 - 7. Seams shall be formed of a single lock, crimped and soldered.
 - 8. Expansion seams shall be single lock and sealed.

9. All flanges to be covered with roofing or flashing membranes shall have a 1/4" minimum hem on the edge.
10. All sheet metal joints shall have 6" wide cover and backer plates.
11. Blind nailers shall be 4" wide, folded to 2" wide final dimension.
12. Fascia reveals shall not exceed 8". Fascia requiring a greater vertical face than 8" shall be fabricated as a two piece system with each face of equal exposure.
13. Maintain equal fascia height around entire perimeter of each roof area and where fascias abut.

I. Fabrication Schedule

Note, similar flashing components have been listed under multiple metal fabrications type and thicknesses. The Sub-Contractor shall coordinate the use of compatible metals to prevent galvanic corrosion, and coordinate painted finish components at visible locations.

1. 16 oz. Tin-Zinc Coated Copper
 - a. Throughwall Flashings
 - b. Blind Nailers
 - c. Counter Flashings
 - d. Securement Clips

J. Mastic for back-sealing sheet metal against non-metal substrates shall be as recommended by the roofing or underlayment manufacturer. Concealed sealant for back-sealing metal-to-metal connections shall be single-component, butyl (polyisobutylene) rubber sealant, heavy bodied for joints with limited movement.

K. Red Rosin paper (separation layer) shall be 5-pound kraft paper.

PART 3 - EXECUTION

3.1 GENERAL WORKMANSHIP

- A. Follow all applicable local, state and federal requirements regarding construction of scaffolding and protection of the public safety. Specific reference should be made to OSHA Construction Safety Regulations.
- B. Set up of scaffolding or similar access and location of on-site storage areas shall be subject to review and approval by the Owner.
- C. Do not leave any partially completed sections exposed to the elements overnight. Provide all devices (including heaters and insulation) necessary to maintain areas at the correct temperature and humidity for proper curing of mortar.

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- D. During freezing weather, the Contractor shall protect all masonry with tarpaulins or other approved material. Masonry materials shall be stacked on platforms and covered, or stored in a manner acceptable to the Owner, to protect them from contact with soil and weather exposure. Materials with stained faces will not be used in the walls.
- E. No masonry work shall be executed when the temperature in the work area has dropped below 40 degrees F unless it is rising. The Contractor shall provide heat and maintain the temperature of masonry materials and protect the completed work from freezing. Protection shall consist of heating and maintaining the temperature of masonry materials to at least 40 degrees F, but not more than 100 degrees F, and maintain an air temperature above 40 degrees F on both sides of completed masonry for a period of at least 72-hours.
- F. Keep covers tightly sealed on all evaporative products to prevent premature curing.
- G. Masonry work including cleaning shall be performed prior to replacement of the roofing beneath. The entire roof adjacent to masonry work must be protected with ½-inch minimum rigid insulation with plywood atop.
- H. All debris shall be transported to dumpsters, in locations approved by the Owner, at ground level by enclosed chute or crane and scaling bucket. Uncontrolled dropping of debris to ground level will not be permitted.
- I. During the removal of any existing component, the Contractor shall report to the Owner any areas of damaged, deteriorated or otherwise unsuitable framing, wood blocking, or wall materials uncovered during the work. Do not cover unacceptable areas until reviewed by the Owner and Engineer. Provide temporary protection to the area in question.
- J. Any wall areas opened for replacement shall receive the new system that day and shall be enclosed with masonry. Should rebuilding of masonry not be completed, temporary weather protection and shoring for the wall shall be provided by the Masonry Contractor at no additional charge to the Owner.
- K. If needed, the Contractor shall lay-up replacement brick masonry units plumb, level, and true to the lines and dimensions at the existing walls. Chipped or broken units shall not be used. If any such units are placed in the finished wall, they shall be removed and replaced with new units at no additional cost to the Owner.
- L. The removal and replacement of individual brick masonry units are included in the Base Bid at the locations shown on the Contact Drawings. Adjacent bricks damaged or removed as a result of the work will be removed and replaced at no cost to the Owner.
- M. Adjacent bricks damaged will be removed and replaced at no cost to the Owner.

- N. All shoring of the brick masonry components will be the responsibility, of the masonry Contractor. Maximum spacing of temporary shoring shall be 12-inches on center. Any damage as a result of insufficient shoring shall be repaired or replaced at no additional cost to the Owner.
- O. Refer to Brick Industry Association (BIA) technical notes for standard practice for masonry repointing, rebuilding and repair.

3.2 MASONRY STORAGE

- A. Storage of all masonry shall be in the area designated by the Owner. All stored masonry units shall be covered.

3.3 SHORING OF THE BRICK MASONRY

- A. It is the responsibility of the Contractor to design and carry out shoring procedures sufficient to comply with applicable regulations, securely support all masonry or other elements left unsupported by the required removals of brick masonry, and permit the work of other trades to proceed.
- B. The Contractor shall be present to remove and reinstall shoring as required to install new throughwall flashings and to coordinate with other trades' work.
- C. The Contractor shall protect recently installed throughwall flashing components and membranes from being damaged by the shoring components. If damages occur, the Contractor shall be responsible to replace damage sections at no additional cost to the Owner.
- D. Masonry is to be removed in 4-foot maximum lengths and shored.
- E. Notify Engineer and Owner immediately if cracks occur in mortar joints of brick intended to remain. Contractor will be responsible to cut out the damaged joint area and repoint it after removal of shoring at no additional cost to the Owner.
- F. Point all holes left in mortar by withdrawal of shore fastenings, if used.
- G. Completely remove shoring system when no longer needed.
- H. Notify the Owner 48 hours in advance of installation of shoring.

3.4 REMOVAL OF BRICK MASONRY

- A. Coordinate the elevation height of the finished roof surface with that of Section 07 54 00 – Thermoplastic Roofing to confirm the location of the new throughwall flashing heights.

- B. Remove brick masonry units in the locations shown on the Contract Drawings. Use hand and power tools to remove masonry. Pneumatic demolition tools are not permitted.
- C. Remove maximum four (4) linear foot sections of masonry walls at a time, or as required to prevent deflection or displacement of the existing masonry to remain. Shore the sections as required to prevent displacement.
- D. Saw-cut surrounding mortar joints and remove the designated masonry units. Remove adjacent units as required. Provide temporary shoring and protection as necessary.
- E. Remove masonry units in a manner so as not to damage sound materials designated to remain.
- F. All throughwall flashings shall extend a minimum of 8-inches beyond the limits of the roof edges beyond, and shall be terminated with an end dam.

3.5 THROUGHWALL FLASHINGS

- A. Fabricate new flashing and extend rear leg of flashing 2-inch minimum up the back of the wall or as shown on the Contract Drawings. Secure the rear leg of the flashing to the back-up masonry wall with the specified fasteners and termination bar. Provide a full bead of sealant behind the flashing.
- B. Form the flashing to shed water. Provide 2-inch high end dams at limits of throughwall flashings. Provide completely watertight seams and overlaps. Rivet and solder end dam connections. End dams shall finish 2-inches high minimum.
- C. Overlap adjacent sections of flashing to be soldered 3-inches minimum. Rivet overlaps and completely envelope rivets in solder. At expansion joint locations, provide 6-inches minimum overlaps which are sealed with mastic.
- D. Provide the finished profile for the exposed portion of the flashing as shown on the Contract Drawings.
- E. Install copper fabric flashing in a full bed of sealant over the vertical surface of the existing concrete masonry unit wall and flashing. All seams shall be lapped 3-inches minimum and set in full bed of sealant. Secure copper fabric to concrete masonry unit wall with pre-punched termination bar at 6-inches on center. Extend fabric ½-inch minimum beyond the exterior face of the brick masonry wall face and 8-inches minimum up the back of the wall. Secure the copper fabric flashing to the backup wall with the specified fasteners and termination bar. Provide a bead of sealant at the top of the termination bar, tooled to shed water.
- F. Coordinate the installation of the roof flashings and sheet metal counter flashings.

- G. Note, the existing backup wall configurations vary; provide field confirmation of all dimensions prior to fabricating the flashings. Where irregularities in the surface occur, backer rod and filler material can be used to provide positive support for fabric coated copper flashings. Unsupported flashing will not be acceptable

3.6 BRICK MASONRY REPLACEMENT

- A. Coordinate the installation of new throughwall flashings with Section 07 50 00 – Elastomeric Roofing and Flashing and Section 07 62 00 – Sheet Metal Flashing. Install weeps at base of new throughwall flashing at 24-inches on center, maximum. Weeps are to be set directly on the throughwall flashings without a bed of mortar. Should the weeps be set in the mortar bed, they shall be spaced at 16-inches on center, max.
- B. Reconstruct brickwork with new brick to follow the existing profile and configuration. All brick masonry shall be plumb, level and true to the lines and dimensions of existing wall. Chipped or broken units shall not be used. If any such units are placed in the finished wall they shall be removed and replaced with new units at no additional cost to the Owner.
- C. Provide supplemental anchors into the back-up wall at 16-inches on center both horizontally and vertically. Where anchors penetrate throughwall flashings, seal fastener heads with mastic to provide a watertight assembly.
- D. The Contractor shall supply all jacks, shoring and temporary supports necessary to support brickwork above and adjacent to any area to assure proper installation of the work.
- E. Wet all new and existing masonry units in the work area. Masonry shall be kept damp but without standing water.
- F. Utilize rotary mixers when fabricating all mortar. Be sure to maintain relative proportions of mortar materials to provide the texture and color to match the existing mortar. No anti-freeze compounds or other substances shall be added to the mortar. Mix all mortar for at least three (3) minutes and not more than five (5) minutes with the minimum amount of water to produce a workable consistency. The maximum allowable air content of cured mortar shall be 12% by volume. Retempering of mortars that have stiffened because of evaporation of water will be allowed in order to provide the proper consistency provided all mortar in a batch is utilized within two (2) hours of initial mixing.
- G. Set each brick in a full bed of mortar and build upward. Tool all joints to a concave profile. Fully butter all heads.
- H. Provide supplemental anchors into the back-up wall at 16-inches on center horizontally. Where anchors penetration throughwall flashings, seal fastener heads with mastic to provide a watertight assembly.

- I. Exercise extreme caution to avoid damaging the existing flashing.
- J. Work mortar into joints for complete width and depth. Consolidate and tool into joint using concave tooling equipment to completely fill the joint cavity to match the existing joint profile. Tool exposed joints slightly concave with a round or other suitable jointer when the mortar is thumbprint hard. For horizontal joints, jointers shall be at least 12 inches long for brickwork. Jointers shall be slightly larger than the width of the joint so that complete contact is made along the edges of the units, compressing and sealing the surface of the joint. Strike flush joints that will not be exposed. Tool vertical joints first. Brush joints to remove all loose and excess mortar. Horizontal joints shall be level, vertical joints shall be plumb and in alignment from top to bottom of wall.
- K. Set new masonry unit in full beds of mortar, top, bottom and sides. Utilize slate wedges as required to maintain mortar joint width. Masonry above throughwall flashings shall be set in full beds of mortar. Should new masonry set in mortar require removal due to un-level/plumb conditions, that masonry unit shall be removed from the work area, cleaned and allowed to dry prior to reinstallation.
- L. Provide full joint depth of new mortar. Strike off and tool joints to match existing joint configuration. Allow areas to fully cure prior to cleaning.
- M. Where brick masonry replacement occurs in areas to be repointed, rake back joints and repoint together with the wall area.
- N. Totally clean the areas of masonry rebuilding only after the rebuilding is completed and the mortar has been allowed to cure for 8-days minimum. Clean surfaces free of all dust, dirt and mortar stains as described in this section.

3.7 MASONRY CLEANING

- A. Totally clean all repaired, or repointed masonry areas of all construction stains and excess mortar. Do not perform any cleaning until mortar joints and adjacent sealants are fully cured.
- B. Test the specified cleaners on a small area of masonry wall to determine compatibility with the masonry, flashings, window units, sealants, etc. Evidence of discoloration, metallic salts or other detritus shall be grounds for requiring the use of a substitute cleaner.
- C. The Contractor will be required to clean the masonry units with the minimum cleaning solution mix ratios as recommended by the cleaner manufacturer. Should the minimum dilution ratios not clean the masonry, the Contractor will be required to slightly decrease the dilution rates to clean the surfaces. It is recommended that the Contractor use care when performing the masonry repairs to prevent increasing the mixing solutions.

- D. Apply the cleaner at the manufacturer's recommended dilution rate and dwell duration. Pre-wet the wall if the manufacturer so recommends.
- E. Allow the cleaner to stand for the manufacturer's recommended dwell period while monitoring to ensure that the surface does not dry. Steel bristle wire brushes are not to be used.
- F. Rinse all cleaner from the wall with water applied at the manufacturer's recommended flow and pressure. High pressure washing equipment may be required. Any acid neutralizing agent required by the manufacturer shall be applied as part of this rinse. Ensure that effluent does not accumulate at ground level, and fully rinse all effluent from sidewalks, streets and landscaping each day.
- G. The Contractor must provide sufficient site protection to prevent the cleaning effluent from draining into the adjacent storm drains. The Contractor will provide a narrative as to how the site protection will be performed.

3.8 CLEAN-UP

- A. Prior to acceptance of the masonry work covered in this section, the Contractor shall perform a thorough clean-up of the work site, building surfaces, landscaping, etc. Any plantings or other items damaged shall be repaired or replaced to the satisfaction of and at no additional cost to the Owner.

END OF SECTION

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ROUGH CARPENTRY

SECTION 06 10 00

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made part of this section of the Specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 04 21 00 – Masonry
B. Section 07 53 23 – EPDM Roofing
C. Section 26 10 00 – Temporary Mechanical Electrical Disconnects

1.3 SCOPE OF WORK

In general, the General Contractor shall supply all labor, materials, equipment, temporary protection, tools and appliances necessary for the proper completion of the work in this Section, as required in the Specifications and in accordance with good construction practice. The work under this Section generally includes the following:

- A. Provide all shoring and temporary protection as required to complete the work.
1. Provide and install new wood blocking at roof penetrations, roof perimeters, roof to wall locations, and as required to properly terminate the new roofing and flashing systems. Coordinate the final wood blocking heights with the insulation configuration to provide a uniform height around the perimeter of each roof – refer to Section 07 50 00 – EPDM Roofing for additional information.
- B. Provide and install plywood sheathing where indicated.
- C. Install new wood sleepers at designated locations to support equipment above the roof surface.
- D. Clean and restore all areas affected by the work.
- E. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 2 provide new plywood to accommodate new through wall flashing installation as indicated in the contract drawings.
- F. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 3 provide wood blocking as indicated in the contract drawings.

- G. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 4 provide new plywood to accommodate new through wall flashing installation and provide new roof edge wood blocking as indicated in the contract drawings.

1.4 ALTERNATES

- A. Refer to specifications Section 01 23 00 ALTERNATES for scope of work.

1.5 JOB CONDITIONS

- A. All surfaces to receive the new wood blocking shall be thoroughly dry. Should surface moisture such as dew exist, the Contractor shall provide the necessary equipment to dry the surface prior to application. Do not dry with open flames.
- B. Protect all existing and new wood stored on site to prevent moisture absorption. Use tarps over the wood pile (top, sides and bottom) elevated on pallets (one side lower to shed water).
- C. If delays in the project exceeding one (1) week are anticipated due to inclement weather (or due to any other condition), all wood shall be stored in weatherproof box trailers or storage sheds in locations to be designated by the Owner.
- D. Do not leave any newly installed wood blocking exposed. Cover and protect all newly installed wood daily with the new flashing system.
- E. Disconnect the electrical power and mechanical equipment prior to the start of demolition. Notify the Owner at least 48 hours in advance so that power will be shut off and occupancy eliminated below.

1.6 SUBMITTALS

- A. Shop Drawings and Submittals shall be made in accordance with the General Conditions and Section 01 33 00 – Submittal Procedures.
- B. Grading Certificates for all lumber and plywood shall be submitted.

1.7 GUARANTEE

- A. The Contractor shall supply the Owner with a minimum one-year workmanship warranty for their work. In the event any work related to this section is found to be defective within one year of substantial completion, the Contractor shall remove and replace such at no additional cost to the Owner.

PART 2 - MATERIALS

2.1 DIMENSIONAL LUMBER

- A. All dimensional lumber shall be construction grade Southern Yellow Pine/Spruce/Fir, formed to the dimensions shown on the details and as required for proper installation of the new work. All new exterior perimeter woodwork, nailers and wood blocking used on the building shall be minimum 6" wide, except where otherwise detailed.
- B. Wood shall have a maximum moisture content of 19% by weight on a dry weight basis. Pressure treated wood preservatives are not to be used.
- C. Pressure treated wood blocking will only be permitted when wood furring or blocking is in direct contact with concrete, masonry, or exposed to the weather.

2.2 PLYWOOD

- A. Plywood shall be APA Grade A-C, Exterior, thickness as indicated on the detail drawings or as required to match the existing thickness. Plywood shall have a maximum moisture content of 19% by weight on a dry weight basis.

2.3 FASTENERS AND ANCHORS

- A. In general, all fasteners, anchors, nails, straps, and other accessories shall be of stainless steel or galvanized steel. Galvanizing shall be hot dip in accordance with ASTM A153 requirements. Electro-galvanized items shall not be used.
- B. Fasteners for securing wood to wood connections shall be galvanized annular ring shank nails. Fasteners shall be of sufficient length to penetrate the receiving member a minimum 1-1/2", except full depth into plywood.
- C. Fasteners for securing wood blocking and plywood to steel shall be Number 12 minimum coated steel deck screws, with a minimum 1-inch embedment.
- D. Fasteners for securing plywood to concrete or masonry surfaces shall be 1/4" diameter hammer drive anchors with zinc-alloy sheaths and stainless steel inserts as manufactured by Star Fasteners, Rawl, OMG or approved equal. Anchors shall be of sufficient length to penetrate the receiving substrate 1-1/4" minimum.
- E. Fasteners for securing to pressure treated wood blocking shall be stainless steel.

2.4 PREFORMED SILICONE STRIPS

- A. Preformed Silicone Strips: Silicone seals specifically designed for use in repair of failed construction joints. Silicone strips shall incorporate one flat side and one ribbed side for enhanced adhesion. Sealant to be used with silicone strips shall be as manufactured by the silicone strip manufacturer. Provide 3-inch min. width strips

or as required to provide one-inch min. adhesion on both sides of joint. Color shall be to match adjacent substrates or as requested by the Owner.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; 123 Silicone Seal
 - b. Tremco Inc.; Spectrem Simple Seal
 - c. Pecora Corporation; Sil-Span
 - d. Approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
- D. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- E. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
- F. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.
- G. Refer to FM Data Sheet 1-49 concerning spacing requirements for perimeter blocking anchorage. All anchors and fasteners that attach wood blocking to the structure shall have their spacing halved for an 8-foot length away from all exterior corners of the perimeter.
- H. Do not deliver to the site or install any material or system that has not been submitted to, reviewed and commented on by the Owner.
- I. Prepared surfaces must be clean and dry. Fill, chip or grind as required to provide a smooth, uniform surface.

3.2 REMOVAL OF WOOD BLOCKING

- A. Remove and dispose of all deteriorated wood blocking and all blocking scheduled to be removed and replaced in accordance with the Contract Drawings and this Specification.
- B. During removal and replacement of woodwork, the Contractor shall report to the Owner and Engineer any existing wood blocking designated to remain which is deteriorated or unsuitable. Do not cover unacceptable areas until reviewed by the Engineer and provide temporary protection to the area in question. Existing blocking scheduled to remain shall be re-secured with the appropriate fasteners spaced 24-inches on center to the existing roof deck or structure.

3.3 PERIMETER WOOD BLOCKING INSTALLATION

- A. The perimeter wood blocking shall be installed at a consistent, even height throughout that roof area to provide a flush transition from insulation to blocking and provide an even and continuous line for metal fascia installation.
- B. All butt joints in woodwork shall be flush to provide a smooth, uniform line with no irregularities. Built-up blocking shall have butt joints staggered 4-feet minimum layer to layer. The minimum length of any individual piece of woodwork shall be 2-feet. All lengths of woodwork shall have a minimum of 2 fasteners. Layers of wood blocking at corners shall be interlocked to provide additional stability.
- C. At roof perimeters, the wood blocking and plywood shall be installed as detailed. Provide 8-inch nominal wide blocking at roof perimeters unless otherwise detailed.
- D. Existing wood blocking and curbs may be required to be cut back or trimmed to provide an even flush assembly as shown on the Detail Drawings. This shall be accomplished with power or hand tools. Should cutting of existing components reduce or eliminate securement of their components, the Contractor shall re-secure with the appropriate fasteners.

3.4 FASTENING OF WOODWORK

- A. All existing woodwork to be reused shall be re-secured with the specified fasteners spaced 12-inches on center maximum, to the roof deck. The Contractor shall be made aware that the re-securement fasteners may need to penetrate multiple layers of existing wood blocking before penetrating the roof deck and shall provide proper length fasteners.
- B. Wood blocking to wood blocking connections shall be made using the specified nails spaced 12-inches on center maximum and staggered off the centerline of the woodwork being secured. Nails shall be of sufficient length to penetrate the receiving member 1-1/2-inches minimum.
- C. Plywood shall be fastened to vertical concrete, and metal surfaces with the specified fasteners spaced 8-inches on center both vertically and horizontally.

- D. Plywood shall be fastened to vertical stud framing or masonry substrates with the specified fasteners spaced 6-inches on center maximum vertically.
- E. Spacing of fasteners should not exceed 12-inches, 8-feet each way from outside corners. Withdrawal resistance should be 100 lbs. per nail minimum.

3.5 PLYWOOD SHEATHING INSTALLATION

Coordinate this work with that of the other trades to provide the orderly progress of construction and a water tight condition. It is the intent of these specifications to clad the designated walls to prevent water infiltration at the lower limits of the roof to wall locations. It is not the intent to clad the entire building, but only those designated areas which have rising walls directly above the roof systems.

- A. Secure ½-inch minimum thick plywood sheathing over the substrate accepting the new EPDM wall flashings. Coordinate the wall cladding with that of the finished roof surface to provide a minimum 8-inch flashing height. Where practical, the plywood assembly can be sized to allow the plywood surface to be flush with the wood blocking around the perimeter of the roof system.

3.6 PERFORMED SILICONE STRIP INSTALLATION

- A. Prepare and clean substrate surface to receive sealant in accordance with sealant and silicone strip manufacturer's instructions. Surface must be sound, clean and dry.
- B. Install 1-inch wide min. continuous bead of sealant along building substrate to accept silicone strips on both sides of joint or seam to be stripped in. Install only as much sealant as can be used prior to skinning.
- C. Immediately embed the silicone strip into the wet sealant. Use a small seam roller to lightly press the silicone strip into the sealant and force sealant into the grooves of the strip.

END OF SECTION

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EPDM ROOFING

SECTION 07 53 23

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 04 21 00 – Masonry
B. Section 06 10 00 – Rough Carpentry
C. Section 08 44 13 – Glazed Aluminum Curtain Walls
D. Section 26 10 00 – Temporary Mechanical Electrical Disconnects

1.3 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Coordinate staging, planking and scaffolding requirements with Section 015000 – TEMPORARY FACILITIES AND CONTROLS.
 2. Remove designated locations of wet insulation, roof membrane and associated components down to the existing roof deck as indicated in the Contract Drawings. Infill areas of removed wet insulation with new insulation, height to match the existing adjacent insulation, and install new elastomeric membrane, vapor retarder, cover board, and associated components, at designated locations indicated on the Contract Drawings.
 3. Expose, properly prepare, and strip-in designated areas of failed existing field fabricated EPDM seams, at locations and as indicated in the Contract Drawings. Include field fabricated seams, base flashing seams, and penetration seams as required.
 4. Remove and replace delaminated, failed, torn, or otherwise open EPDM membrane patches at locations and as indicated in the Contract Drawings.
 5. Install batten strips, and associated components at locations and as indicated on the Contract Drawings.
 6. Remove and replace pourable sealer pocket sealant at mechanical penetrations at locations and as indicated in the Construction Drawings.

7. Re-secure and repair all sheet metal roof edge metal defects at locations and as indicated in the Construction Drawings.
8. Strip-in cracked sheet metal and solder joints on sheet metal flashings with EPDM membrane.
9. Strip-in failed parapet cap flashing joints and seams with EPDM membrane.
10. Repair or replace low vent pipe flashings and other low flashing to provide a minimum 8" flashing height above finished roof.
11. Reset failed reglet flashings where indicated on the Contract Drawings.
12. Remove and replace failed sealant at reglet flashing and other locations indicated on the Contract Drawings.
13. Coordinate with Section 26 10 00 – Temporary Mechanical Electrical Disconnects.

B. Alternates:

1. Alternate Number One (1): Removal and replacement of the sealants and installation of new sheet metal flashing at the base of the curtain walls above Roof Area A. Coordinate with Section 08 44 13 GLAZED ALUMINUM CURTAIN WALLS for roof flashing terminations. Refer to the Contract Drawings for additional information.
2. Alternate Number Two (2): Removal and replacement of the partial area of Roof Area B.1, removal and replacement of throughwall flashings, sheet metal, and roof edges. Coordinate with Section 04 21 00 Masonry for throughwall flashing installation. Refer to the Contract Drawings for additional information.
3. Alternate Number Three (3): Roofing repairs around the roof access door on Roof Area C.2. Refer to Contract Drawings for additional information.
4. Alternate Number Four (4): Full roof replacement of Roof Area A.2, including new parapet caps, throughwall flashings and roof accessories. Coordinate with Section 04 21 00 for throughwall flashing installation. Refer to the Contract Drawings for additional information.

C. Items To Be Installed Only: Not Applicable.

D. Items To Be Furnished Only: Not Applicable.

1.4 DEFINITIONS

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

1.5 UNIT PRICES

- A. Refer to Specification Section 01 22 00 for Scope of Work..

1.6 ALTERNATES

- A. Refer to specifications Section 01 23 00 ALTERNATES for scope of work.

1.7 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Roofing system shall be designed to withstand Code required loads and wind speeds.
- D. Flashings: Provide base flashings, perimeter flashings, detail flashings and component materials that comply with requirements and recommendations in FMG 1-49 Loss Prevention Data Sheet for Perimeter Flashings; FMG 1-29 Loss Prevention Data Sheet for Above Deck Roof Components; NRCA Roofing and Waterproofing Manual (Fourth Edition) for Construction Details and SMACNA Architectural Sheet Metal Manual (Fifth Edition) for Construction Details, as applicable.

1.8 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Insulation fastening patterns.
- C. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

- D. Qualification Data: For Installer and manufacturer.
- E. Design Letter: Roofing system manufacturer's Design Acceptance Letter identifying components, warranty and wind speed.
- F. Maintenance Data: For roofing system to include in maintenance manuals.
- G. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.9 QUALITY ASSURANCE

- A. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer.
- B. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 01. Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with the Team's Project Manager; Designer; roofing Installer; roofing system manufacturer's representative; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.11 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.12 WARRANTY

- A. Roofing Contractor's Warranty: The roofing subcontractor shall supply User Agency with a minimum two-year workmanship warranty for each roof, starting at the date of Substantial Completion of the portion of the Project of which the roof is a part. In the event any work related to the roofing, flashing, or metalwork is found to be defective within two years of substantial completion, the roofing contractor shall remove and replace such at no additional cost to the Commonwealth. The roofing subcontractor's warranty obligation shall run directly to the building owner (User Agency), and a copy the roofing signed warranty shall be sent to the roofing system's manufacturer.
- B. For Alternate Number Four (4) provide a Roofing Systems Manufacturer's Warranty: The roofing manufacturer shall guarantee roof areas to be in a watertight condition and free from seam separation and the delamination of the roofing system components, for a period of 25 years, from the date of final acceptance of the roofing system. The warranty shall be a 25-year no dollar limit, non-prorated total system labor, and material warranty, for wind speeds up to 75 miles per hour. The total system warranty shall include all roofing materials, related components, and accessories including, but not limited to the baseboard, air barrier, insulation board, cover board, roofing membrane, membrane flashings, fasteners, adhesives and termination metals and roof drain assemblies. The manufacturer shall repair leaks and defects, in materials and workmanship as promptly after observation as weather and site conditions permit.

PART 2 - PRODUCTS

2.1 EPDM ROOFING MEMBRANE

- A. EPDM Roofing Membrane: ASTM D 4637, Type I, nonreinforced uniform, flexible sheet made from EPDM, and as follows:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Carlisle Coatings & Waterproofing Inc.
 - b. Firestone Building Products Company.
 - c. Johns Manville International, Inc.
 - d. Versico Inc.
2. Thickness: 60 mils (1.5 mm) nominal.
3. Exposed Face Color: Black.

2.2 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
 1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: 60-mil-thick EPDM, partially cured or cured, according to application.
- C. Bonding Adhesive: Manufacturer's standard bonding adhesive.
- D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch-wide minimum with cover strip or 6-inch-wide, butyl splice tape with release film.
- E. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.
- F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- G. Metal Termination Bars: Manufacturer's standard predrilled stainless steel or aluminum bars, approximately 1 by 1/8-inch thick; with anchors.
- H. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
- I. Miscellaneous Accessories: Provide preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.
- J. Metal Batten Strip: Manufacturer's standard predrilled hot dipped galvanized steel or aluminum bars, approximately 1" in width, with anchors.

2.3 ROOF INSULATION

- A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
1. Insulation thickness to match the existing adjacent insulation.
- B. Flat Stock and tapered polyisocyanurate insulation shall be skinned with factory-applied fiberglass bituminous felt as manufactured by Celotex, Johns Manville, or as supplied by the membrane manufacturer as required to meet membrane manufacturer's requirements.
1. The polyisocyanurate insulation shall have an area weighted aged R-Value of 5.6 per inch to match existing thickness.
 2. The polyisocyanurate insulation board shall conform to ASTM Specification C 1289, Type II, Class 1, Grade 2 (20 psi minimum).
 3. The polyisocyanurate insulation board size to be adhered directly over base sheets or the concrete roof deck shall be 4' x 4' square and of uniform dimension.
 4. Insulation fillers shall be of the thickness required to match surrounding insulation when step tapering tapered edge strips.
 5. Polyisocyanurate insulation shall be approved in writing by the insulation and membrane manufacturer that the methods of attachment are covered under the membrane manufacturer's labor and material warranty. Copies of the written acceptance shall be forwarded to the Engineer.
- C. Wood fiberboard insulation for use as tapered edge strips:
1. Fiberboard shall be high density; non-asphalt impregnated and conform to ASTM C208-72 Specifications.
 2. Tapered edge strips shall be 18" wide and 1-5/8" thick, tapering to a feathered edge.
 3. Fiberboard insulation shall be approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer.

2.4 COVERBOARD FOR ROOF REPAIR AREAS

- A. Coverboard insulation shall be High Density Fiberboard to match the existing roof system for roof repair areas. Fiberboard shall be high density, non-asphalt impregnated and conform to ASTM C208-72 Specifications. The boards shall be a maximum of 4' x 4' in size and approved in writing by the membrane manufacturer. Boards shall be square with uniform thickness and dimensions. Fiberboard insulation shall be approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer.

2.5 COVERBOARD FOR ALTERNATE NUMBER FOUR

- A. Coverboard shall be 1/2" minimum thick, gypsum-fiber, moisture resistant board such as Securock as manufactured by National Gypsum Products or approved equal as required by the roof manufacturer. The boards shall be a maximum of 4' x 4' in size and shall conform to ASTM E84. Boards shall be square with uniform thickness and dimensions. The board shall be approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer. Coverboard shall be adhered to insulation.
- B. If approved by the manufacturer at no additional cost to the Owner, coverboard insulation shall be High Density polyisocyanurate coverboard. Coverboard shall be 1/2" minimum thick, glass mat faced high density polyisocyanurate insulation board as required by the roofing manufacturer. The boards shall be a maximum of 4' x 4' in size and approved in writing by the membrane manufacturer. Coverboard insulation shall conform to ASTM C1289 Type II specifications. Compressive strength shall be greater than 90 psi minimum in accordance with ASTM D 1621. Dimensional stability shall be less than 0.5% in accordance with ASTM D 2126. Water Absorption shall be 3.0% or less in accordance with ASTM C 209. Should the manufacturer require another form of cover board, specific to their warranty requirements, such as a moisture resistant gypsum product, it shall be submitted as part of their assembly letter, and at no additional cost to the Owner.

2.6 COLD ADHESIVE FOR COVERBOARD/INSULATION SECUREMENT

- A. Adhesive to adhere the coverboard and insulation shall be a two-component, cold-process, asbestos free, low-rise polyurethane foam adhesive conforming to ASTM D276, D2556, D1875, D429, D816, D1876, D412. Adhesive shall meet the required FM rating and shall be approved in writing by the membrane manufacturer and included as part of the warranty coverage. Adhesive shall be as recommended by the roofing manufacturer and as required by FMG to achieve a full system warranty for the new roof system.

2.7 BASEBOARD (Metal Deck Roof Areas)

- A. Baseboard shall be 1/2" minimum thick, Type X, cellulosic-fiber-reinforced, moisture resistant gypsum core board such as that manufactured by Georgia Pacific or approved equal as required by the roof manufacturer. The boards shall be a maximum of 4' x 8' in size and shall conform to ASTM E84. Boards shall be square with uniform thickness and dimensions. The board shall be approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer.

2.8 SELF-ADHERED VAPOR RETARDER

- A. Self-adhering vapor retarder shall be 32 mil minimum composite consisting of rubberized asphalt and polypropylene sheet as required by the membrane manufacturer such as V-Force Vapor Barrier Membrane as manufactured by

Firestone, 725TR as manufactured by Carlisle Syntec, Versico 725TR as manufactured by Versico, or approved equal. Utilize compatible primer for concrete deck.

2.9 FASTENERS

- A. In general, fasteners, straps and other hardware shall be copper, brass, stainless steel or hot-dip galvanized steel. Galvanizing shall be per ASTM A 153-82 specifications.
- B. All accessories, including, but not limited to nails, screws, clips, fastening strips, etc. shall be completely compatible with the material being fastened to prevent galvanic reaction and premature deterioration.
- C. Nails for membrane and flashing terminations shall be No. 12 Stubbs gauge, large head, threaded shank, hot dip galvanized roofing nails of sufficient length to penetrate the wood blocking 1-1/4" minimum.
- D. Fasteners for terminating roof membrane and flashing at concrete or masonry walls shall be minimum 1-1/2" long drive pins in zinc sheaths as manufactured by Star, Rawl or approved equal. Embedment into masonry shall be 1-1/4", minimum.
- E. Fasteners for securing fan units to metal curb shall be stainless steel hex head self-drilling screws with stainless steel capped EPDM washers of the next larger size than the existing fastener.
- F. Base Board, Insulation, and Peel Stop Fasteners at Metal Roof Deck: shall be #15, self-drilling, self-tapping screws of sufficient length to penetrate the metal roof decking by 1 inch., with a fluorocarbon coating in conformance with FM 4470 specifications, installed through minimum 3-inches diameter (nominal), 26-gauge galvalume coated steel stress plates, as recommended by the insulation and membrane manufacturers or an accepted substitute.
- G. Insulation Fasteners: Base Board, Insulation, and Peel Stop Fasteners at Concrete Roof Deck: shall be #14, self-drilling screws of sufficient length to penetrate the concrete roof deck, with a fluorocarbon coating in conformance with FM 4470 specifications, installed through minimum 3-inches diameter (nominal), 26 gauge galvalume coated steel stress plates, as recommended by the insulation and membrane manufacturers or an accepted substitute, as recommended by the insulation and membrane manufacturers or an accepted substitute.
- H. Nails for flashing securement at wood substrates shall be No. 12 Stubbs gauge, large head, threaded shank, copper or galvanized steel nails minimum 1-inch long.

2.10 POURABLE SEALER BOX COMPONENTS

- A. Inorganic filler for pourable sealer boxes shall be a pre-mixed spray applied polyurethane foam such as Froth-Pak by Insta-Foam Products, Inc., or approved equal.

- B. Pourable sealer for boxes shall be two-part, fluid applied polyurethane based material of 100% solids as manufactured by the membrane manufacturer.

2.11 SEALANTS AND ACCESSORIES

- A. Sealant for sheet metal flashings and other exposed locations shall be a one-part polyurethane conforming to ASTM C920-87, Type S, Grade NS, Class 25, Uses NT, M, A, and O such as manufactured by Tremco, BASF-Sonneborn, Sika Corp., or approved equal.
- B. Color(s) shall be selected by the Owner from the approved manufacturer's color chart. Colors shall be the manufacturer's available premium colors such as "Color Pak" by Tremco or approved equal.
- C. Primer shall be non-staining type as manufactured or recommended by the sealant manufacturer for each substrate.
- D. Substrate cleaner shall be non-corrosive and non-staining as recommended by the sealant manufacturer. Cleaner shall be totally compatible with the sealant for each substrate.
- E. Bond breaker tape shall be pressure-sensitive tape as recommended by the sealant manufacturer.
- F. Masking material shall be commercially available masking tape of appropriate width or other material recommended by the sealant manufacturer. Self-adhesive masking materials shall be of low tack and completely strippable, leaving no adhesive residue behind when removed.

2.12 SHEET METALS

- A. Aluminum shall be 0.032", 0.040", and 0.050" thick Kynar 500 Fluoropolymer painted aluminum as shown on the Contract Drawings. Color(s) to be selected by the Owner. Aluminum shall have a mill finish for concealed items. Aluminum shall be 3003 alloy, H-14 temper.
- B. All accessories, including but not limited to nails, screws and clips shall be stainless steel or galvanized steel and completely compatible with the surrounding metal to prevent galvanic reaction. Galvanizing shall be per ASTM A153-09.
- C. Clamps shall be screw adjustable stainless steel hose clamps with a minimum 3/8" band width.
- D. Rivets shall be 3/16" diameter copper or stainless steel as required by the metal being secured.
- E. Sheet metal flashings shall be shop fabricated. All breaks, bends and hems shall be uniform, clean, straight lines.

1. All aluminum joints shall be adequately overlapped, back-sealed, and riveted.
2. Flanges shall be 4" wide minimum.
3. Drip edges shall be hemmed ¾-inch wide and break at a 30o angle.
4. Clips shall be 2-inch wide.
5. All flanges to be covered with roofing or flashing membranes shall have a ¼-inch minimum hem on the edge.
6. All sheet metal joints shall have 6-inch wide cover and backer plates.
7. Blind nailers shall be 4-inch wide, folded to 2-inch wide final dimension.
8. Fascia reveals shall not exceed 8-inch. Fascia requiring a greater vertical face than 8-inch shall be fabricated as a two-piece system with each face of equal exposure.
9. Maintain equal fascia height around entire perimeter of each roof area and where fascias abut.

2.13 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- C. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- D. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- E. Mastic for back-sealing sheet metal against non-metal substrates shall be as recommended by the underlayment manufacturer. Concealed sealant for back-sealing metal-to-metal connections shall be single-component, butyl (polyisobutylene) rubber sealant, heavy bodied for joints with limited movement.
- F. Self-Adhering Modified Bitumen shall be a 40-mil thick minimum with 4 mil, high-density polyethylene film and release paper backing formulated for high temperature installation in accordance with ASTM D 1970.

- G. Self-Adhering Modified Bitumen shall be a 40-mil thick minimum with 4-mil, high-density polyethylene film and release paper backing formulated for high temperature installation in accordance with ASTM D 1970.

2.14 FABRICATION SCHEDULE

- A. Note, similar flashing components have been listed under multiple metal fabrications type and thicknesses. The Contractor shall coordinate the use of compatible metals to prevent galvanic corrosion, and coordinate painted finish components at visible locations.
1. 0.032" Coated Aluminum:
 - a. Edge Metal
 - b. Parapet Caps
 - c. Blind Nailers
 - d. Pourable Sealer Boxes
 - e. Skirt Flashing
 - f. Blind Nailers
 - g. Backer Plates
 2. 0.040" Thick Coated Aluminum:
 - a. 2-inch Wide Clips
 - b. Door Threshold Panning
 3. 0.050" Thick Coated, or Mill Finished Aluminum:
 - a. Continuous Hook Strips

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSTALLATION OF SELF-ADHERED VAPOR RETARDER

- A. Apply manufacturer's approved primer to prepared substrate in accordance with the manufacturer's written instructions. The substrate must be clean, dry and free of dust, grease or other contaminants.
- B. Self-Adhered vapor barrier must be installed on the same day as the primer application. Allow primer to dry completely and install the vapor retarder. Do not install when it is raining, snowing, or on wet/humid surfaces. Install in temperatures 32°F and above.
- C. Unroll self-adhered vapor barrier on the substrate without adhering for alignment. Overlap each preceding sheet by 3 inches lengthwise following the reference line and by 6 inches at each end. Stagger end laps by at least 12 inches. Do not immediately remove the release sheet.
- D. Once aligned, peel back a portion of the release sheet and press the membrane onto the substrate for initial adherence. Hold self-adhered vapor barrier tight and peel back the release sheet by pulling diagonally.
- E. Use a 75 lb. roller to press the self-adhered vapor barrier down into the substrate including the laps. Finish by aligning the edge of the roller with the lower end of the side laps and rolling up the membrane. Do not cut the membrane to remove air bubbles trapped under the laps. Squeeze out air bubbles by pushing the roller to the edge of the laps.

3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so that insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Remove the designated wet locations and replace with new insulation. Should additional sections of wet insulation be encountered, notify the Owner's Representative for direction to proceed.

- C. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- D. Install one or more layers of insulation under area of roofing to achieve required thickness. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
 - 1. In areas of removal, a minimum 3" overlap should be provided so no joint spans through two or more layers.
- E. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - 1. Cut and fit insulation within 1/4-inch of nailers, projections, and penetrations.
- F. Install coverboard at wet roof repair areas aligned with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
- G. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using specified mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
 - 2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof. Finished system will meet FM I-75 compliance for installation of the specified assembly over the roof decks.

3.5 COVERBOARD INSTALLATION AT REPLACEMENT AREAS

- A. Install coverboard in cold adhesive applied in strict accordance with the adhesive manufacturer's written instructions to achieve the required warranty.
- B. Install the coverboard and immediately "walk" the system into place to spread the adhesive for maximum contact. Stagger all end joints to the middle of the long dimension of adjacent boards, 24" minimum. Continue to "walk" the coverboard every 5 to 7 minutes until firm adhesion is achieved. Ballast the boards to prevent cupping. Redistribute ballast to ensure full bonding of the system.
- C. Ensure that the boards are totally adhered prior to application of roof membrane.

3.6 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

- B. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required to meet FM I-75, manufacturer requirements and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
- E. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.
- G. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations as required by roofing manufacturer.
- H. Repair tears, voids, and lapped seams in roofing that do not meet requirements.
- I. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

3.7 SEAM REPAIRS

- A. First cleaning: spray the existing elastomeric membrane to either side of the lap seams (with manufacturer's recommended cleaning solution. Rinse and remove all accumulated debris. Scrub with a brush or power wash membrane with a mixture of water and soap. Rinse thoroughly.
- B. Second cleaning: clean all seam areas at least twice in two separate applications with new rags and cleaner each time. Change the rags and cleaner frequently. It is imperative that these seam areas be totally clean.
- C. Install manufacturer's splice adhesive to cleaned seams as recommended by the membrane manufacturer. Apply self-adhered flashing membrane for the full width of the seam. The flashing membrane should be centered and extend 3" inches beyond the lap on either side. Totally clean the completed splice for a distance of 1" on either side of the edge of the top sheet using clean rags and cleaner. Apply a continuous bead of lap sealant to the edge of the spliced sheet and feather out bead using preformed trowel. Lap sealant must be set daily as the work progresses.

3.8 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings.

3.9 FIELD QUALITY CONTROL

- A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.
- C. Final Roof Inspection: Engage roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Designer.
 - 1. Notify Designer and the Team's Project Manager 48 hours in advance of date and time of inspection.
- D. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

3.10 SHEET METAL INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with

bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

1. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip-sheet or install a course of polyethylene underlayment.
 3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
1. Space cleats not more than 12-inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10-feet with no joints allowed within 24-inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used, or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1-inch-deep, filled with elastomeric sealant concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4-inches for nails and not less than 3/4-inch for wood screws.
1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 2. Aluminum: Use aluminum or stainless steel fasteners.
 3. Stainless Steel: Use stainless-steel fasteners.
- H. Seal joints with elastomeric sealant as required for watertight construction.
1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1-inch into sealant. Form joints to completely

conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.

- I. Aluminum Flashing: Rivet or weld joints in uncoated aluminum where necessary for strength.

3.11 INSTALLATION OF PERIMETER WOOD BLOCKING

- A. Coordinate the installation of the perimeter wood blocking with Section 061000 – ROUGH CARPENTRY.

3.12 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4-inches over base flashing. Install stainless steel draw band and tighten.
 - 1. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4-inches over base flashing. Lap counterflashing joints a minimum of 4-inches and bed with elastomeric sealant.
 - 2. Secure in a waterproof manner by means of snap-in installation and sealant.
- C. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
 - 1. Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for flashing on vent piping.

3.13 POURABLE SEALER BOXES

- A. Coordinate the installation of the pourable sealer box as indicated on the Contract Drawings.
- B. Pourable sealer boxes shall be fabricated to fit snug over existing pourable sealer boxes designated to remain.

- C. Pourable sealer boxes shall be filled with pourable elastomeric sealer and tooled along the top surface to shed water. Pockets shall extend 2-inch minimum above the existing pourable sealer boxes.
- D. Inorganic fillers may be used but shall be installed to provide a sealant depth of 2-inch minimum. See Detail Drawings.
- E. The seams of the sheet metal flashing shall be heat welded to provide a water tight detail, and where practical, shall extend eight inches above the finished roof surface. Note that it is the intent of this project to provide pipe wrap details in lieu of pourable sealer boxes when applicable.
- F. Seal the lower limits of the penetration prior to the application of the pourable sealer.

3.14 SKIRT FLASHINGS

- A. Fabricate skirt flashings to the configurations shown on the Contract Drawings.
- B. Insert flashings beneath new counterflashings or skirt flashings as detailed. Overlap adjacent sections a minimum of 3-inch.
- C. Secure wall flashing skirt flashing with clips at 12-inches on center and a minimum of two per section. All fasteners shall be concealed.

3.15 COUNTERFLASHINGS

- A. Fabricate new counterflashing and receivers to the dimensions and shapes where shown in the Contract Drawings and as specified herein.
- B. Secure counter-flashings with clips where indicated. Fabricate and secure clips as previously specified.

3.16 BLIND NAILERS

- A. Fabricate and install blind nailer with a 2-inch minimum leg inserted behind membrane. Fasten flashing through leg of blind nailer.
- B. Fold blind nailer to 2-inch wide final dimension with ½-inch hemmed edge over fastener.
- C. Provide continuous beads of sealant at back and leading edges.

3.17 CONTINUOUS CLEATS AND HOOK STRIPS

- A. Form continuous cleats/hook strips with ¾-inch kicks, bent out at a 30° angle to the face or wall. Height of continuous cleats/hook strips shall be as indicated on the Detail Drawings.

- B. Secure continuous cleats/hook strips to wood blocking with the specified fasteners spaced at 6-inches on center.
- C. Provide 1/8-inch butt joints between hook strip sections.

3.18 SECUREMENT CLIPS

- A. Secure clips to substrate with the specified fasteners at minimum 6-inches on center, or as indicated on the Detail Drawings.
- B. Bend clips a minimum of 1-inch over bottom drip edge of flashing and crimp tightly.

3.19 DOOR THRESHOLD

- A. Remove the existing door threshold and associated flashings.
- B. Install new self-adhering modified bitumen membrane flashing as indicated on the drawings.
- C. Install new sheet metal sill panning over the membrane flashing and mechanically fasten to inside vertical side of the masonry curb. Match outside profile of new sill panning with the new counterflashing profile adjacent to the door threshold.
- D. Secure existing door threshold with mechanical fasteners as recommended by the threshold manufacturer and set threshold in 2-beds of sealant.

3.20 PROTECTING AND CLEANING

- A. Protect membrane-roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Designer and the Team's Project Manager.
- B. Correct deficiencies in or remove membrane-roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane-roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

GLAZED ALUMINUM CURTAIN WALLS

SECTION 08 44 13

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made part of this section of the Specifications.
- B. This Section includes flashing repairs to existing glazed aluminum thermally broken stick-built curtain wall systems, including all accessories, and joint sealants.

1.2 DESCRIPTION OF WORK

- A. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Glazed aluminum-framed curtain wall system.
- B. Alternates: Refer to Section 01 23 00 – ALTERNATES, Alternate No. 1 flashing repairs to existing glazed aluminum thermally broken stick-built curtain wall systems, including all accessories, and joint sealants as indicated in the contract drawings.

1.3 RELATED REQUIREMENTS

- A. Related Sections include the following:
 - 1. Section 07 53 23 – EPDM ROOFING

1.4 ALTERNATES

- A. Refer to specifications Section 01 23 00 ALTERNATES for scope of work.

1.5 REFERENCES

Except as otherwise specified, comply with listed references.

- A. Aluminum Association (AA).
- B. American Institute of Steel Construction (AISC).
- C. American Society of Civil Engineers (ASCE)
- D. American National Standards Institute (ANSI)
- E. American Welding Society (AWS).

- F. American Architectural Manufacturers Association (AAMA).
- G. ASTM International.

1.6 PERFORMANCE REQUIREMENTS

- A. General: Provide glazed aluminum curtain wall systems, including anchorage, capable of withstanding, without failure, the effects of the following:
 - 1. Structural loads.

1.7 ACTION SUBMITTALS

- A. Product Data: Include required sets of construction details, material descriptions, dimensions of individual components, profiles and finishes for each type of product indicated.
- B. Shop Drawings: Include required sets prepared by or under supervision of a qualified professional structural engineer licensed in the state of Vermont, detailing the fabrication and assembly of glazed aluminum curtain wall systems fully coordinated with results of construction survey of existing conditions.
 - 1. Include plans, elevations, sections full-size details and attachments to other work. Details shall be fully drawn (not outlined) and annotated. Provide scaled drawings with scale identified. If production is in metric units, include IPS equivalents. Print drawings to correct scale. Drawings shall include the following information.
 - 2. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
 - 3. Include full-size isometric details of each vertical-to-horizontal intersection of glazed aluminum curtain walls, showing the following:
 - a. Joinery, including concealed welds, and internal sealants.
 - b. Anchorage
 - c. Expansion provisions.
 - d. Glazing, including setting blocks, side blocks, gaskets and sealants.
 - e. Flashing and drainage, including weeps and weep trails.
 - 4. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
 - 5. Note and describe all materials, indicate sources of adjustability to meet varying field conditions, and note limits on tolerances.
 - 6. Prepare shop drawings only after field measurements and documentation of existing conditions. All trades must participate in the shop drawings to produce a fully coordinated set.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified installer.
- B. Manufacturer's installation instructions for curtain wall assembly.
- C. Preconstruction Sealant Test Reports: Provide compatibility and adhesion test reports from sealant manufacturer indicating that materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with sealants; include sealant manufacturer's interpretation of test results for sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.
- D. Sample Warranties: Special warranties specified in this Section.

1.8 CLOSEOUT SUBMITTALS

- A. Warranties: Specified warranties.

1.9 QUALITY ASSURANCE

- A. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.
 - 1. Do not modify intended aesthetic effects, as judged solely by the Architect, except with the Architect's approval in writing. If modifications are proposed, submit comprehensive explanatory data to the Architect for review.

1.10 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of structural supports for glazed aluminum curtain wall systems by field measurements before fabrication and indicate measurements on Shop Drawings.
- B. Coordination: Exercise precautions to effectively insulate curtain wall anchors from exposure to air space between spandrel insulation and back face of fiber cement panel.

1.11 WARRANTY

- A. Workmanship Warranty: Written warranty signed by the installer agreeing to repair or replace work which exhibits defects in workmanship.

1. Warranty Period: 2 years from the date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 1. Sheet and plate: ASTM B209 (ASTM B209M).
 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM 221 (ASTM 221M).
 3. Extruded Structural Pipe and Tubes: ASTM B429.
 4. Structural Profiles: ASTM B308 and ASTM B308M).
 5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.
- B. Brackets and Reinforcements: Manufacturer's standard corrosion-resistant, non-staining, nonferrous shims for aligning components.
- C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads or vibration.
 2. Reinforce members as required to receive fastener threads.
 3. Use exposed fasteners with counter sunk Philips screw heads, finished to match framing system, fabricated from 300 series stainless steel.
- D. Anchors, Clips and Accessories: Aluminum, non-magnetic stainless steel, or hot dipped galvanized steel complying with ASTM B633 for SC3 service conditions, and providing sufficient strength to withstand design pressures indicated.
- E. Pressure Plates: Provide pressure plates as follows.
 1. Horizontal pressure plates shall be pultruded fiberglass and fastened to mullions with stainless steel screws. Fiberglass pressure plates shall be tested to ASTM D638, D695, D790, D953, and D3846.
 2. Vertical pressure plates shall be extruded aluminum fastened to mullions with stainless steel screws.
- F. Concealed Flashing: Dead-soft, 0.018-inch (0.457 mm) thick stainless steel, ASTM A240A/A240M of type recommended by manufacturer.
- G. Framing Gaskets: As recommended by manufacturer for joint type.
- H. Framing Sealants: As recommended by manufacturer for joint type.
- I. Formed and Extruded Aluminum Trim and Closures: 0.125-inch minimum thickness, finished as selected by Architect. Provide insulated closures.

- J. Snap Caps at Atypical Horizontal Mullions: Provide extruded aluminum snap cap profile chamfered at top edge to maintain standard 2 ½” vertical face for atypical horizontal mullions located at vertical expansion joints.

2.2 ALUMINUM FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designating finishes.
- B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- C. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C1240R1x (Chemical Finish: cleaned with inhibited chemicals: Chemical Finish: conversion coating of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.
 - 1. Application on Exterior: Color and gloss as selected by Owner from manufacturer's standard range of "white".
- D. Acrylic, Polyester or High-Solids Pigmented Organic Coatings: Manufacturer's factory spray-applied one-coat, thermocured system for extrusions, structural shapes, sheet or plate, conforming to AAMA 2603. Prepare, pretreat and apply coating to exposed metal surfaces to comply with AAMA 2603 and coating manufacturer's written instructions.
 - 1. Application on Interior: Color and gloss as selected by Owner from manufacturer's standard range.

2.3 ACCESSORY MATERIALS

- A. Bituminous Paint: Cold-applied asphaltic-mastic paint complying with SSPS-Paint 12 requirements, except containing no asbestos, formulated for 30-mil thickness per coat.
 - 2.

2.4 SOURCE QUALITY CONTROL

- A. Perform quality-control procedures including, but not limited to, system material qualification procedures, sealant testing, and system fabrication review and checks.

2.5 FLASHING AND ACCESSORIES

- A. Sheet metal for exposed flashings shall be .040” thick painted aluminum. Aluminum shall be finished on both surfaces.

- B. Sheet metal flashings shall be shop fabricated. All breaks, bends and hems shall be uniform, clean, straight lines.
 - 1. Drips shall be hemmed 3/4" wide and break at a 30° angle.
- C. Fabrication Schedule:
 - 1. Aluminum, painted finish (.040"), color to match frames
 - a. Sill Flashing

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General:
 - 1. Comply with manufacturer's written instructions and recommendations.
 - 2. Do not install damaged components.
 - 3. Fit joints to produce hairline joints free of burrs and distortion.
 - 4. Rigidly secure non-movement joints.
 - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 - 6. Weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.
 - 7. Seal joints watertight, unless otherwise indicated.
- B. Metal Protection.
 - 1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
 - 2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Remove existing pressure plates and covers.
- D. Install perimeter sill sealant and backer rod.
- E. Insert sheet metal flashing into glazing pocket and secure new pressure plate. Confirm that components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

- F. Install new cover trim.
- G. Install components plumb and true in alignment with established lines and grades.
- H. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Services: Testing and inspecting of representative areas to determine compliance of installed system with specified requirements shall take place on both the McAuley and on the Mercy building (two separate sets of tests and inspections) as follows and in successive stages as indicated. Do not proceed with installation of the next area until test results for the previously completed areas show compliance with requirements.
 - 1. Water Spray Test: After the installation of the glazed aluminum curtain wall system has been completed, one work area, designated by Architect, shall be tested according to AAMA 501.2 and shall not evidence water penetration.
- C. Cooperate with Owner's testing and inspection agency in scheduling preparations, field tests and inspections. Provide water and power and access to areas for testing and inspections.
- D. Repair or remove work where test results and inspections indicate that it does not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.4 PROTECTION

- A. Provide temporary protection during construction operations, and immediately after completion to ensure that the Work is not damaged or deteriorated at time of final acceptance.

3.5 CLEANING AND TOUCH-UP

- A. Clean exposed surfaces using materials and methods recommended by manufacturer. Remove and replace work which cannot be satisfactorily cleaned.
 - 1. Clean aluminum framing and components, complying with coating manufacturer's recommendations.

END OF SECTION

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TEMPORARY MECHANICAL ELECTRICAL DISCONNECTS

SECTION 26 10 00

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. The General Conditions, and all parts of the Bid and Contract Documents are made part of this Section as if fully repeated herein.
- B. Refer to Division 1, Sections 01 11 00 – 01 70 00 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. Section 07 53 23 – EPDM Roofing

1.3 SCOPE OF WORK

This Section specifies requirements for the following Scope of Work:

- A. Disconnect, reconnect or extend mechanical systems at existing roof mounted equipment where required due removal and replacement of the roof system.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Electrical components used in the extension and reconnection of electrical conduit, wiring, and connections shall be UL approved.
- B. In general, the Contractor shall supply all labor, materials, equipment, temporary protection, tools and appliances necessary for the proper completion of the work in this Section, as required in the Specifications, in accordance with SMACNA manuals and good sheet metal industry practice.

PART 3 - EXECUTION

3.1 IN GENERAL

- A. Mechanical, electrical, and associated work shall be performed by licensed tradesmen and shall comply with the Massachusetts Electrical Code (527 CMR).
- B. Mechanical, ductwork and associated work shall be performed by licensed tradesmen and shall comply with the Massachusetts Building Code (780 CMR) and Massachusetts Fuel Gas and Plumbing Code (248CMR) and Sheet Metal and Air Conditioning Contractor's National Association, Inc. (SMACNA) Guidelines, where applicable.

- C. Wherever possible match the existing mechanical and electrical components.
- D. Handle, store, and protect equipment and materials to prevent damage before and during installation.

3.2 MECHANICAL DISCONNECT AND RECONNECT

- A. Any disconnection of the electrical power or mechanical equipment shall be made prior to the start of demolition. Notify the Owner at least 48 hours in advance so that power will be shut off and occupancy eliminated. All disconnection and reconnection shall be performed by licensed tradesmen in accordance with the Building Codes.

END OF SECTION

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