

Dickson Memorial Chapel Greenlawn Cemetery

57 Orne Street
Salem, Massachusetts 01970

November 18, 2016



McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803

Structures North 
CONSULTING ENGINEERS, INC.

60 Washington Street, Suite 401
P.O. Box 01971-8560
Salem, MA 01970-3517

This project is partially funded through a grant from the Massachusetts Historical Commission.

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SECTION 00020

INVITATION FOR BIDS

Sealed bids for the Dickson Memorial Chapel, Greenlawn Cemetery will be received at the Office of the City Purchasing Agent, 93 Washington Street, 2nd Floor until the time specified below at which time the proposals will be publicly opened and read:

ITEM

BID OPENING

General Contractor Bids

December 20, 2016 at 2:00pm

The work includes stained glass window and tracery restoration, exterior masonry repairs, repairs to interior wood floor joists and other closely associated repairs. All stained glass work must abide by the American Institute for Conservation of Historic and Artistic Work's Code of Ethics and Guidelines for Practice.

Bidding documents and bid forms may be obtained from the Office of the City Purchasing Agent, 93 Washington St., 2nd Floor after 10:00 a.m. on November 23, 2016, upon receipt of a \$25 refundable deposit in cash or check made payable to the City of Salem. This office is open Monday through Wednesday between 8:00 a.m. and 4:00 p.m., on Thursdays between 8:00 a.m. and 7:00 p.m. and on Fridays from 8:00 a.m. to 12:00 p.m. Bid documents can be mailed upon request and receipt of a separate non-refundable check for \$25 payable to the City of Salem. Bid packages will consist of one bound Project Manual and one 11 x 17 set of Drawings. Bid document deposits will be refunded only if bid documents are returned to the City of Salem Purchasing Department in good condition within thirty (30) days of the General Bid opening.

All bids may be mailed or hand-delivered to the above specified receiving address prior to the time specified hereunder, in accordance with the procedures set forth in the INSTRUCTIONS TO BIDDERS.

No Sub-Bids will be required.

Each Bid must be accompanied by a bid security consisting of a BID BOND or CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

A Pre-Bid Conference and Site Visit will be held in the Dickson Memorial Chapel, Greenlawn Cemetery, 57 Orne Street, Salem, MA 01970. It is strongly encouraged that all prospective bidders have a representative in attendance.

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

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All bids for this project are subject to applicable public bidding laws of Massachusetts, including G.L. c.149, §44A through 44H, as amended.

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

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder. General Bidders must be certified in the category "Historic Building" by the Massachusetts Division of Capital Asset Management.

The Dickson Memorial Chapel is listed in the State Register of Historic Properties. All work must comply with the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

The estimated Base Bid construction cost is \$150,000. A construction contract is anticipated to be executed within 38 days of opening of bids, and the project must be substantially complete within 180 days. All construction shall be absolutely complete by June 30, 2017.

The City of Salem is an affirmative action/equal opportunity owner/purchaser.

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

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

The City of Salem
Whitney Haskell
Purchasing Agent
whaskell@salem.com
978-619-5695

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The City of Salem, Massachusetts, herein called the Owner, will receive sealed Bids to undertake the first phase of restoration to the Dickson Memorial Chapel, Greenlawn Cemetery. This Project is subject to the public bidding statutes, G.L. c. 149, §44A-44H.

General bids addressed to Purchasing Agent Whitney Haskell, 93 Washington Street, 2nd Floor, Salem, MA 01970, and endorsed "General Bid for Dickson Memorial Chapel, Greenlawn Cemetery" will be received at the Salem Purchasing Department until 2:00 PM prevailing time, on Tuesday, December 20, 2016, at which time and place said bids will be publicly opened and read aloud.

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

2. Location and Work to be Done

The Work consists of window restoration/replication, stained glass and protective glazing, structural repairs, copper gutter replacement and associated work at Dickson Memorial Chapel, Greenlawn Cemetery, as more specifically described in the attached contract specifications.

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

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

3. Preparation of Bid

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

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

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected without opening; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

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

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

Bid signatures will be checked.

All addenda will be sent by email, to all prospective bidders and the last of which will be sent not later than 48 hours prior to the date established for submission of bids. All bidders shall include with their bids the written acknowledgment form provided in Section 00300, FORM OF GENERAL BID.

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

5. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive, and binding.

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

The successful bidder will be required to certify that it is able to furnish labor that can work in harmony with all other elements of labor employed on the work; 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 it will comply fully with all laws and regulations applicable to awards made subject to section forty four A of Chapter 149 of the General Laws.

6. Conditions of Work

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

7. Addenda and Interpretations

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

Every request for such interpretation should be in writing addressed to Purchasing Agent Whitney Haskell via email at whaskell@salem.com, and to be given consideration, must be received at least seven days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, when issued, will be emailed to all prospective bidders (at the respective address furnished by them for such purposes), not later than 48 hours prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under the bid as submitted. All addenda so issued shall become part of the Contract Documents.

8. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond as security for the payment of all persons performing labor and materials under this contract as specified in Section 00700, GENERAL CONDITIONS included herein. The surety on such bond shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bond shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

9. Power of Attorney

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

10. Laws and Regulations

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

Attention is directed to Section 00850 and to other applicable sections of this specification.

11. Liquidated Damages for Failure to Enter into Contract

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

12. Obligation of Bidder

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

13. Information Not Guaranteed

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

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

If is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner or the Architect, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

14. Bid Security

Each bid must be accompanied by a certified check, a bid bond, or a treasurer's or cashier's check, payable to the Owner, in the amount stated in Section 00020, INVITATION TO BID. Such checks will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining checks will be returned promptly after the Owner and

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the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

15. Right to Reject Bid

The Owner reserves the right to waive any informalities or reject any and all bids, should the Owner deem it to be in the public interest to do so. The Owner may also reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities, or the Owner may waive such omissions, conditions or irregularities.

16. Time for Completion

The bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00300, FORM OF GENERAL BID.

17. Comparison of Bids

Bids will be compared on the basis of the quantities and unit and lump sum prices set forth in the bid forms.

In the event that there is a discrepancy in Section 00300, FORM OF GENERAL BID between the lump sum or unit prices written in words and figures, the prices written in words will govern.

The Owner agrees to examine and consider each FORM OF GENERAL BID submitted in consideration of the qualifications of the bidder and the bidder's agreements, as hereinabove set forth and as set forth in Section 00300, FORM OF GENERAL BID.

18. Award of Contract

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

19. Statutes Regulating Competitive Bidding

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

20. Certificate of Eligibility and Update Statement

In accordance with G.L. c.149, §44D, every bid must be accompanied by a copy of a certificate of eligibility issued by the Division of Capital Asset Management showing that the bidder has the classification and capacity rating to perform the work required. An appropriate update statement must also be provided with each bid. Any bid submitted without an appropriate certificate of eligibility or update statement shall be invalid.

21. Wage Rates

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

State schedules of Prevailing Wage Rates are included in the Supplemental General Conditions section of the contract documents.

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 149, Section 39R and Chapter 149, Section 27B concerning Contractor records.

23. Insurance

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

24. Affirmative Action/Equal Employment Opportunity Laws and Regulations

The City of Salem is an affirmative action/equal opportunity owner/purchaser. The bidder's attention is directed to all applicable State Laws, City Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of a bidder to comply with any such law, bylaw, rule or regulation shall constitute grounds for the City to reject a bid or to otherwise reject or terminate the award of the contract pursuant to these contract documents. Please note that while inclusion of Minority Business Enterprises (MBE) and Women Owned Business Enterprises (WBE) is the City's goal, there is no required percentage of MBE/WBE participation in the project.

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25. Resident Employee Preference

The City of Salem encourages contractors to hire qualified residents of the City who are skilled at trades listed in Chapter 149 section 26 to 27D as amended. Bidders are encouraged to include a list of qualified resident employees (if any), plus contact information, hours, and trade category, with their bids. Please note that while inclusion of resident employees is a goal, there is no mandatory percentage of resident employee participation in the project. Bidders shall make themselves familiar with the Salem City Ordinance for Resident Employee Preference and which is included herein.

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**SECTION 00300
FORM FOR GENERAL BID**

To the City of Salem:

- A. The Undersigned proposes to furnish all labor and materials required for the Dickson Memorial Chapel, Greenlawn Cemetery in Salem, Massachusetts, in accordance with the accompanying plans and specifications prepared by McGinley Kalsow & Associates, Inc. for the contract price specified below, subject to additions and deductions according to the terms of the specifications.
- B. This bid includes addenda numbered _____
- C. The proposed contract price is _____
_____ dollars (\$_____).

Alternate No. 1: Reinstallation of East Gable Stone Finial

Add \$ _____; Subtract \$ _____

Alternate No. 2: South Gutter Replacement and Associated Roofing

Add \$ _____; Subtract \$ _____

Alternate No. 3: Steel Lintel Replacement

Add \$ _____; Subtract \$ _____

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- D. The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite 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.

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. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date _____

(Name of General Bidder)

By _____
(Name of Person Signing Bid and Title)

(Business Address)

(City and State)

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PUBLIC CONTRACTS – DEBARMENT

Chapter 550, Acts of 1991

The undersigned certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the General Laws, or any other applicable debarment provisions of any other Chapter of the General Laws, or any Rules or Regulations promulgated thereunder.

| | |
|-------------------------------|--|
| | |
| Name of Bidder | |
| Date | |
| Signature | |
| Printed name and title | |
| | |

SECTION 00500

AGREEMENT

CITY OF SALEM

CONTRACT NO. S-11

This Contract is made this ___ day of _____, 2016, by and between the City of Salem, a municipal corporation located within the Commonwealth of Massachusetts (hereinafter, the "City"), and _____ a corporation with a business address at _____ (hereinafter, the "Contractor").

ARTICLE I
SCOPE OF SERVICES

The Contractor shall _____ in accordance with the bid specifications contained in an Invitation for Bids (IFB) # _____ issued by the City. Contract documents shall include, in addition to said IFB, the Contractor's bid, bonds and insurance certificates, all of which are incorporated herein by reference.

ARTICLE II
TERM OF CONTRACT

This contract shall be effective as of the date first written above and shall terminate _____ (___) consecutive calendar days starting _____ (___) consecutive calendar days after the issuance of the notice to proceed.

ARTICLE III
COMPENSATION

1. Contract Sum. The City shall pay the Contractor in current funds for the performance of the work described in the Invitation to Bid and at the unit prices submitted, for a Contract Sum not to exceed \$ _____, subject to appropriation.

2. Payment Schedule. Compensation for work performed pursuant to this Contract shall be monthly cost estimates in compliance with submitted bid prices.

ARTICLE IV
AFFIRMATIVE ACTION/PREVAILING WAGES

1. The parties hereto agree that it shall be a material breach of this contract for the contractor to engage in any practice which shall violate any provision of Massachusetts General

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Laws, Chapter 151B, relative to discrimination or privileges of employment because of race, color, religion, sex, national origin, ancestry, age, sexual orientation or disability.

2. This Contract shall be subject to the Minimum Wage Schedule, as determined by the Commission of Labor and Industries pursuant to the provisions of Chapter 149, Section 26 to 27D inclusive, of the General Laws concerning wages.

ARTICLE V
COMPLIANCE WITH LAWS

The Contractor shall comply with all Federal, State and local laws, rules, regulations and orders applicable to the work provided pursuant to this Contract, and shall be responsible for obtaining all necessary licenses, permits, and approvals.

ARTICLE VI
INCORPORATION OF G.L.

This Contract shall be considered to include all terms required to be included by the General Laws of the Commonwealth of Massachusetts, as amended, and any other laws as though such terms were set forth in full herein, to the extent that the same are applicable to this contract and the Contractor.

ARTICLE VII
INDEPENDENT CONTRACTOR

The Contractor acknowledges and agrees that it is acting as an independent contractor for all work and services rendered pursuant to this Contract, and shall not be considered an employee or agent of the City for any purpose.

ARTICLE VIII
CITY'S LIABILITY

The City's liability under this Contract shall be to make all payments when they shall become due, and the City shall be under no further obligation or other liability. Nothing in this Contract shall be construed to render the Board of Selectmen, or any other officer of the City, or their successors in office, personally liable for any obligation under this contract.

ARTICLE IX
INDEMNIFICATION

The Contractor shall indemnify and hold harmless the City, its officers, boards, agents and employees from any loss, damage, cost, charge, expense or claim for injury to person or property, which may be made as a result of any act, omission or default on the part of the Contractor, or any of its agents or employees, and will pay promptly on demand all costs and expenses of the investigation thereof, including attorney's fees and expenses. If any such claim

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is made, the City may retain out of any payments, then or thereafter due to the Contractor, a sufficient amount to protect the City against such claims, costs and expenses.

**ARTICLE X
INSURANCE**

1. The Contractor shall obtain and maintain during the term of this Contract the insurance coverage in companies licensed to do business in the Commonwealth of Massachusetts and acceptable to the City.

2. All policies shall identify the City as an additional insured (except Workers' Compensation) and shall provide that the City shall receive written notification at least 30 days prior to the effective date of any amendment or cancellation. Certificates evidencing all such coverage shall be provided to the City at the execution of this contract. Each such certificate shall specifically refer to the Contract and shall state that such insurance is as required by the Contract. Failure to provide or to continue in force such insurance shall be deemed a material breach of the Contract and shall be grounds for immediate termination.

**ARTICLE XI
PAYMENT AND PERFORMANCE BONDS**

The Contractor shall furnish a bond in a form and with a surety company approved by the City and authorized to do business in the Commonwealth of Massachusetts, conditioned upon the Contractor fully performing all his obligations under this Contract, and making full payment for all labor performed or materials furnished in the work. The penal sum of the bonds shall be the full amount of the Contract price, including all services of whatever kind required thereby. Failure to provide such performance bond shall be grounds for termination.

**ARTICLE XII
ASSIGNMENT**

The Contractor shall not assign, sublet or otherwise transfer this Contract, in whole or in part, without the prior written consent of the City, and shall not assign any of the moneys payable under this Contract, except by and with the written consent of the City.

**ARTICLE XIII
INSPECTION AND REPORTS**

The City shall have the right at any time to inspect the work of the Contractor, including the right to enter upon any property owned or occupied by the Contractor, whether situated within or beyond the limits of the City. Whenever requested, the Contractor shall immediately furnish to the City full and complete written reports of his operation under this Contract in such detail and with such information as the City may request.

ARTICLE XIV
TERMINATION FOR CAUSE

If at any time during the term of this contract the City determines that the Contractor has breached the terms of this Contract by negligently or incompetently performing the work, or any part thereof, or by failing to perform the same, to the satisfaction of the City, or by not complying with the direction of the City or its agents, or by otherwise failing to perform this Contract in accordance with all of its terms and provisions, the City shall notify the Contractor in writing stating therein the nature of the alleged breach and directing the contractor to cure such breach within ten (10) days. The Contractor specifically agrees that it shall indemnify and hold harmless the City as provided in Article IX from any loss, damage, cost, charge, expense or claim arising out of or resulting from such breach regardless of its knowledge or authorization of the actions resulting in the breach. If the Contractor fails to cure said breach within ten (10) days, the City may, at its election at any time after the expiration of said ten (10) days, terminate this Contract by giving written notice thereof to the Contractor specifying the effective date of the termination. Upon the date so specified, this contract shall terminate. Such termination shall not prejudice or waive any rights or action which the City may have against the Contractor up to the date of such termination, and the Contractor shall be liable to the City for any amount which it may be required to pay in excess of the Contract Sum provided herein in order to complete the work specified herein in a timely manner.

ARTICLE XV
NOTICE

Any and all notices, or other communications required or permitted under this contract, shall be in writing and delivered by hand or mailed postage prepaid, return receipt requested, by registered or certified mail or by other reputable delivery service, to the parties at the addresses set forth on Page 1 or furnished from time to time in writing hereafter by one party to the other party.

Any such notice or correspondence shall be deemed given when so delivered by hand, if so mailed, when deposited with the U.S. Postal Service or, if sent by private overnight or other delivery service, when deposited with such delivery service.

ARTICLE XVI
SEVERABILITY

If any term or condition of this contract or any application thereof shall to any extent be held invalid, illegal or unenforceable by the court of competent jurisdiction, the validity, legality, and enforceability of the remaining terms and conditions of this contract shall not be deemed affected thereby unless one or both parties would be substantially or materially prejudiced.

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ARTICLE XVII
GOVERNING LAW

This contract shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Massachusetts, except for provisions with regard to conflicts of laws, and the Contractor submits to the jurisdiction of any of the appropriate Massachusetts courts for the adjudication of disputes arising out of this Contract.

ARTICLE XVIII
ENTIRE AGREEMENT

This contract, including all documents incorporated herein by reference, constitutes the entire integrated agreement between the parties with respect to the matters described. This agreement supersedes all prior agreements, negotiations and representations, either written or oral, and it shall not be modified or amended except by a written document executed by the parties hereto.

The Contract shall include the following component parts:

- a. Invitation to Bid. Instructions to Bidders and Form of Bid
- b. This Instrument
- c. General Conditions
- d. Special Conditions
- e. General Scope of Work
- f. Supplemental Conditions
- g. Contractor's Bid Proposal
- h. Specifications
- i. Technical Specifications
- j. Drawings

The foregoing component parts, together with all other documents enumerated in this Article, are fully incorporated in this contract by reference. In the event that any provision in any component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this Article shall govern, except as otherwise specifically stated. The various provisions in Addenda shall be construed in the order preference of the component part of the Contract which each modifies.

IN WITNESS WHEREOF the parties have hereto and to three other identical instruments set forth their hands the day and year first above written.

THE CITY:

THE CONTRACTOR:

Kimberley Driscoll,
Mayor

Authorized Signature

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

Whitney Haskell,
Purchasing Agent

Approved as to form:

Elizabeth Rennard, Esq.,
City Solicitor

Approved as Contract Manager:

Tom Daniel,
Director of Planning and Community
Development

I certify that funds have been encumbered in
the amount of : \$

Sarah Stanton,
Finance Director

Print Name

Print Title

Company

Status (Corporate/Non- Corporate)

Taxpayer Identification Number

Date

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

AUTHORIZED SIGNATURES:

AGREEMENT

IN WITNESS WHEREOF, the parties hereto have set their hands and seals this ____ day of _____ 2014

ACCEPTED FOR THE CONTRACTOR:

Authorized Signature Title Date

Address Telephone

ACCEPTED FOR THE CITY OF SALEM

Mayor – Awarding Authority Date Address Telephone Fax

APPROVED:

Purchasing Agent Date Address Telephone Fax

Contract Manager Date Address Telephone Fax

APPROVED AS TO FORM

City Solicitor Date Address Telephone Fax

CERTIFICATION AS TO FUNDS

Certification is herewith given that funds are available for payments required by the terms contained in this contract

| | PO Number | Total |
|--|-----------|-------|
| | | |
| | | |
| | | |

APPROVED BY:

City Auditor Date Address Telephone Fax

Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA

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

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

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

(Name of Corporation)

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

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

VOTED: To authorize and empower

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

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

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA

SECTION 00610

PERFORMANCE BOND

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

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

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

_____ hereinafter called the "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City of _____, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

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

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

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

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

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

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

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

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

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

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

ATTEST:

(Principal Secretary)

By _____

(Address-Zip Code)

Witness as to Principal

(Address-Zip Code)

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

ATTEST:

_____ (SEAL)
Witness as to Surety

(Address-Zip Code)

By _____

(Attorney-in-Fact)

(Address-Zip Code)

_____ Surety

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

Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

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

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

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

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City of Salem, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction described as follows:

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

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

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

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

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

ATTEST:

| | | |
|----------------------|----|--------------------|
| _____ | | _____ |
| | | Surety |
| _____ | By | _____ |
| | | (Attorney-in-Fact) |
| | | _____ |
| | | _____ |
| | | (Address-Zip Code) |
| _____ (SEAL) | | |
| Witness as to Surety | | |
| _____ | | |
| _____ | | |
| (Address-Zip Code) | | |

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

SECTION 00650

CERTIFICATE OF INSURANCE

The Contractor shall provide certificates of insurance acceptable to the OWNER prior to the commencement of the work. The minimum coverage to be provided shall be as follows:

| | Occurrence | Aggregate |
|---|-------------|--------------|
| <hr/> | | |
| A. Owners Protective Liability: | | |
| Bodily Injury | \$1,000,000 | \$2,000,000 |
| Property Damage | \$1,000,000 | \$2,000,000 |
| <hr/> | | |
| B. Comprehensive General Liability | | |
| Bodily Injury | \$1,000,000 | \$2,000,000 |
| Property Damage | \$1,000,000 | \$2,000,000 |
| Including: 1. Operations/Premises 2. XCU 3. Products/Completed Operations 4. Contractual as Below 5. Independent Contractors 6. Broad Form Property Damage 7. Personal Injury | | |
| <hr/> | | |
| C. Auto Liability | Per Person | Per Accident |
| Bodily Injury | \$1,000,000 | \$2,000,000 |
| Property Damage | | \$2,000,000 |
| Including: 1. All Owned 2. Hired 1. Non-owned | | |
| <hr/> | | |

**Dickson Memorial Chapel
Greenlawn Cemetery
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D. Workman's Compensation

Compensation Statutory State(s)
Coverage B Limit \$1,000,000 if Applicable

E. Umbrella Liability
\$2,000,000 Aggregate

F. Builder's Risk Insurance - "All Risk" Completed Value Form \$ _____

As Specified in Contract or Agreement

Dickson Memorial Chapel
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CONTRACTUAL LIABILITY

To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify, and hold harmless OWNER and its consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense(s) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

In any and all claims against OWNER or any of its consultants, agents or employees by any employee of CONTRACTOR, and subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under the above paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefits acts.

Policies B, C, D, and E shall remain in effect throughout the term of the entire contract.

Such insurance as is herein certified applies to all operations of the insured in connection with, and necessary and incidental to, the work herein described at the locations stated.

It is hereby understood and agreed that the above policies will not be restrictively amended, materially changed nor canceled without 30 days advance notice by registered mail to OWNER.

Authorized Representative Signature
(Include Evidence of Authorization)

Address

SECTION 00700

GENERAL CONDITIONS

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SECTION 00700

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplemental and other Conditions), the Drawings, the Specifications, all Addenda issued prior to and all Modifications issued after execution of the Contract, and all applicable laws, ordinances and regulations. A Modification is (1) a written amendment to the contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Owner or (4) a written order for a minor change in the Work issued by the Owner pursuant to Paragraph 12.3. The Contract Documents include Bidding Documents such as the Advertisement or Invitation to Bid, the Instructions to Bidders, sample forms, the Contractor's Bid or portions of Addenda relating to any of these, or any other documents, specifically enumerated in the Owner-Contractor Agreement.

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1.

1.1.3 THE WORK

The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

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.

1.1.5 "OR EQUAL"

The use of the words "Or Equal" following the name of any manufacturer, vendor or proprietary product shall be understood to mean that articles or materials may be substituted which, in the opinion of the Owner, are equal in quality, durability, appearance, strength, design and performance to the articles or materials named or described and will perform adequately in providing a first-class facility.

When submitting shop drawing information on articles or materials which are being proposed as substitutes for specified items, the Contractor shall clearly identify them as such. If the articles or materials are accepted as equal to those on which dimensions on the drawings are based, any dimensional variance from those shown and/or specified shall be shown on the shop drawings prepared by the Contractor, illustrating the manner in which conformity to dimensions and design is to be obtained. All such drawings shall be subject to the approval of the Owner and the installation of the article shall not proceed without first obtaining said approval.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract Documents shall be signed in not less than duplicate by the Owner and Contractor

1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results. Words and abbreviations

which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

1.2.4 The organization of the Specifications into divisions, sections and articles, and the 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.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All Drawings, Specifications and copies thereof furnished by the Owner are and shall remain the Owner's property. They are to be used only with respect to this Project and are not to be used on any other project without the prior written consent of the Owner. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Owner at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of any reserved rights.

ARTICLE 2

2.1 ADMINISTRATION OF THE CONTRACT

2.1.1 The designated representative of the Owner will visit the site at intervals appropriate to the stage of construction to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. However, the Owner's Representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

2.1.2 The Owner shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the Owner may perform its functions under the Contract Documents.

2.1.3 Based on the Owner's observations and an evaluation of the Contractor's Applications for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in Paragraph 9.4.

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2.1.4 The Owner will render information necessary for the proper execution or progress of the Work within twenty (20) days of any request by the contractor or in accordance with any time limit agreed upon.

2.1.5 The Owner will have authority to reject Work which does not conform to the Contract Documents. Whenever, in his opinion, he considers it necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work in accordance with Subparagraph 7.7.2 whether or not such Work be then fabricated, installed or completed. Any such rejection of work shall not relieve the Contractor of the responsibility for maintaining protection of the Work and the Owner's property.

2.1.6 The Owner will review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

2.1.7 The Owner will prepare Change Orders in accordance with G.L. c.7, §§42E-42I and Article 12 herein, and will have authority to order minor changes in the Work as provided in Subparagraph 12.4.1.

2.1.8 The Owner will conduct inspections to determine the date of Substantial Completion and Final Completion, will review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of Paragraph 9.9.

ARTICLE 3

OWNER

3.1 DEFINITION

3.1.1 The Owner is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or his authorized representative, which for this Project shall be the Architect.

3.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

3.2.1 The Owner shall, at the time of execution of the Agreement and any subsequent Change Orders, certify for the Contractor that financial arrangements have been made to fulfill the Owner's obligations under the Contract.

3.2.2 The Owner shall furnish all surveys describing the physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site upon request.

3.2.3 Except as provided in Subparagraph 4.7.1. Owner shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

3.2.4 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.

3.2.5 The Owner will furnish the Contractor with (3) copies of all Drawings and Specifications and revisions issued during the progress of the Work; all additional copies will be furnished upon request at the cost of reproduction.

3.2.6 The Owner, through its designated agent, shall forward all instructions directly to the Contractor.

3.2.7 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Work by Owner or by Separate Contractors, Payments and Completion, and Insurance in Articles 6, 9 and 11 respectively.

3.3 OWNER'S RIGHT TO STOP THE WORK

3.3.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2 or fails to carry out the Work in accordance with the Contract Documents or if the Owner shall for any other reason so require, the Owner, by a written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated or until further written notice from the Owner; however, this right of the Owner to stop the Work shall not give rise to any 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 Subparagraph 6.1.3. The Contractor shall resume the Work after such stoppage promptly upon written notice to do so from the Owner. If such stoppage is required through no fault of the Contractor, the Contract Time (and the dates for achieving Substantial Completion and Final Completion) shall be extended by a period equal to the period of the stoppage, and the Contractor shall be compensated for its reasonable and justifiable costs incurred as a result of such stoppage.

3.4 OWNER'S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days 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 any other remedy he may have perform such work or cause such work to be performed and/or make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover the amount, the Contractor shall pay the difference to the Owner.

ARTICLE 4

CONTRACTOR

4.1 DEFINITION

4.1.1 The Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 REVIEW OF CONTRACT DOCUMENTS 4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner any error, inconsistency or omission he may discover. The Contractor shall not be liable to the Owner for any damage resulting from errors, inconsistencies or omissions in the Contract Documents which he discovers but shall be liable for damage to the extent he reasonably should have but failed to discover such errors, inconsistencies or omissions. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the Premises during the performance of the Work. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.

4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Contract, or by inspection, tests or approvals required or performed under Paragraph 7.7 by persons other than the Contractor.

4.4 LABOR AND MATERIALS

4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and service necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him including all persons on the Site controlled directly or indirectly by the Contractor.

4.5 WARRANTY

4.5.1 The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new and of recent manufacture unless otherwise permitted in writing by the Owner and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and, promptly after written notification of non-conformance, shall be repaired or replaced by the Contractor with Work conforming to such requirements. The Contractor shall be responsible for providing access to the repair or replacement Work, as well as the repair or replacement. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 13.2.

4.6 TAXES

**Dickson Memorial Chapel
Greenlawn Cemetery
Salem, MA**

4.6.1 The Contractor shall pay all applicable sales, consumer, use and other similar taxes for the Work or portion thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.7 PERMITS, FEES AND NOTICES

4.7.1 Unless otherwise expressly provided in the Supplemental General Conditions, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required at the time the bids are received, and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project. The Contractor shall secure a Building Permit from the Salem Building Department. Building Permit fees shall not be required, and are hereby waived, for work done to buildings, structures, or parts thereof owned by the City and used for public purpose by the City unless the Contractor fails to obtain a building permit prior to the start of construction, the contractor shall then be required to pay three times the cost that the building permit fee would have been for that project.

4.7.2 The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Contract.

4.7.3 If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate Modification.

4.7.4 If the Contractor performs any Work which he knows or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefor and shall bear all costs attributable thereto.

4.8 SUPERINTENDENT

4.8.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

4.9 PROGRESS SCHEDULE

4.9.1 The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

4.10 DOCUMENTS AND SAMPLES AT THE SITE

4.10.1 The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, and "As-Built" Drawings and Specifications in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Owner upon completion of the Work.

4.11 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

4.11.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

4.11.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

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

4.11.4 The Contractor shall review, approve and submit, with reasonable

promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.

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

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

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

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

4.12 USE OF SITE

4.12.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment.

4.13 CUTTING AND PATCHING OF WORK

4.13.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly.

4.13.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate contractor except with the written consent of the Owner and of such separate contractor. The Contractor shall not unreasonably withhold from the Owner or any separate contractor his consent to cutting or otherwise altering the Work.

4.14 CLEANING UP

4.14.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project in full compliance with all applicable laws and regulations as well as all his tools, construction equipment, machinery and surplus materials and the Project shall be thoroughly cleaned and ready for immediate occupancy by the Owner.

4.14.2 If the Contractor fails to clean up at the completion of the Work, the Owner may do so as provided in Paragraph 3.4 and the cost thereof shall be charged to the Contractor.

4.15 COMMUNICATIONS

4.15.1 The Contractor shall forward all communications to the Owner through its Project Manager and Architect.

4.16 ROYALTIES AND PATENTS

4.16.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner, and thereafter the Owner insists on the use of the design, process or products specified.

4.17 INDEMNIFICATION

4.17.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, its agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom, and(2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph 4.17.

4.17.2 In any and all claims against the Owner, its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.17 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

4.17.3 The obligations of the Contractor under this paragraph 4.17 shall not extend to the liability of the Owner, its agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) written directions or instructions given by the Owner, its agents or employees, provided they are the sole cause of the injury or damage.

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITION

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

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

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

5.2.1 Unless otherwise required by the General Laws, Contract Documents or the Bidding Documents, the Contractor, as soon as practicable after the award of the Contract, shall furnish to the Owner in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Owner will reply to the Contractor in writing within twenty (20) days stating whether or not the Owner, after due investigation, has reasonable objection to any such proposed person or entity.

5.2.2 The Contractor shall not contract with any such proposed person or entity to whom the Owner has made reasonable objection under the provisions of Subparagraph 5.2.1. The Contractor shall not be required to contract with anyone to whom he has a reasonable and legally permissible objection.

5.2.3 If the Owner has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner has no reasonable objection.

5.2.4 The Contractor shall make no substitution for any Subcontractor, person or entity previously selected if the Owner makes reasonable objection to such substitution.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By an 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 the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to his Sub-subcontractors. The Contractor shall be fully responsible to the Owner for the acts and omissions of all Subcontractors and other entities or persons directly or indirectly employed by him to perform the Work. If requested by the Owner, the form and substance of any Subcontract with the Contractor shall be subject to the prior written consent of the Owner, which consent shall not be unreasonably withheld or delayed.

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, he shall make such claim as provided elsewhere in the Contract Documents.

6.1.2 When separate contracts are awarded for different portions of the Project or other work 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 will provide for the coordination of the work of his own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 6.2.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his Work with theirs as required by the Contract Documents.

6.2.2 If any part of the Contractor's Work depends for proper execution or results upon the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Owner any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the Owner's or separate contractors' work as fit and proper to receive his Work, except as to defects which may subsequently become apparent in such work by others.

6.2.3 Any costs caused by defective or ill-timed work shall be borne by the party responsible therefor.

6.2.4 Should the Contractor cause damage to the work or property of the Owner, or to other work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at the Owner's expense, and if any judgment or award against the Owner arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys' fees and court or arbitrations costs which the Owner has incurred.

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.15, the Owner may clean up and charge the cost thereof to the contractors responsible therefor.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 The Contract shall be governed by the law of the Commonwealth of Massachusetts. All applicable provisions of Federal, state, or local laws, by-laws, rules, or regulations are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Owner and the Contractor each bind himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations

contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

7.3 WRITTEN NOTICE

7.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice. Written Notice to the Owner shall be delivered to the Mayor's Office, City Hall, 93 Washington Street, Salem, MA, 01970

7.4 CLAIMS FOR DAMAGES

7.4.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party or of any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage. The reasonable time shall not exceed fourteen days.

7.5 LABOR AND MATERIAL PAYMENT BOND

7.5.1 The Contractor shall furnish a labor and material Payment Bond in an amount not less than fifty percent (50%) of the Contract price as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract. The Payment Bond may be in one or in separate instruments in accordance with local law, and in a form acceptable to the Owner, and shall remain in effect through the one-year warranty period.

7.6 RIGHTS AND REMEDIES

7.6.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law, except as otherwise set forth therein.

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

7.7 TESTS

7.7.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Owner timely notice of its readiness so the Owner may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, tests or approvals conducted by public authorities which are normal and customary for the type of work required by the Contract. Unless otherwise provided, the Owner shall bear all costs of other inspections, tests or approvals. All testing methods, organizations, and personnel shall be approved by the Owner before the start of testing Work, without regard to what party will ultimately pay for such Work.

7.7.2 If the Owner determines that any Work requires special inspection, testing, or approval which Subparagraph 7.7.1 does not include, it will instruct the Contractor to order such special inspection, testing or approval, and the Contractor shall give notice as provided in Subparagraph 7.7.1. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents, the Contractor shall bear all costs thereof, including compensation for the Owner's additional services made necessary by such failure; otherwise the Owner shall bear such costs, and an appropriate Change Order shall be issued.

7.7.3 Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by him to the Owner.

7.7.4 If the Owner is to observe the inspections, tests or approvals, he will do so promptly and, where practicable, at the source of supply.

ARTICLE 8

TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial and Final Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto. Time is of the essence with regard to completion of the Work required by the Contract.

8.1.2 The date of commencement of the Work is the date established in a notice to proceed. If there is no notice to proceed, it shall be the date of the Owner-Contractor Agreement or such other date as may be established therein.

8.1.3 The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Owner when construction is substantially complete, in accordance with the Contract Documents, other than only custom punch list items, the lack of or completion of which will not interfere with the Owner's use, so the Owner can lawfully occupy and utilize the Work or designated portion thereof for the use for which it is intended. The Date of Final Completion of the Work is the date on which the Owner issues its final Certificate for Payment in accordance with Paragraph 9.9.1 hereof.

8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time, and Final Completion thereafter in accordance with the provisions of the Contract Documents.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or by any employee of the Owner, or by any separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipated, unavoidable casualties, or any causes beyond the Contractor's or its Subcontractor's control, or by delay authorized by the Owner, then, provided such delay in no way results from the act or neglect of the Contractor or any of its Subcontractor, the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

8.3.2 Any claim for extension of time shall be made in writing to the Owner not more than seven (7) days after the commencement of the delay; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work.

8.3.3 If no agreement is made stating the dates upon which interpretations shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretation until fifteen days after written request is made for them, and not then unless such claim is reasonable.

8.3.4 The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Owner on account of any delay in the commencement of the Work and/or any hindrance, delay or suspension of any portion of the Work, whether such delay is caused by the Owner, or otherwise, except as and to the extent expressly provided under M.G.L. c.30, §390 in the case of written orders by the Owner. The Contractor acknowledges that the Contractor's sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article.

8.4 LIQUIDATED DAMAGES

8.4.1 If the Contractor shall neglect, fail or refuse to complete the work, or any designated phase thereof, within the time specified in the Contract Documents, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part

consideration for the awarding of this Contract, to pay to the Owner the amount specified in the Contract Documents, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in breach after the time or milestone date stipulated in the Contract Documents for completing the work.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

8.4.2 It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract.

8.4.3 Provided, that the Contractor shall not be charged with liquidated damages when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner.

8.4.4 Provided, further, that the Contractor shall, within ten (10) days from the beginning of any delay experienced in the performance of the Work, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter. The Contractor's failure to provide such notice shall constitute a waiver of any request for an extension of time.

8.4.5 Nothing in this paragraph 8.4 shall preclude the Owner from recovering its actual damages on account of the failure of the Contractor to perform the Work within the time required, nor from pursuing any other remedy available to it at law or under the Contract Documents.

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

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

9.2 SCHEDULE OF VALUES

9.2.1 Before the first Application for Payment, the Contractor shall submit to the Owner a schedule of values allocated to the various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used only as a basis for the Contractor's Application for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 The Contractor shall submit to the Owner an itemized Application for Payment supported by such data substantiating the Contractor's right to payment as provided elsewhere in the Contract Documents for the period ending the 25th day of each month within the Contract period.

9.3.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site. 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 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

9.4 CERTIFICATES OF PAYMENT

9.4.1 The Owner will, within ten days after the receipt of the Contractor's Application for Payment, issue a Certificate for Payment to the Contractor for such amount as the Owner determines is properly due, or notify the Contractor in writing his reasons for withholding a Certificate as provided in Subparagraph 9.6.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Owner, based on its observations at the site as provided in Subparagraph 3.2.7 and the data comprising the application for Payment, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Document upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents correctable prior to completion, and to any specific qualifications stated in his Certificate); and that the Contractor is entitled to payment in the amount certified. However, by issuing a Certificate for Payment, the Owner shall not thereby be deemed to represent that he has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work or that he has reviewed the construction means, methods,

techniques, sequences or procedures, or that he has made any examination to ascertain how or for what purpose the Contractor has used the moneys previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

9.5.1 After the Owner has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents. The Owner reserves the right to a 5% general retainage from each progress payment, which retainage shall be released to the Contractor upon substantial completion.

9.5.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

9.5.3 The Owner may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Owner on account of Work done by such Subcontractor.

9.5.4 The Owner shall not have any obligation to pay or to see to the payment of any moneys to any Subcontractor except as may otherwise be required by law.

9.5.5 No Certificate for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the Owner, shall constitute an acceptance of any Work not in accordance with the Contract Documents.

9.6 PAYMENTS WITHHELD

9.6.1 The Owner shall decline to certify payment and withhold its Certificate in whole or in part, to the extent necessary reasonably to protect itself. If the Owner is unable to certify payment in the amount of the Application, he will notify the Contractor as provided in

Subparagraph 9.4.1. If the Contractor and the Owner cannot agree on a revised amount, the Owner will promptly issue a Certificate for Payment for the amount for which it determines is properly due. The Owner may also decline to certify payment or, because of subsequently discovered evidence or subsequent observations, it may nullify the whole or any part of any Certificate for Payment previously issued, to such extent as may be necessary in its opinion to protect itself from loss because of:

- .1 defective work not remedied,
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims,
- .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 another Contractor,
- .6 reasonable evidence that the Work will not be completed within the Contract Time, or
- .7 material failure to carry out the Work in accordance with the Contract Documents.

9.6.2 When the above grounds in Subparagraph 9.6.1 are removed, payment shall be made for amounts withheld because of them.

9.7 FAILURE OF PAYMENT

9.7.1 If the Owner does not issue a Certificate for Payment, through no fault of the Contractor, within ten days after receipt of the Contractor's Application for Payment, then the Contractor may, upon ten additional days' written notice to the Owner, stop the Work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of the Contractor's reasonable and justifiable costs of shut-down, delay and start-up, which shall be effected by appropriate Change order in accordance with Paragraph 12.3.

9.8 SUBSTANTIAL COMPLETION

9.8.1 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Subparagraph 8.1.3, the Contractor shall prepare for submission to the Owner a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Owner on the basis of an inspection determines that the Work or designated portion thereof is substantially complete, he will then prepare for a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. 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 shall be submitted to the Owner and the Contractor for their written acceptance of the responsibility assigned to them in such Certificate.

9.8.2 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and Certification by the Owner, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents.

9.9 FINAL COMPLETION AND FINAL PAYMENT

9.9.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will promptly make such inspection and, when it finds the Work acceptable under the Contract Documents and the Contract fully performed, it will promptly issue a final Certificate for Payment stating that to the best of its knowledge, information and belief, and on the basis of its observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and

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noted in said final Certificate, is due and payable. The Owner's final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.9.2 have been fulfilled.

9.9.2 Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Owner (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been fully paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3), if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as the written document described in Paragraph 13.2.2, receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Owner. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

9.9.3 If, after Substantial Completion of the Work, final completion thereof is delayed for more than ninety (90) days through no fault of the Contractor or by the issuance of Change Orders affecting final completion, the Owner shall, upon application by the Contractor, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted, provided that the remaining balance for Work not fully completed or corrected shall not be less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as provided in Paragraph 7.5, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Owner prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

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9.9.4 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- .1 unsettled liens,
- .2 faulty or defective Work appearing after Substantial Completion,
- .3 failure of the Work to comply with the requirements of the Contract Documents, or
- .4 terms of any special warranties required by the Contract Documents.
- .5 obligations under the Performance and Payment Bonds.

9.9.5 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled prior to the time of the final Application for Payment.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

10.2 SAFETY OF PERSONS AND PROPERTY

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

- .1 all employees on the Work and all other persons who may be affected thereby;
- .2 all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, including 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 give all notices and comply with all applicable laws, ordinances, rules, regulations and orders of any public authority bearing on the 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 progress of the Work, all 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 utilities.

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

10.2.5 The Contractor shall promptly remedy all damage or loss to any property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3., except damage or loss solely attributable to the acts or omissions of the Owner, the Engineer or anyone directly or indirectly employed by the Owner or Engineer, or by anyone for whose acts the Owner or Engineer may be liable, and not attributable to the acts or omissions of the Owner, the Engineer or anyone directly or indirectly employed by them, or by anyone for whose acts it may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligation under Paragraph 4.13.

10.2.6 The Contractor shall designate a responsible member of his 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.

10.2.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

10.3 EMERGENCIES

10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 12 for Changes in the Work.

ARTICLE 11

INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall purchase and maintain such insurance as will protect him and the Owner from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by himself or by any 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' or workmen's compensation, disability benefit and other similar employees benefit acts;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;
- .5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- .6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than any limits of liability specified in the Contract Documents, or required by law, whichever is greater.

11.1.3 The insurance required by Subparagraph 11.1.1 shall include contractual liability insurance applicable to the Contractor's obligations under Paragraph 4.18.

11.1.4 Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least thirty days prior written notice has been given to the Owner. Certificates of renewal shall be delivered to the Owner at least fifteen (15) days prior to the expiration date of any insurance policy. The Contractor shall not commence the Work until all insurance required hereunder shall have been obtained and approved by the Owner, and the Contractor shall not permit any Subcontractor or Sub-subcontractor to commence work until all insurance required of them shall have been similarly obtained and approved.

11.2 OWNER'S LIABILITY INSURANCE

11.2.1 The Owner, at its option, may purchase and maintain such insurance as will protect it against claims which may arise from operations under the Contract.

11.3 PROPERTY INSURANCE

11.3.1 The Owner may, at its option, purchase and/or maintain property insurance upon the entire Work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work and shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If the Owner does not intend to purchase or maintain such insurance for the full insurable value of the entire Work, he shall inform the Contractor in writing prior to

commencement of the Work. The Contractor may then effect insurance which will protect the interests of himself, his Subcontractors and the Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If not covered under the all risk insurance or otherwise provided in the Contract Documents, the Contractor shall effect and maintain property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included in an Application for Payment under Subparagraph 9.3.2. This insurance does not cover any tools owned by mechanics, any tools, equipment, scaffolding, staging towers, and other property owned or rented by the Contractor, the capital value of which is not included in the cost of the Work.

11.3.2 The Owner and Contractor waive all rights against (1) each other and the Subcontractors, Sub-subcontractors, agents and employees each of the other, and (2) separate contractors, if any, and their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Paragraph 11.3 or any other property insurance held by the Owner as trustee. The Owner or the Contractor, as appropriate, shall require of separate contractors, Subcontractors and Sub-subcontractors by appropriate agreements, written where legally required for validity, similar waivers each in favor of all other parties enumerated in this Subparagraph 11.3.2.

11.3.3 The Owner as trustee shall have power to adjust and settle any loss with the insurers.

11.3.4 The construction site may 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 LOSS OF USE INSURANCE

11.4.1 The Owner, at his option, may purchase and maintain such insurance as will insure him against loss of use of his property due to fire or other hazards, however caused.

ARTICLE 12

CHANGES IN THE WORK

12.1 CHANGE ORDER

12.1.1 A Change Order is a written order to the Contractor signed by the Owner, issued after execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order.

12.1.2 The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents and applicable General Laws.

12.1.3 The cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:

- .1 by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 by unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 by cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 by the method provided in Subparagraph 12.1.4.

12.1.4 If none of the methods set forth in Clauses 12.1.3.1, 12.1.3.2 or 12.1.3.3 is agreed upon, the Contractor, provided he receives a written order signed by the Owner, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Owner on the basis of the reasonable expenditures and savings of those performing the Work attributable to the change, including, in the case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, and also under Clauses 12.1.3.3 and 12.1.3.4 above, the Contractor shall keep and present an itemized accounting together with appropriate

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supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following: actual cost of materials, including sales tax and cost of delivery; labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workers' or workmen's compensation insurance; bond premiums, rental value of equipment and machinery; and the additional costs of supervision and field office personnel directly attributable to the change. Pending final determination of cost to the Owner, payments on account shall be made on the Owner's Certificate for Payment. The amount of credit to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in the Contract Sum will be the amount of the actual net cost. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.

12.1.5 Unit prices are stated in the Bid Form and the Contract shall include all costs of the Contractor to the Owner as listed in Paragraph 12.1.4. No additional charges shall be allowed for these items under any circumstances.

12.2 CONCEALED CONDITIONS

12.2.1 Should concealed conditions encountered in the performance of the Work below the surface of the ground or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or should concealed or unknown conditions in an existing structure of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in his Contract, be encountered, the Contract Sum shall be equitably adjusted by Change Order upon claim by either party made within twenty days after the first observance of the conditions.

12.3 CLAIMS FOR ADDITIONAL COST

12.3.1 If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Owner written notice thereof within twenty days after the occurrence of the event

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giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.3. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

12.3.2 If the Contractor claims that additional cost is involved because of, but not limited to, (1) any written interpretation by the Owner, (2) any order by the Owner to stop the Work pursuant to Paragraph 3.3 where the Contractor was not at fault, (3) any written order for a minor change in the Work issued pursuant to Paragraph 12.4, or (4) failure of payment by the Owner pursuant to Paragraph 9.7, the Contractor shall make such claim as provided in Subparagraph 12.3.1.

12.4 MINOR CHANGES IN THE WORK

12.4.1 The Owner will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be affected by written order, and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any portion of the work should be covered contrary to the request of the Owner or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Owner, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.1.2 If any other portion of the Work has been covered which the Owner has not specifically requested to observe prior to being covered, the Owner may request to see such

Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor as provided in Article 6, in which event the Owner shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Owner's additional services made necessary thereby.

13.2.2 The Contractor shall provide a document to the Owner certifying that if within one year after the Date of Substantial Completion of the Work or designated portion thereof or within one year after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or requiring excessive service or maintenance or not in accordance with the Contract Documents, the Contractor shall correct it within seven (7) days after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such approval, which written acceptance shall specifically refer to such defect. This obligation shall survive termination of the Contract. The Owner shall give such notice promptly after discovery of the condition. The provisions of this paragraph are in addition to, and not in limitation of, the Owner's other rights and remedies hereunder and in law and equity.

13.2.3 The Contractor shall remove from the site all portions of the Work which are defective or non-conforming and which have not been corrected under Subparagraph 4.5.1, 13.2.1 and 13.2.2, unless removal is waived by the Owner in writing.

13.2.4 If the Contractor fails to correct defective or nonconforming Work as provided in Subparagraphs 4.3.1, 12.2.1 and 13.2.2. the Owner may correct it in accordance with Paragraph 3.4.

13.2.5 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Owner, the Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten days thereafter, the Owner may upon ten additional days' written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Owner's additional services made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.2.6 The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

13.2.7 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his 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 his obligation other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

13.3.1 If the Owner prefers to accept defective or nonconforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 14

TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a decision of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, or if the Work should be stopped for a period of thirty days by the Contractor because the Owner has not issued a Certificate for Payment as provided in Paragraph 9.7 or because the Owner unjustifiably has not made payment thereon as provided in Paragraph 9.7, then the Contractor may, upon seven additional days written notice to the Owner, terminate the Contract and recover from the Owner payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 TERMINATION BY THE OWNER

14.2.1 To the extent permitted by law, if the Contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he refuses or fails, repeatedly except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he fails to make prompt proper payment to Subcontractors for materials or labor, or disregards laws, ordinances, rules, regulations or order of any public authority having jurisdiction, or otherwise fails to comply with any provision of the Contract Documents, then the Owner may, without

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prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method he may deem expedient.

14.2.2 If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including compensation for the Owner's additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The obligation to pay said amount to the Contractor or to the Owner, as the case may be, shall survive the termination of the Contract.

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SECTION 00800

SUPPLEMENTAL GENERAL CONDITIONS

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Attachment A - Wage Rates and Certificate
of Compliance

1. INTRODUCTION

The following supplements modify, change, delete from or add to Section 00700 GENERAL CONDITIONS. Where any Subsection of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplemental General Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

2. In accordance with General Laws Chapter 149, Section 26 through 27D, the Contractor is obligated to comply with the prevailing wage rates established by the Commissioner of the Department of Labor and Industries for mechanics, apprentices, chauffeurs, teamsters and laborers employed on the Project. The schedule of applicable prevailing wage rates for the Project, together with a Certificate of Compliance therewith, are set forth in Attachment A herein.
3. The Insurance provisions of Article II of The General Conditions are amended by adding the following requirements:

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

Except as otherwise stated, the amounts of such insurance shall be for each policy, not less than:

- (A) For liability for bodily injury, including accidental death, \$1,000,000 for any one person and \$1,000,000 on account of one occurrence and \$2,000,000 Aggregate Limit.
 - (B) For liability for property damage \$1,000,000 on account of any one occurrence and \$2,000,000 Aggregate Limit. Extra-territorial clause shall be included.
- 1.) Workmen's Compensation insurance as required by the General Laws of the Commonwealth of Massachusetts.
 - 2.) Bodily Injury Premise-Operations, Contractor's Protective and Completed Operations Public Liability Insurance in the amounts required in (A) above.

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- 3.) Property Damage Premises-Operations, Contractor's Protective and Completed Operations Public Liability Insurance in the amounts required in (B) above.
- 4.) Bodily Injury Liability Insurance covering the operation of all motor vehicles owned by the Contractor and vehicles not owned by the Contractor, while such vehicles are being operated in connection with the prosecution of the work under this Contract, in the amounts required in (A) above.
- 5.) Property Damage Liability Insurance covering the operation of all motor vehicles owned by the Contractor and vehicles not owned by the Contractor while such vehicles are being operated in connection with prosecution of the work under this Contract, in the amounts required in (B) above.
- 6.) Contractual Liability Insurance covering the liability assumed by the Contractor in the amounts required under (A) and (B) above.
- 7.) Owner's Protective Insurance secured by the Contractor in behalf of the City of Salem which will directly protect the City and/or its employees, agents and officers from liability for bodily injuries, including accident death, in the amounts required in (A) above, and for property damage in the amounts required in (B) above.

All policies shall be so written that the Owner will be notified of cancellation or restrictive amendment at least fifteen (15) days prior to the effective date of such cancellation or amendment. A certificate from the Contractor's Insurance Carrier showing at least the coverage and limits of liability specified above and expiration date shall be filed with the Owner before operations are begun.

Such certificates shall not merely name the types of policy provided, but shall specifically refer to this Contract and shall state that such insurance is required by this Contract. The Contractor shall make no claims against the City of Salem or its officers for any injury to any of his officers or employees or for damage to his trucks or equipment arising out of work contemplated by this Contract.

SECTION 00850

**Excerpts from Chapter 149 and Chapter 30 of the
Massachusetts General Laws**

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts. Attention is directed to the following Sections of Chapter 149 as amended:

Section 25. "Every employee in public work shall lodge, board, and trade where and with whom he elects; and no person or his agents or employees under contract with the commonwealth, a county, city or City, or with a department, board, commission or officer acting therefor, for the doing of public work shall directly or indirectly require, as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person. This section shall be made a part of the contract for such employment."

Section 26. "In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the commonwealth, or by a county, City or district, or by persons contracting or subcontracting for such works, preference shall first be given to citizens of the commonwealth who have been residents of the commonwealth for at least six months at the commencement of their employment who are male veterans as defined in clause Forty-third of section seven of chapter four, and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the commonwealth generally who have been residents of the commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every contract for such work shall contain a provisions to this effect..."

Section 27B. Records and Reports to be Kept and Furnished by Public Works Contractors.

Every contractor, subcontractor or public body engaged in said public works to which sections twenty-seven and twenty-seven A apply shall keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on said works, and the hours worked by, and the wages paid to, each such employee, and shall furnish to the commissioner, upon his request, a copy of said record, signed by the employer or his authorized agent under the penalties of perjury. Such records shall be open to inspection by any authorized representative of the department at any reasonable time, and as often as may be necessary. Every contractor and subcontractor required to keep such a record shall submit a copy of said record to the awarding authority on a weekly basis.

Each such contractor, subcontractor or public body shall preserve its payroll records for a period of three years from the date of completion of the contract.

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Each such contractor, subcontractor or public body shall furnish to the commissioner of labor and industries within fifteen days after completion of its portion of the work a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 20__

I, _____ (Name of signatory party), _____
(Title) do hereby state:

That I pay or supervise the payment of the persons employed by _____
_____ (Contractor, subcontractor or public body) on the
_____ (Building or project) and that all mechanics and
apprentices, teamsters, chauffeurs and laborers employed on said project have been paid
in accordance with wages determined under the provisions of sections twenty-six and
twenty-seven of chapter one hundred and forty-nine of the General Laws.

Signature _____

Title _____

The above-mentioned copies of payroll records and statements of compliance shall be available for inspection by any interested party filing a written request to the commissioner for such inspection.

Section 34. "Every contract, except for the purchase of material or supplies, involving the employment of laborers workmen, mechanics, foremen or inspectors, to which the commonwealth or any county or any City, subject to section thirty, is a party, shall contain a stipulation that no laborer, workman, mechanic, foreman or inspector working within the commonwealth, in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one-day or more than forty-eight hours in any one week, or more than six-days in any one week, except in cases of emergency, or in case any City subject to section thirty-one is a party to such a contract, more than eight hours in any one-day except as aforesaid..."

Section 34A. "Every contract for the construction, alteration, maintenance, repair or demolition of or addition to, any public building or other public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall, before commencing performance of such contract, provide by insurance for the payment of compensation and the furnishing of other benefits under chapter one hundred and fifty-two to all persons to be employed under the contract, and that the contractor shall continue such insurance in full force and effect during the term of the contract. No officer or agent contracting in behalf of the commonwealth or any

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political subdivision thereof shall award such a contract until he has been furnished with sufficient proof of compliance with the aforesaid stipulations. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the officer or agent who awarded the contract at least fifteen-days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice..."

Section 34B. "Every contract for the construction, alteration, maintenance, repair of demolition of, or addition to, any public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall pay to any reserve police officer employed by him in any city or City the prevailing rate of wage paid to regular police officers employed by him in such city or City."

(b) The applicant shall certify under penalties of perjury at the conclusion of the application to bid that there have been no substantial changes in his/her financial position or business organization other than those changes noted within the application since the applicant's most recent prequalification statement and that the bid to be made will be in all respects bona fide, fair and made without collusion or fraud with any other person. "Person" here means any natural person, joint venture, partnership, corporation or other business or legal entity which sells materials, equipment or supplies used in or for, or engages in the performance of, the same or similar construction, reconstruction, installation, demolition, maintenance or repair work or any part thereof.

Attention is directed to the following sections of Chapter 30 of the General Laws of Massachusetts as amended to date:

Section 39F. "(1) Every contract awarded pursuant to sections forty-four A to L inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor."

"(a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

"(b) Not later than the sixty-fifth-day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and

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unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

"(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

"(d) If, within seventy-days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered or sent by certified mail to the general contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth-day after the subcontractor has substantially completed the subcontract work. Within ten-days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

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- "(e) Within fifteen-days after receipt of the demand by the awarding authority, but in no event prior to the seventieth-day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided, that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.
- "(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.
- "(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the general contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.
- "(h) The awarding authority shall deduct from payments to a general contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.
- "(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor

and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn replay as provided in that same subparagraph. A demand made after the first-day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g), and (h)."

Section 39K. "Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, City, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, City, district, board, commission or public body, shall contain the following paragraph: Within fifteen-days (twenty-four-days in the case of the commonwealth) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five-days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less, (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work less (2) a retention for direct payments to subcontractors based on demand for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first-day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen-days (twenty-four-days in the case of the commonwealth) after receipt of such a

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periodic estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

"The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven-days after receipt, return to the contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically corrected and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building to which this section applies.

"All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each filed subcontractor and Sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate. "A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section."

Section 39L. "Public Construction work by foreign corporations; restrictions and reports." The Commonwealth and every county, city, City, district, board, commission or other public body which, as the awarding authority, request proposals, bids or sub-bids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a contract for such work with, and shall not approve as a subcontractor furnishing labor and materials for a part of any such work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that such corporation has complied with sections three and five of chapter one hundred and eighty-one and the date of such compliance, and (2) shall report to the state secretary and to the department of corporations and taxation any foreign corporation performing work under such contract or subcontract, and any person, other than a corporation, performing work under such contract or subcontract, and residing or having a principal place of business outside the commonwealth.

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Section 39M(b). "Specifications for such contracts, and specifications for contracts awarded pursuant to the provisions of said sections forty-four A to forty-four L of said chapter one hundred and forty-nine, shall be written to provide for full competition for each item of material to be furnished under the contract; except, however, that said specifications may be otherwise written for sound reasons in the public interest stated in writing in the public records of the awarding authority or promptly given in writing by the awarding authority to anyone making a written request therefor, in either instance such writing to be prepared after reasonable investigation. Every such contract shall provide that an item equal to that named or described in the said specifications may be furnished; and an item shall be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design, (2) it will perform at least equally the function imposed by the general design for or the public work being contracted for or the material being purchased, and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the said specifications.

"For each item of material the specifications shall provide for either a minimum of three named brands of material or a description of material which can be met by a minimum of three manufacturers or producers, and for the equal of any one of said named or described materials."

Section 39N. "Every contract subject to section forty-four A of Chapter one hundred and forty-nine or subject to section thirty-nine M of chapter thirty shall contain the following paragraph in its entirety and an awarding authority may adopt reasonable rules or regulations in conformity with that paragraph concerning the filing, investigation and settlement of such claims:

"If, during the progress of the work, the contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly."

Section 39O. "Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety....

- "(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen-days or more due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.
- "(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty-days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim.

Section 39P. "Every contract subject to section thirty-nine M of this chapter or section forty-four A of chapter one hundred forty-nine which requires the awarding authority, or any official, its architect or engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty-days after the written submission for decision; but if such decision requires extended investigation and study, the awarding authority, the official, architect or engineer shall, within thirty-days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made."

Section 39R(a). "The words defined herein shall have the meaning stated below whenever they appear in this section:

- (1) "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to section thirty-nine M of chapter thirty, sections forty-four A through H, inclusive, of chapter one hundred and forty-nine and sections thirty B through thirty P, inclusive, of chapter seven.
- (2) "Contract" means any contract awarded or executed pursuant to sections thirty B through thirty P, inclusive, of chapter seven and any contract

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awarded or executed pursuant to section thirty-nine M of chapter thirty, or sections forty-four A through H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars

- (3) "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.
- (4) "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his/her residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.
- (5) "Audit," when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.
- (6) "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he/she has made and sets forth his/her opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.
- (7) "Management," when used herein, means the chief executive officer, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.

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- (8) Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.
- (b) Subsection (a)(2) hereof notwithstanding, every agreement or contract awarded or executed pursuant to sections thirty B through thirty P, inclusive, of chapter seven, and pursuant to section thirty-nine M of chapter thirty or to section forth-five A through H, inclusive, of chapter one hundred and forty-nine, shall provide that:
- (9) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and
- (10) Until the expiration of six years after final payment, the awarding authority, office of inspector general, and the deputy commissioner of Capital Asset Management shall have the right to examine any books, documents, papers or records of the contractor or of his/her subcontractors that directly pertain to, and involve transactions relating to, the contractor or his/her subcontractors, and
- (11) If the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his/her description the date of the change and reasons therefor, and shall accompany said descriptions with a letter from the contractor's independent certified public accountant approving or otherwise commenting on the changes, and
- (12) If the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and
- (13) If the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.
- (c) Every contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the contractor and subsidiaries reasonably assures that:
- (14) Transactions are executed in accordance with management's general and specific authorization;

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- (15) Transactions are recorded as necessary:
- i. To permit preparation of financial statements in conformity with generally accepted accounting principles, and
 - ii. To maintain accountability for assets;
- (16) Access to assets is permitted only in accordance with management's general or specific authorization; and
- (17) The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.
- Every contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he/she has examined the statement of management on internal accounting controls, and expressing an opinion as to:
- (18) Whether the representations of management in response to this paragraph, and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and
- (19) Whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.
- (d) Every contractor awarded a contract by the commonwealth or by any political subdivision thereof shall annually file with the awarding authority and the deputy commissioner of Capital Asset Management during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the awarding authority upon request.
 - (e) The office of inspector general, the deputy commissioner for Capital Asset Management and any other awarding authority shall enforce the provisions of this section. The deputy commissioner of Capital Asset Management may after providing an opportunity for the inspector general and other interested parties to comment, promulgate pursuant to the provisions of chapter thirty A such rules, regulations and guidelines as are necessary to effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all awarding authorities. A contractor's failure

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to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of chapter one hundred and forty-nine."

- (f) Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause (2) of paragraph (b).

Section 40. "Bonds given to the commonwealth, any county, city, City or political subdivision to secure the performance of contracts for the construction or repair of public buildings or other public works may be discharged or released by the awarding authority, upon such terms as it deems expedient, after the expiration of one year from the time of completion, subject to section thirty-nine K, of the work contracted to be done; provided that no claim filed under said bond is pending, and provided further, that no such bonds shall be discharged or released prior to the expiration of all special guarantees provided for in the contract unless new bonds in substitution therefor specifically relating to the unexpired guarantees shall be taken.

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"ATTACHMENT A – Prevailing Wage Rates"



**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**

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

Awarding Authority: City of Salem
Contract Number: S-11 **City/Town:** SALEM
Description of Work: Historical Restoration of Dickson Memorial Chapel
Job Location: 57 Orne Street

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> | 08/01/2016 | \$32.15 | \$10.91 | \$10.08 | \$0.00 | \$53.14 |
| | 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> | 08/01/2016 | \$32.22 | \$10.91 | \$10.08 | \$0.00 | \$53.21 |
| | 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> | 08/01/2016 | \$32.34 | \$10.91 | \$10.08 | \$0.00 | \$53.33 |
| | 12/01/2016 | \$32.34 | \$10.91 | \$10.89 | \$0.00 | \$54.14 |
| ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$88.29 | \$9.80 | \$19.23 | \$0.00 | \$117.32 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
| | 12/01/2016 | \$33.15 | \$7.45 | \$12.65 | \$0.00 | \$53.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 06/01/2016 | \$32.90 | \$11.50 | \$7.10 | \$0.00 | \$51.50 |
| | 12/01/2016 | \$33.90 | \$11.50 | \$7.10 | \$0.00 | \$52.50 |
| | 06/01/2017 | \$34.90 | \$11.50 | \$7.10 | \$0.00 | \$53.50 |
| | 12/01/2017 | \$35.90 | \$11.50 | \$7.10 | \$0.00 | \$54.50 |
| | 06/01/2018 | \$36.90 | \$11.50 | \$7.10 | \$0.00 | \$55.50 |
| | 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> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
| | 12/01/2016 | \$33.15 | \$7.45 | \$12.65 | \$0.00 | \$53.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BOILER MAKER <i>BOILERMAKERS LOCAL 29</i> | 01/01/2016 | \$41.62 | \$6.97 | \$16.21 | \$0.00 | \$64.80 |
| | 01/01/2017 | \$42.92 | \$6.97 | \$16.21 | \$0.00 | \$66.10 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 65 | \$27.05 | \$6.97 | \$10.54 | \$0.00 | \$44.56 |
| 2 | 65 | \$27.05 | \$6.97 | \$10.54 | \$0.00 | \$44.56 |
| 3 | 70 | \$29.13 | \$6.97 | \$11.35 | \$0.00 | \$47.45 |
| 4 | 75 | \$31.22 | \$6.97 | \$12.16 | \$0.00 | \$50.35 |
| 5 | 80 | \$33.30 | \$6.97 | \$12.97 | \$0.00 | \$53.24 |
| 6 | 85 | \$35.38 | \$6.97 | \$13.78 | \$0.00 | \$56.13 |
| 7 | 90 | \$37.46 | \$6.97 | \$14.59 | \$0.00 | \$59.02 |
| 8 | 95 | \$39.54 | \$6.97 | \$15.40 | \$0.00 | \$61.91 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 65 | \$27.90 | \$6.97 | \$10.54 | \$0.00 | \$45.41 |
| 2 | 65 | \$27.90 | \$6.97 | \$10.54 | \$0.00 | \$45.41 |
| 3 | 70 | \$30.04 | \$6.97 | \$11.35 | \$0.00 | \$48.36 |
| 4 | 75 | \$32.19 | \$6.97 | \$12.16 | \$0.00 | \$51.32 |
| 5 | 80 | \$34.34 | \$6.97 | \$12.97 | \$0.00 | \$54.28 |
| 6 | 85 | \$36.48 | \$6.97 | \$13.78 | \$0.00 | \$57.23 |
| 7 | 90 | \$38.63 | \$6.97 | \$14.59 | \$0.00 | \$60.19 |
| 8 | 95 | \$40.77 | \$6.97 | \$15.40 | \$0.00 | \$63.14 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) | 08/01/2016 | \$50.76 | \$10.18 | \$19.22 | \$0.00 | \$80.16 |
| BRICKLAYERS LOCAL 3 (LYNN) | 02/01/2017 | \$51.33 | \$10.18 | \$19.22 | \$0.00 | \$80.73 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.38 | \$10.18 | \$19.22 | \$0.00 | \$54.78 |
| 2 | 60 | \$30.46 | \$10.18 | \$19.22 | \$0.00 | \$59.86 |
| 3 | 70 | \$35.53 | \$10.18 | \$19.22 | \$0.00 | \$64.93 |
| 4 | 80 | \$40.61 | \$10.18 | \$19.22 | \$0.00 | \$70.01 |
| 5 | 90 | \$45.68 | \$10.18 | \$19.22 | \$0.00 | \$75.08 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.67 | \$10.18 | \$19.22 | \$0.00 | \$55.07 |
| 2 | 60 | \$30.80 | \$10.18 | \$19.22 | \$0.00 | \$60.20 |
| 3 | 70 | \$35.93 | \$10.18 | \$19.22 | \$0.00 | \$65.33 |
| 4 | 80 | \$41.06 | \$10.18 | \$19.22 | \$0.00 | \$70.46 |
| 5 | 90 | \$46.20 | \$10.18 | \$19.22 | \$0.00 | \$75.60 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2016 | \$36.95 | \$7.45 | \$14.00 | \$0.00 | \$58.40 |
| | 12/01/2016 | \$37.95 | \$7.45 | \$14.00 | \$0.00 | \$59.40 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2016 | \$35.80 | \$7.45 | \$14.00 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$36.80 | \$7.45 | \$14.00 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2016 | \$35.80 | \$7.45 | \$14.00 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$36.80 | \$7.45 | \$14.00 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i> | 09/01/2016 | \$38.08 | \$9.80 | \$16.82 | \$0.00 | \$64.70 |
| | 03/01/2017 | \$39.05 | \$9.80 | \$16.82 | \$0.00 | \$65.67 |
| | 09/01/2017 | \$40.06 | \$9.80 | \$16.82 | \$0.00 | \$66.68 |
| | 03/01/2018 | \$41.06 | \$9.80 | \$16.82 | \$0.00 | \$67.68 |
| | 09/01/2018 | \$42.10 | \$9.80 | \$16.82 | \$0.00 | \$68.72 |
| | 03/01/2019 | \$43.13 | \$9.80 | \$16.82 | \$0.00 | \$69.75 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.04 | \$9.80 | \$1.63 | \$0.00 | \$30.47 |
| 2 | 60 | \$22.85 | \$9.80 | \$1.63 | \$0.00 | \$34.28 |
| 3 | 70 | \$26.66 | \$9.80 | \$11.93 | \$0.00 | \$48.39 |
| 4 | 75 | \$28.56 | \$9.80 | \$11.93 | \$0.00 | \$50.29 |
| 5 | 80 | \$30.46 | \$9.80 | \$13.56 | \$0.00 | \$53.82 |
| 6 | 80 | \$30.46 | \$9.80 | \$13.56 | \$0.00 | \$53.82 |
| 7 | 90 | \$34.27 | \$9.80 | \$15.19 | \$0.00 | \$59.26 |
| 8 | 90 | \$34.27 | \$9.80 | \$15.19 | \$0.00 | \$59.26 |

Effective Date - 03/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.53 | \$9.80 | \$1.63 | \$0.00 | \$30.96 |
| 2 | 60 | \$23.43 | \$9.80 | \$1.63 | \$0.00 | \$34.86 |
| 3 | 70 | \$27.34 | \$9.80 | \$11.93 | \$0.00 | \$49.07 |
| 4 | 75 | \$29.29 | \$9.80 | \$11.93 | \$0.00 | \$51.02 |
| 5 | 80 | \$31.24 | \$9.80 | \$13.56 | \$0.00 | \$54.60 |
| 6 | 80 | \$31.24 | \$9.80 | \$13.56 | \$0.00 | \$54.60 |
| 7 | 90 | \$35.15 | \$9.80 | \$15.19 | \$0.00 | \$60.14 |
| 8 | 90 | \$35.15 | \$9.80 | \$15.19 | \$0.00 | \$60.14 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (LYNN) | 01/01/2016 | \$46.44 | \$10.90 | \$18.71 | \$1.30 | \$77.35 |
|---|------------|---------|---------|---------|--------|---------|

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

Effective Date - 01/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$23.22 | \$10.90 | \$12.21 | \$0.00 | \$46.33 |
| 2 | 60 | \$27.86 | \$10.90 | \$13.71 | \$1.30 | \$53.77 |
| 3 | 65 | \$30.19 | \$10.90 | \$14.71 | \$1.30 | \$57.10 |
| 4 | 70 | \$32.51 | \$10.90 | \$15.71 | \$1.30 | \$60.42 |
| 5 | 75 | \$34.83 | \$10.90 | \$16.71 | \$1.30 | \$63.74 |
| 6 | 80 | \$37.15 | \$10.90 | \$17.71 | \$1.30 | \$67.06 |
| 7 | 90 | \$41.80 | \$10.90 | \$18.71 | \$1.30 | \$72.71 |

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

Apprentice to Journeyworker Ratio:1:3

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$45.23 | \$10.00 | \$15.15 | \$0.00 | \$70.38 |
| | 12/01/2016 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 06/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |
| | 12/01/2017 | \$48.48 | \$10.00 | \$15.15 | \$0.00 | \$73.63 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$30.40 | \$10.00 | \$15.15 | \$0.00 | \$55.55 |
| | 12/01/2016 | \$31.27 | \$10.00 | \$15.15 | \$0.00 | \$56.42 |
| | 06/01/2017 | \$31.96 | \$10.00 | \$15.15 | \$0.00 | \$57.11 |
| | 12/01/2017 | \$32.65 | \$10.00 | \$15.15 | \$0.00 | \$57.80 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i> | 07/01/2016 | \$50.46 | \$7.85 | \$16.10 | \$0.00 | \$74.41 |
| | 01/01/2017 | \$51.41 | \$7.85 | \$16.10 | \$0.00 | \$75.36 |

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.23 | \$7.85 | \$0.00 | \$0.00 | \$33.08 |
| 2 | 55 | \$27.75 | \$7.85 | \$3.66 | \$0.00 | \$39.26 |
| 3 | 60 | \$30.28 | \$7.85 | \$3.99 | \$0.00 | \$42.12 |
| 4 | 65 | \$32.80 | \$7.85 | \$4.32 | \$0.00 | \$44.97 |
| 5 | 70 | \$35.32 | \$7.85 | \$14.11 | \$0.00 | \$57.28 |
| 6 | 75 | \$37.85 | \$7.85 | \$14.44 | \$0.00 | \$60.14 |
| 7 | 80 | \$40.37 | \$7.85 | \$14.77 | \$0.00 | \$62.99 |
| 8 | 90 | \$45.41 | \$7.85 | \$15.44 | \$0.00 | \$68.70 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.71 | \$7.85 | \$0.00 | \$0.00 | \$33.56 |
| 2 | 55 | \$28.28 | \$7.85 | \$3.66 | \$0.00 | \$39.79 |
| 3 | 60 | \$30.85 | \$7.85 | \$3.99 | \$0.00 | \$42.69 |
| 4 | 65 | \$33.42 | \$7.85 | \$4.32 | \$0.00 | \$45.59 |
| 5 | 70 | \$35.99 | \$7.85 | \$14.11 | \$0.00 | \$57.95 |
| 6 | 75 | \$38.56 | \$7.85 | \$14.44 | \$0.00 | \$60.85 |
| 7 | 80 | \$41.13 | \$7.85 | \$14.77 | \$0.00 | \$63.75 |
| 8 | 90 | \$46.27 | \$7.85 | \$15.44 | \$0.00 | \$69.56 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| DEMO: ADZEMAN <i>LABORERS - ZONE 2</i> | 12/01/2015 | \$35.50 | \$7.45 | \$13.55 | \$0.00 | \$56.50 |
| 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> | 12/01/2015 | \$36.50 | \$7.45 | \$13.55 | \$0.00 | \$57.50 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: BURNERS <i>LABORERS - ZONE 2</i> | 12/01/2015 | \$36.25 | \$7.45 | \$13.55 | \$0.00 | \$57.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i> | 12/01/2015 | \$36.50 | \$7.45 | \$13.55 | \$0.00 | \$57.50 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i> | 12/01/2015 | \$36.25 | \$7.45 | \$13.55 | \$0.00 | \$57.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i> | 12/01/2015 | \$35.50 | \$7.45 | \$13.55 | \$0.00 | \$56.50 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$58.86 | \$9.80 | \$19.23 | \$0.00 | \$87.89 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$42.04 | \$9.80 | \$19.23 | \$0.00 | \$71.07 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$63.06 | \$9.80 | \$19.23 | \$0.00 | \$92.09 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$88.23 | \$9.80 | \$19.23 | \$0.00 | \$117.26 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$46.17 | \$13.00 | \$16.39 | \$0.00 | \$75.56 |
| For apprentice rates see "Apprentice- ELECTRICIAN" | | | | | | |
| ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$46.17 | \$13.00 | \$16.39 | \$0.00 | \$75.56 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$18.47 | \$13.00 | \$0.55 | \$0.00 | \$32.02 |
| 2 | 40 | \$18.47 | \$13.00 | \$0.55 | \$0.00 | \$32.02 |
| 3 | 45 | \$20.78 | \$13.00 | \$12.34 | \$0.00 | \$46.12 |
| 4 | 45 | \$20.78 | \$13.00 | \$12.34 | \$0.00 | \$46.12 |
| 5 | 50 | \$23.09 | \$13.00 | \$12.71 | \$0.00 | \$48.80 |
| 6 | 55 | \$25.39 | \$13.00 | \$13.07 | \$0.00 | \$51.46 |
| 7 | 60 | \$27.70 | \$13.00 | \$13.44 | \$0.00 | \$54.14 |
| 8 | 65 | \$30.01 | \$13.00 | \$13.81 | \$0.00 | \$56.82 |
| 9 | 70 | \$32.32 | \$13.00 | \$14.18 | \$0.00 | \$59.50 |
| 10 | 75 | \$34.63 | \$13.00 | \$14.55 | \$0.00 | \$62.18 |

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

Apprentice to Journeyworker Ratio:2:3***

| | | | | | | |
|-------------------------------|------------|---------|---------|---------|--------|---------|
| ELEVATOR CONSTRUCTOR | 01/01/2016 | \$54.53 | \$14.43 | \$14.96 | \$0.00 | \$83.92 |
| ELEVATOR CONSTRUCTORS LOCAL 4 | 01/01/2017 | \$55.86 | \$15.28 | \$15.71 | \$0.00 | \$86.85 |

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$27.27 | \$14.43 | \$0.00 | \$0.00 | \$41.70 |
| 2 | 55 | \$29.99 | \$14.43 | \$14.96 | \$0.00 | \$59.38 |
| 3 | 65 | \$35.44 | \$14.43 | \$14.96 | \$0.00 | \$64.83 |
| 4 | 70 | \$38.17 | \$14.43 | \$14.96 | \$0.00 | \$67.56 |
| 5 | 80 | \$43.62 | \$14.43 | \$14.96 | \$0.00 | \$73.01 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$27.93 | \$15.28 | \$0.00 | \$0.00 | \$43.21 |
| 2 | 55 | \$30.72 | \$15.28 | \$15.71 | \$0.00 | \$61.71 |
| 3 | 65 | \$36.31 | \$15.28 | \$15.71 | \$0.00 | \$67.30 |
| 4 | 70 | \$39.10 | \$15.28 | \$15.71 | \$0.00 | \$70.09 |
| 5 | 80 | \$44.69 | \$15.28 | \$15.71 | \$0.00 | \$75.68 |

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

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|-------------------------------|------------|---------|---------|---------|--------|---------|
| ELEVATOR CONSTRUCTOR HELPER | 01/01/2016 | \$38.17 | \$14.43 | \$14.96 | \$0.00 | \$67.56 |
| ELEVATOR CONSTRUCTORS LOCAL 4 | 01/01/2017 | \$39.10 | \$15.28 | \$15.71 | \$0.00 | \$70.09 |

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|-----------------------|------------------|---------------|----------------|----------------------------------|-------------------|
| FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 11/01/2016 | \$41.37 | \$10.00 | \$15.15 | \$0.00 | \$66.52 |
| | 05/01/2017 | \$42.25 | \$10.00 | \$15.15 | \$0.00 | \$67.40 |
| | 11/01/2017 | \$42.98 | \$10.00 | \$15.15 | \$0.00 | \$68.13 |
| | 05/01/2018 | \$43.69 | \$10.00 | \$15.15 | \$0.00 | \$68.84 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 11/01/2016 | \$42.82 | \$10.00 | \$15.15 | \$0.00 | \$67.97 |
| | 05/01/2017 | \$43.71 | \$10.00 | \$15.15 | \$0.00 | \$68.86 |
| | 11/01/2017 | \$44.44 | \$10.00 | \$15.15 | \$0.00 | \$69.59 |
| | 05/01/2018 | \$45.16 | \$10.00 | \$15.15 | \$0.00 | \$70.31 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 11/01/2016 | \$21.98 | \$10.00 | \$15.15 | \$0.00 | \$47.13 |
| | 05/01/2017 | \$22.51 | \$10.00 | \$15.15 | \$0.00 | \$47.66 |
| | 11/01/2017 | \$22.93 | \$10.00 | \$15.15 | \$0.00 | \$48.08 |
| | 05/01/2018 | \$23.36 | \$10.00 | \$15.15 | \$0.00 | \$48.51 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$46.17 | \$13.00 | \$16.39 | \$0.00 | \$75.56 |
| For apprentice rates see "Apprentice- ELECTRICIAN" | | | | | | |
| FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$34.63 | \$13.00 | \$14.55 | \$0.00 | \$62.18 |
| For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN" | | | | | | |
| FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$36.71 | \$10.00 | \$15.15 | \$0.00 | \$61.86 |
| | 12/01/2016 | \$37.75 | \$10.00 | \$15.15 | \$0.00 | \$62.90 |
| | 06/01/2017 | \$38.59 | \$10.00 | \$15.15 | \$0.00 | \$63.74 |
| | 12/01/2017 | \$39.42 | \$10.00 | \$15.15 | \$0.00 | \$64.57 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$20.50 | \$7.45 | \$12.65 | \$0.00 | \$40.60 |
| | 12/01/2016 | \$20.50 | \$7.45 | \$12.65 | \$0.00 | \$40.60 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</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.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|------------------------------------|------------|---------|---------|---------|--------|---------|
| FORK LIFT/CHERRY PICKER | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| GENERATOR/LIGHTING PLANT/HEATERS | 06/01/2016 | \$30.40 | \$10.00 | \$15.15 | \$0.00 | \$55.55 |
| <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2016 | \$31.27 | \$10.00 | \$15.15 | \$0.00 | \$56.42 |
| | 06/01/2017 | \$31.96 | \$10.00 | \$15.15 | \$0.00 | \$57.11 |
| | 12/01/2017 | \$32.65 | \$10.00 | \$15.15 | \$0.00 | \$57.80 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) | 07/01/2016 | \$39.96 | \$7.85 | \$16.10 | \$0.00 | \$63.91 |
| <i>GLAZIERS LOCAL 35 (ZONE 2)</i> | 01/01/2017 | \$40.91 | \$7.85 | \$16.10 | \$0.00 | \$64.86 |

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.98 | \$7.85 | \$0.00 | \$0.00 | \$27.83 |
| 2 | 55 | \$21.98 | \$7.85 | \$3.66 | \$0.00 | \$33.49 |
| 3 | 60 | \$23.98 | \$7.85 | \$3.99 | \$0.00 | \$35.82 |
| 4 | 65 | \$25.97 | \$7.85 | \$4.32 | \$0.00 | \$38.14 |
| 5 | 70 | \$27.97 | \$7.85 | \$14.11 | \$0.00 | \$49.93 |
| 6 | 75 | \$29.97 | \$7.85 | \$14.44 | \$0.00 | \$52.26 |
| 7 | 80 | \$31.97 | \$7.85 | \$14.77 | \$0.00 | \$54.59 |
| 8 | 90 | \$35.96 | \$7.85 | \$15.44 | \$0.00 | \$59.25 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.46 | \$7.85 | \$0.00 | \$0.00 | \$28.31 |
| 2 | 55 | \$22.50 | \$7.85 | \$3.66 | \$0.00 | \$34.01 |
| 3 | 60 | \$24.55 | \$7.85 | \$3.99 | \$0.00 | \$36.39 |
| 4 | 65 | \$26.59 | \$7.85 | \$4.32 | \$0.00 | \$38.76 |
| 5 | 70 | \$28.64 | \$7.85 | \$14.11 | \$0.00 | \$50.60 |
| 6 | 75 | \$30.68 | \$7.85 | \$14.44 | \$0.00 | \$52.97 |
| 7 | 80 | \$32.73 | \$7.85 | \$14.77 | \$0.00 | \$55.35 |
| 8 | 90 | \$36.82 | \$7.85 | \$15.44 | \$0.00 | \$60.11 |

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|-----------------------------------|------------|---------|---------|---------|--------|---------|
| HOISTING ENGINEER/CRANES/GRADALLS | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| OPERATING ENGINEERS LOCAL 4 | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 55 | \$24.33 | \$10.00 | \$0.00 | \$0.00 | \$34.33 |
| 2 | 60 | \$26.54 | \$10.00 | \$15.15 | \$0.00 | \$51.69 |
| 3 | 65 | \$28.75 | \$10.00 | \$15.15 | \$0.00 | \$53.90 |
| 4 | 70 | \$30.96 | \$10.00 | \$15.15 | \$0.00 | \$56.11 |
| 5 | 75 | \$33.17 | \$10.00 | \$15.15 | \$0.00 | \$58.32 |
| 6 | 80 | \$35.38 | \$10.00 | \$15.15 | \$0.00 | \$60.53 |
| 7 | 85 | \$37.60 | \$10.00 | \$15.15 | \$0.00 | \$62.75 |
| 8 | 90 | \$39.81 | \$10.00 | \$15.15 | \$0.00 | \$64.96 |

Effective Date - 12/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 55 | \$25.01 | \$10.00 | \$0.00 | \$0.00 | \$35.01 |
| 2 | 60 | \$27.29 | \$10.00 | \$15.15 | \$0.00 | \$52.44 |
| 3 | 65 | \$29.56 | \$10.00 | \$15.15 | \$0.00 | \$54.71 |
| 4 | 70 | \$31.84 | \$10.00 | \$15.15 | \$0.00 | \$56.99 |
| 5 | 75 | \$34.11 | \$10.00 | \$15.15 | \$0.00 | \$59.26 |
| 6 | 80 | \$36.38 | \$10.00 | \$15.15 | \$0.00 | \$61.53 |
| 7 | 85 | \$38.66 | \$10.00 | \$15.15 | \$0.00 | \$63.81 |
| 8 | 90 | \$40.93 | \$10.00 | \$15.15 | \$0.00 | \$66.08 |

Notes:

Apprentice to Journeyworker Ratio:1:6

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i> | 11/01/2016 | \$43.40 | \$10.70 | \$23.07 | \$2.32 | \$79.49 |
| | 02/01/2017 | \$44.50 | \$10.70 | \$23.07 | \$2.32 | \$80.59 |
| | 08/01/2017 | \$45.60 | \$10.70 | \$23.07 | \$2.32 | \$81.69 |
| | 02/01/2018 | \$46.75 | \$10.70 | \$23.07 | \$2.32 | \$82.84 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$46.17 | \$13.00 | \$16.39 | \$0.00 | \$75.56 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- ELECTRICIAN"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i> | 11/01/2016 | \$43.40 | \$10.70 | \$23.07 | \$2.32 | \$79.49 |
| | 02/01/2017 | \$44.50 | \$10.70 | \$23.07 | \$2.32 | \$80.59 |
| | 08/01/2017 | \$45.60 | \$10.70 | \$23.07 | \$2.32 | \$81.69 |
| | 02/01/2018 | \$46.75 | \$10.70 | \$23.07 | \$2.32 | \$82.84 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i> | 09/01/2016 | \$47.86 | \$9.70 | \$16.14 | \$0.00 | \$73.70 |
| | 03/01/2017 | \$48.86 | \$9.70 | \$16.14 | \$0.00 | \$74.70 |

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

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i> | 09/01/2016 | \$47.86 | \$9.70 | \$16.14 | \$0.00 | \$73.70 |
| | 03/01/2017 | \$48.86 | \$9.70 | \$16.14 | \$0.00 | \$74.70 |

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> | 06/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
| | 12/01/2016 | \$33.15 | \$7.45 | \$12.65 | \$0.00 | \$53.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 09/01/2016 | \$45.09 | \$11.75 | \$14.20 | \$0.00 | \$71.04 |
| | 09/01/2017 | \$47.09 | \$11.75 | \$14.20 | \$0.00 | \$73.04 |
| | 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 - 09/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$22.55 | \$11.75 | \$10.45 | \$0.00 | \$44.75 |
| 2 | 60 | \$27.05 | \$11.75 | \$11.20 | \$0.00 | \$50.00 |
| 3 | 70 | \$31.56 | \$11.75 | \$11.95 | \$0.00 | \$55.26 |
| 4 | 80 | \$36.07 | \$11.75 | \$12.70 | \$0.00 | \$60.52 |

Effective Date - 09/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$23.55 | \$11.75 | \$10.45 | \$0.00 | \$45.75 |
| 2 | 60 | \$28.25 | \$11.75 | \$11.20 | \$0.00 | \$51.20 |
| 3 | 70 | \$32.96 | \$11.75 | \$11.95 | \$0.00 | \$56.66 |
| 4 | 80 | \$37.67 | \$11.75 | \$12.70 | \$0.00 | \$62.12 |

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i> | 09/16/2016 | \$44.05 | \$7.80 | \$20.85 | \$0.00 | \$72.70 |
| | 03/16/2017 | \$44.65 | \$7.80 | \$20.85 | \$0.00 | \$73.30 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$26.43 | \$7.80 | \$20.85 | \$0.00 | \$55.08 |
| 2 | 70 | \$30.84 | \$7.80 | \$20.85 | \$0.00 | \$59.49 |
| 3 | 75 | \$33.04 | \$7.80 | \$20.85 | \$0.00 | \$61.69 |
| 4 | 80 | \$35.24 | \$7.80 | \$20.85 | \$0.00 | \$63.89 |
| 5 | 85 | \$37.44 | \$7.80 | \$20.85 | \$0.00 | \$66.09 |
| 6 | 90 | \$39.65 | \$7.80 | \$20.85 | \$0.00 | \$68.30 |

Effective Date - 03/16/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$26.79 | \$7.80 | \$20.85 | \$0.00 | \$55.44 |
| 2 | 70 | \$31.26 | \$7.80 | \$20.85 | \$0.00 | \$59.91 |
| 3 | 75 | \$33.49 | \$7.80 | \$20.85 | \$0.00 | \$62.14 |
| 4 | 80 | \$35.72 | \$7.80 | \$20.85 | \$0.00 | \$64.37 |
| 5 | 85 | \$37.95 | \$7.80 | \$20.85 | \$0.00 | \$66.60 |
| 6 | 90 | \$40.19 | \$7.80 | \$20.85 | \$0.00 | \$68.84 |

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2 | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| LABORER LABORERS - ZONE 2 | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
| | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$18.99 | \$7.45 | \$12.65 | \$0.00 | \$39.09 |
| 2 | 70 | \$22.16 | \$7.45 | \$12.65 | \$0.00 | \$42.26 |
| 3 | 80 | \$25.32 | \$7.45 | \$12.65 | \$0.00 | \$45.42 |
| 4 | 90 | \$28.49 | \$7.45 | \$12.65 | \$0.00 | \$48.59 |

Effective Date - 12/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$19.44 | \$7.45 | \$12.65 | \$0.00 | \$39.54 |
| 2 | 70 | \$22.68 | \$7.45 | \$12.65 | \$0.00 | \$42.78 |
| 3 | 80 | \$25.92 | \$7.45 | \$12.65 | \$0.00 | \$46.02 |
| 4 | 90 | \$29.16 | \$7.45 | \$12.65 | \$0.00 | \$49.26 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: CARPENTER TENDER LABORERS - ZONE 2 | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2 | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2 | 12/01/2015 | \$31.35 | \$7.45 | \$12.60 | \$0.00 | \$51.40 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: MASON TENDER LABORERS - ZONE 2 | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2 | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: TREE REMOVER LABORERS - ZONE 2 | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
|--|------------|---------|--------|---------|--------|---------|

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"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| LASER BEAM OPERATOR LABORERS - ZONE 2 | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
|--|------------|---------|--------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE | 08/01/2016 | \$38.78 | \$10.18 | \$17.78 | \$0.00 | \$66.74 |
|--|------------|---------|---------|---------|--------|---------|

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| | 02/01/2017 | \$39.24 | \$10.18 | \$17.78 | \$0.00 | \$67.20 |
|--|------------|---------|---------|---------|--------|---------|

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

Effective Date - 08/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$19.39 | \$10.18 | \$17.78 | \$0.00 | \$47.35 |
| 2 | 60 | \$23.27 | \$10.18 | \$17.78 | \$0.00 | \$51.23 |
| 3 | 70 | \$27.15 | \$10.18 | \$17.78 | \$0.00 | \$55.11 |
| 4 | 80 | \$31.02 | \$10.18 | \$17.78 | \$0.00 | \$58.98 |
| 5 | 90 | \$34.90 | \$10.18 | \$17.78 | \$0.00 | \$62.86 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$19.62 | \$10.18 | \$17.78 | \$0.00 | \$47.58 |
| 2 | 60 | \$23.54 | \$10.18 | \$17.78 | \$0.00 | \$51.50 |
| 3 | 70 | \$27.47 | \$10.18 | \$17.78 | \$0.00 | \$55.43 |
| 4 | 80 | \$31.39 | \$10.18 | \$17.78 | \$0.00 | \$59.35 |
| 5 | 90 | \$35.32 | \$10.18 | \$17.78 | \$0.00 | \$63.28 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| MARBLE MASONS, TILELAYERS & TERRAZZO MECH | 08/01/2016 | \$50.80 | \$10.18 | \$19.22 | \$0.00 | \$80.20 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 02/01/2017 | \$51.37 | \$10.18 | \$19.22 | \$0.00 | \$80.77 |

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

Effective Date - 08/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.40 | \$10.18 | \$19.22 | \$0.00 | \$54.80 |
| 2 | 60 | \$30.48 | \$10.18 | \$19.22 | \$0.00 | \$59.88 |
| 3 | 70 | \$35.56 | \$10.18 | \$19.22 | \$0.00 | \$64.96 |
| 4 | 80 | \$40.64 | \$10.18 | \$19.22 | \$0.00 | \$70.04 |
| 5 | 90 | \$45.72 | \$10.18 | \$19.22 | \$0.00 | \$75.12 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.69 | \$10.18 | \$19.22 | \$0.00 | \$55.09 |
| 2 | 60 | \$30.82 | \$10.18 | \$19.22 | \$0.00 | \$60.22 |
| 3 | 70 | \$35.96 | \$10.18 | \$19.22 | \$0.00 | \$65.36 |
| 4 | 80 | \$41.10 | \$10.18 | \$19.22 | \$0.00 | \$70.50 |
| 5 | 90 | \$46.23 | \$10.18 | \$19.22 | \$0.00 | \$75.63 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i> | 04/01/2015 | \$37.64 | \$9.80 | \$16.21 | \$0.00 | \$63.65 |
|---|------------|---------|--------|---------|--------|---------|

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 04/01/2015

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 55 | \$20.70 | \$9.80 | \$4.48 | \$0.00 | \$34.98 |
| 2 | 65 | \$24.47 | \$9.80 | \$13.36 | \$0.00 | \$47.63 |
| 3 | 75 | \$28.23 | \$9.80 | \$14.18 | \$0.00 | \$52.21 |
| 4 | 85 | \$31.99 | \$9.80 | \$14.99 | \$0.00 | \$56.78 |

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| MORTAR MIXER <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$22.41 | \$10.00 | \$15.15 | \$0.00 | \$47.56 |
| | 12/01/2016 | \$23.06 | \$10.00 | \$15.15 | \$0.00 | \$48.21 |
| | 06/01/2017 | \$23.57 | \$10.00 | \$15.15 | \$0.00 | \$48.72 |
| | 12/01/2017 | \$24.09 | \$10.00 | \$15.15 | \$0.00 | \$49.24 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$26.29 | \$10.00 | \$15.15 | \$0.00 | \$51.44 |
| | 12/01/2016 | \$27.04 | \$10.00 | \$15.15 | \$0.00 | \$52.19 |
| | 06/01/2017 | \$27.64 | \$10.00 | \$15.15 | \$0.00 | \$52.79 |
| | 12/01/2017 | \$28.25 | \$10.00 | \$15.15 | \$0.00 | \$53.40 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i> | 07/01/2016 | \$50.46 | \$7.85 | \$16.10 | \$0.00 | \$74.41 |
| | 01/01/2017 | \$51.41 | \$7.85 | \$16.10 | \$0.00 | \$75.36 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.23 | \$7.85 | \$0.00 | \$0.00 | \$33.08 |
| 2 | 55 | \$27.75 | \$7.85 | \$3.66 | \$0.00 | \$39.26 |
| 3 | 60 | \$30.28 | \$7.85 | \$3.99 | \$0.00 | \$42.12 |
| 4 | 65 | \$32.80 | \$7.85 | \$4.32 | \$0.00 | \$44.97 |
| 5 | 70 | \$35.32 | \$7.85 | \$14.11 | \$0.00 | \$57.28 |
| 6 | 75 | \$37.85 | \$7.85 | \$14.44 | \$0.00 | \$60.14 |
| 7 | 80 | \$40.37 | \$7.85 | \$14.77 | \$0.00 | \$62.99 |
| 8 | 90 | \$45.41 | \$7.85 | \$15.44 | \$0.00 | \$68.70 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.71 | \$7.85 | \$0.00 | \$0.00 | \$33.56 |
| 2 | 55 | \$28.28 | \$7.85 | \$3.66 | \$0.00 | \$39.79 |
| 3 | 60 | \$30.85 | \$7.85 | \$3.99 | \$0.00 | \$42.69 |
| 4 | 65 | \$33.42 | \$7.85 | \$4.32 | \$0.00 | \$45.59 |
| 5 | 70 | \$35.99 | \$7.85 | \$14.11 | \$0.00 | \$57.95 |
| 6 | 75 | \$38.56 | \$7.85 | \$14.44 | \$0.00 | \$60.85 |
| 7 | 80 | \$41.13 | \$7.85 | \$14.77 | \$0.00 | \$63.75 |
| 8 | 90 | \$46.27 | \$7.85 | \$15.44 | \$0.00 | \$69.56 |

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, NEW) * | 07/01/2016 | \$41.36 | \$7.85 | \$16.10 | \$0.00 | \$65.31 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 01/01/2017 | \$42.31 | \$7.85 | \$16.10 | \$0.00 | \$66.26 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.68 | \$7.85 | \$0.00 | \$0.00 | \$28.53 |
| 2 | 55 | \$22.75 | \$7.85 | \$3.66 | \$0.00 | \$34.26 |
| 3 | 60 | \$24.82 | \$7.85 | \$3.99 | \$0.00 | \$36.66 |
| 4 | 65 | \$26.88 | \$7.85 | \$4.32 | \$0.00 | \$39.05 |
| 5 | 70 | \$28.95 | \$7.85 | \$14.11 | \$0.00 | \$50.91 |
| 6 | 75 | \$31.02 | \$7.85 | \$14.44 | \$0.00 | \$53.31 |
| 7 | 80 | \$33.09 | \$7.85 | \$14.77 | \$0.00 | \$55.71 |
| 8 | 90 | \$37.22 | \$7.85 | \$15.44 | \$0.00 | \$60.51 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$21.16 | \$7.85 | \$0.00 | \$0.00 | \$29.01 |
| 2 | 55 | \$23.27 | \$7.85 | \$3.66 | \$0.00 | \$34.78 |
| 3 | 60 | \$25.39 | \$7.85 | \$3.99 | \$0.00 | \$37.23 |
| 4 | 65 | \$27.50 | \$7.85 | \$4.32 | \$0.00 | \$39.67 |
| 5 | 70 | \$29.62 | \$7.85 | \$14.11 | \$0.00 | \$51.58 |
| 6 | 75 | \$31.73 | \$7.85 | \$14.44 | \$0.00 | \$54.02 |
| 7 | 80 | \$33.85 | \$7.85 | \$14.77 | \$0.00 | \$56.47 |
| 8 | 90 | \$38.08 | \$7.85 | \$15.44 | \$0.00 | \$61.37 |

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---------------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, REPAINT) | 07/01/2016 | \$39.42 | \$7.85 | \$16.10 | \$0.00 | \$63.37 |
| PAINTERS LOCAL 35 - ZONE 2 | 01/01/2017 | \$40.37 | \$7.85 | \$16.10 | \$0.00 | \$64.32 |

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

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.71 | \$7.85 | \$0.00 | \$0.00 | \$27.56 |
| 2 | 55 | \$21.68 | \$7.85 | \$3.66 | \$0.00 | \$33.19 |
| 3 | 60 | \$23.65 | \$7.85 | \$3.99 | \$0.00 | \$35.49 |
| 4 | 65 | \$25.62 | \$7.85 | \$4.32 | \$0.00 | \$37.79 |
| 5 | 70 | \$27.59 | \$7.85 | \$14.11 | \$0.00 | \$49.55 |
| 6 | 75 | \$29.57 | \$7.85 | \$14.44 | \$0.00 | \$51.86 |
| 7 | 80 | \$31.54 | \$7.85 | \$14.77 | \$0.00 | \$54.16 |
| 8 | 90 | \$35.48 | \$7.85 | \$15.44 | \$0.00 | \$58.77 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.19 | \$7.85 | \$0.00 | \$0.00 | \$28.04 |
| 2 | 55 | \$22.20 | \$7.85 | \$3.66 | \$0.00 | \$33.71 |
| 3 | 60 | \$24.22 | \$7.85 | \$3.99 | \$0.00 | \$36.06 |
| 4 | 65 | \$26.24 | \$7.85 | \$4.32 | \$0.00 | \$38.41 |
| 5 | 70 | \$28.26 | \$7.85 | \$14.11 | \$0.00 | \$50.22 |
| 6 | 75 | \$30.28 | \$7.85 | \$14.44 | \$0.00 | \$52.57 |
| 7 | 80 | \$32.30 | \$7.85 | \$14.77 | \$0.00 | \$54.92 |
| 8 | 90 | \$36.33 | \$7.85 | \$15.44 | \$0.00 | \$59.62 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|----------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (TRAFFIC MARKINGS) | 06/01/2016 | \$31.65 | \$7.45 | \$12.65 | \$0.00 | \$51.75 |
| LABORERS - ZONE 2 | 12/01/2016 | \$32.40 | \$7.45 | \$12.65 | \$0.00 | \$52.50 |

For Apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, NEW) * | 07/01/2016 | \$39.96 | \$7.85 | \$16.10 | \$0.00 | \$63.91 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 01/01/2017 | \$40.91 | \$7.85 | \$16.10 | \$0.00 | \$64.86 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.98 | \$7.85 | \$0.00 | \$0.00 | \$27.83 |
| 2 | 55 | \$21.98 | \$7.85 | \$3.66 | \$0.00 | \$33.49 |
| 3 | 60 | \$23.98 | \$7.85 | \$3.99 | \$0.00 | \$35.82 |
| 4 | 65 | \$25.97 | \$7.85 | \$4.32 | \$0.00 | \$38.14 |
| 5 | 70 | \$27.97 | \$7.85 | \$14.11 | \$0.00 | \$49.93 |
| 6 | 75 | \$29.97 | \$7.85 | \$14.44 | \$0.00 | \$52.26 |
| 7 | 80 | \$31.97 | \$7.85 | \$14.77 | \$0.00 | \$54.59 |
| 8 | 90 | \$35.96 | \$7.85 | \$15.44 | \$0.00 | \$59.25 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$20.46 | \$7.85 | \$0.00 | \$0.00 | \$28.31 |
| 2 | 55 | \$22.50 | \$7.85 | \$3.66 | \$0.00 | \$34.01 |
| 3 | 60 | \$24.55 | \$7.85 | \$3.99 | \$0.00 | \$36.39 |
| 4 | 65 | \$26.59 | \$7.85 | \$4.32 | \$0.00 | \$38.76 |
| 5 | 70 | \$28.64 | \$7.85 | \$14.11 | \$0.00 | \$50.60 |
| 6 | 75 | \$30.68 | \$7.85 | \$14.44 | \$0.00 | \$52.97 |
| 7 | 80 | \$32.73 | \$7.85 | \$14.77 | \$0.00 | \$55.35 |
| 8 | 90 | \$36.82 | \$7.85 | \$15.44 | \$0.00 | \$60.11 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|----------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, REPAINT) | 07/01/2016 | \$38.02 | \$7.85 | \$16.10 | \$0.00 | \$61.97 |
| PAINTERS LOCAL 35 - ZONE 2 | 01/01/2017 | \$38.97 | \$7.85 | \$16.10 | \$0.00 | \$62.92 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.01 | \$7.85 | \$0.00 | \$0.00 | \$26.86 |
| 2 | 55 | \$20.91 | \$7.85 | \$3.66 | \$0.00 | \$32.42 |
| 3 | 60 | \$22.81 | \$7.85 | \$3.99 | \$0.00 | \$34.65 |
| 4 | 65 | \$24.71 | \$7.85 | \$4.32 | \$0.00 | \$36.88 |
| 5 | 70 | \$26.61 | \$7.85 | \$14.11 | \$0.00 | \$48.57 |
| 6 | 75 | \$28.52 | \$7.85 | \$14.44 | \$0.00 | \$50.81 |
| 7 | 80 | \$30.42 | \$7.85 | \$14.77 | \$0.00 | \$53.04 |
| 8 | 90 | \$34.22 | \$7.85 | \$15.44 | \$0.00 | \$57.51 |

Effective Date - 01/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$19.49 | \$7.85 | \$0.00 | \$0.00 | \$27.34 |
| 2 | 55 | \$21.43 | \$7.85 | \$3.66 | \$0.00 | \$32.94 |
| 3 | 60 | \$23.38 | \$7.85 | \$3.99 | \$0.00 | \$35.22 |
| 4 | 65 | \$25.33 | \$7.85 | \$4.32 | \$0.00 | \$37.50 |
| 5 | 70 | \$27.28 | \$7.85 | \$14.11 | \$0.00 | \$49.24 |
| 6 | 75 | \$29.23 | \$7.85 | \$14.44 | \$0.00 | \$51.52 |
| 7 | 80 | \$31.18 | \$7.85 | \$14.77 | \$0.00 | \$53.80 |
| 8 | 90 | \$35.07 | \$7.85 | \$15.44 | \$0.00 | \$58.36 |

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> For apprentice rates see "Apprentice- PILE DRIVER" | 08/01/2015 | \$42.04 | \$9.80 | \$19.23 | \$0.00 | \$71.07 |
| PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2015 | \$42.04 | \$9.80 | \$19.23 | \$0.00 | \$71.07 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$21.02 | \$9.80 | \$19.23 | \$0.00 | \$50.05 |
| 2 | 60 | \$25.22 | \$9.80 | \$19.23 | \$0.00 | \$54.25 |
| 3 | 70 | \$29.43 | \$9.80 | \$19.23 | \$0.00 | \$58.46 |
| 4 | 75 | \$31.53 | \$9.80 | \$19.23 | \$0.00 | \$60.56 |
| 5 | 80 | \$33.63 | \$9.80 | \$19.23 | \$0.00 | \$62.66 |
| 6 | 80 | \$33.63 | \$9.80 | \$19.23 | \$0.00 | \$62.66 |
| 7 | 90 | \$37.84 | \$9.80 | \$19.23 | \$0.00 | \$66.87 |
| 8 | 90 | \$37.84 | \$9.80 | \$19.23 | \$0.00 | \$66.87 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|-----------------------------------|------------|---------|--------|---------|--------|---------|
| PIPEFITTER & STEAMFITTER | 09/01/2016 | \$47.86 | \$9.70 | \$16.14 | \$0.00 | \$73.70 |
| PIPEFITTERS LOCAL 537 (Local 138) | 03/01/2017 | \$48.86 | \$9.70 | \$16.14 | \$0.00 | \$74.70 |

Apprentice - PIPEFITTER Local 537 (Local 138)

Effective Date - 09/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$19.14 | \$9.70 | \$5.50 | \$0.00 | \$34.34 |
| 2 | 45 | \$21.54 | \$9.70 | \$16.14 | \$0.00 | \$47.38 |
| 3 | 60 | \$28.72 | \$9.70 | \$16.14 | \$0.00 | \$54.56 |
| 4 | 70 | \$33.50 | \$9.70 | \$16.14 | \$0.00 | \$59.34 |
| 5 | 80 | \$38.29 | \$9.70 | \$16.14 | \$0.00 | \$64.13 |

Effective Date - 03/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 40 | \$19.54 | \$9.70 | \$5.50 | \$0.00 | \$34.74 |
| 2 | 45 | \$21.99 | \$9.70 | \$16.14 | \$0.00 | \$47.83 |
| 3 | 60 | \$29.32 | \$9.70 | \$16.14 | \$0.00 | \$55.16 |
| 4 | 70 | \$34.20 | \$9.70 | \$16.14 | \$0.00 | \$60.04 |
| 5 | 80 | \$39.09 | \$9.70 | \$16.14 | \$0.00 | \$64.93 |

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 | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| LABORERS - ZONE 2 | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| PLUMBER | 09/01/2016 | \$47.61 | \$11.32 | \$15.46 | \$0.00 | \$74.39 |
| PLUMBERS & GASFITTERS LOCAL 12 (Local 138) | 03/01/2017 | \$48.61 | \$11.32 | \$15.46 | \$0.00 | \$75.39 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 09/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$16.66 | \$11.32 | \$5.74 | \$0.00 | \$33.72 |
| 2 | 40 | \$19.04 | \$11.32 | \$6.49 | \$0.00 | \$36.85 |
| 3 | 55 | \$26.19 | \$11.32 | \$8.73 | \$0.00 | \$46.24 |
| 4 | 65 | \$30.95 | \$11.32 | \$10.23 | \$0.00 | \$52.50 |
| 5 | 75 | \$35.71 | \$11.32 | \$11.72 | \$0.00 | \$58.75 |

Effective Date - 03/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$17.01 | \$11.32 | \$5.74 | \$0.00 | \$34.07 |
| 2 | 40 | \$19.44 | \$11.32 | \$6.49 | \$0.00 | \$37.25 |
| 3 | 55 | \$26.74 | \$11.32 | \$8.73 | \$0.00 | \$46.79 |
| 4 | 65 | \$31.60 | \$11.32 | \$10.23 | \$0.00 | \$53.15 |
| 5 | 75 | \$36.46 | \$11.32 | \$11.72 | \$0.00 | \$59.50 |

Notes:

Steps are 1 yr
Step 4 with lic\$55.65 Step5 with lic\$61.89

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537 (Local 138)</i> | 09/01/2016 | \$47.86 | \$9.70 | \$16.14 | \$0.00 | \$73.70 |
| | 03/01/2017 | \$48.86 | \$9.70 | \$16.14 | \$0.00 | \$74.70 |

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

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| | 12/01/2016 | \$33.40 | \$7.45 | \$12.65 | \$0.00 | \$53.50 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$30.40 | \$10.00 | \$15.15 | \$0.00 | \$55.55 |
| | 12/01/2016 | \$31.27 | \$10.00 | \$15.15 | \$0.00 | \$56.42 |
| | 06/01/2017 | \$31.96 | \$10.00 | \$15.15 | \$0.00 | \$57.11 |
| | 12/01/2017 | \$32.65 | \$10.00 | \$15.15 | \$0.00 | \$57.80 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 42</i> | 05/01/2016 | \$24.15 | \$8.49 | \$10.68 | \$0.00 | \$43.32 |
| | 04/30/2017 | \$24.15 | \$8.49 | \$11.07 | \$0.00 | \$43.71 |
| | 05/01/2017 | \$24.21 | \$8.49 | \$11.54 | \$0.00 | \$44.24 |
| | 04/30/2018 | \$24.21 | \$8.49 | \$11.96 | \$0.00 | \$44.66 |
| | 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> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i> | 04/01/2015 | \$25.25 | \$9.80 | \$16.82 | \$0.00 | \$51.87 |
| RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate. | 04/01/2015 | \$25.30 | \$7.00 | \$6.31 | \$0.00 | \$38.61 |

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2

Effective Date - 04/01/2015

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$15.18 | \$7.00 | \$0.00 | \$0.00 | \$22.18 |
| 2 | 60 | \$15.18 | \$7.00 | \$0.00 | \$0.00 | \$22.18 |
| 3 | 65 | \$16.45 | \$7.00 | \$6.31 | \$0.00 | \$29.76 |
| 4 | 70 | \$17.71 | \$7.00 | \$6.31 | \$0.00 | \$31.02 |
| 5 | 75 | \$18.98 | \$7.00 | \$6.31 | \$0.00 | \$32.29 |
| 6 | 80 | \$20.24 | \$7.00 | \$6.31 | \$0.00 | \$33.55 |
| 7 | 85 | \$21.51 | \$7.00 | \$6.31 | \$0.00 | \$34.82 |
| 8 | 90 | \$22.77 | \$7.00 | \$6.31 | \$0.00 | \$36.08 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) ROOFERS LOCAL 33 | 08/01/2016 | \$41.11 | \$11.00 | \$13.00 | \$0.00 | \$65.11 |
| | 02/01/2017 | \$42.26 | \$11.00 | \$13.00 | \$0.00 | \$66.26 |
| | 08/01/2017 | \$43.36 | \$11.00 | \$13.00 | \$0.00 | \$67.36 |
| | 02/01/2018 | \$44.51 | \$11.00 | \$13.00 | \$0.00 | \$68.51 |
| | 08/01/2018 | \$45.61 | \$11.00 | \$13.00 | \$0.00 | \$69.61 |
| | 02/01/2019 | \$46.76 | \$11.00 | \$13.00 | \$0.00 | \$70.76 |

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$20.56 | \$11.00 | \$3.44 | \$0.00 | \$35.00 |
| 2 | 60 | \$24.67 | \$11.00 | \$13.00 | \$0.00 | \$48.67 |
| 3 | 65 | \$26.72 | \$11.00 | \$13.00 | \$0.00 | \$50.72 |
| 4 | 75 | \$30.83 | \$11.00 | \$13.00 | \$0.00 | \$54.83 |
| 5 | 85 | \$34.94 | \$11.00 | \$13.00 | \$0.00 | \$58.94 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$21.13 | \$11.00 | \$3.44 | \$0.00 | \$35.57 |
| 2 | 60 | \$25.36 | \$11.00 | \$13.00 | \$0.00 | \$49.36 |
| 3 | 65 | \$27.47 | \$11.00 | \$13.00 | \$0.00 | \$51.47 |
| 4 | 75 | \$31.70 | \$11.00 | \$13.00 | \$0.00 | \$55.70 |
| 5 | 85 | \$35.92 | \$11.00 | \$13.00 | \$0.00 | \$59.92 |

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.

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33 | 08/01/2016 | \$41.36 | \$11.00 | \$13.00 | \$0.00 | \$65.36 |
| | 02/01/2017 | \$42.51 | \$11.00 | \$13.00 | \$0.00 | \$66.51 |
| | 08/01/2017 | \$43.61 | \$11.00 | \$13.00 | \$0.00 | \$67.61 |
| | 02/01/2018 | \$44.76 | \$11.00 | \$13.00 | \$0.00 | \$68.76 |
| | 08/01/2018 | \$45.86 | \$11.00 | \$13.00 | \$0.00 | \$69.86 |
| | 02/01/2019 | \$47.01 | \$11.00 | \$13.00 | \$0.00 | \$71.01 |

For apprentice rates see "Apprentice- ROOFER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A | 11/01/2016 | \$43.40 | \$10.70 | \$23.07 | \$2.32 | \$79.49 |
| | 02/01/2017 | \$44.50 | \$10.70 | \$23.07 | \$2.32 | \$80.59 |
| | 08/01/2017 | \$45.60 | \$10.70 | \$23.07 | \$2.32 | \$81.69 |
| | 02/01/2018 | \$46.75 | \$10.70 | \$23.07 | \$2.32 | \$82.84 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 11/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$17.36 | \$10.70 | \$5.24 | \$0.00 | \$33.30 |
| 2 | 40 | \$17.36 | \$10.70 | \$5.24 | \$0.00 | \$33.30 |
| 3 | 45 | \$19.53 | \$10.70 | \$10.31 | \$1.22 | \$41.76 |
| 4 | 45 | \$19.53 | \$10.70 | \$10.31 | \$1.22 | \$41.76 |
| 5 | 50 | \$21.70 | \$10.70 | \$11.21 | \$1.31 | \$44.92 |
| 6 | 50 | \$21.70 | \$10.70 | \$11.46 | \$1.32 | \$45.18 |
| 7 | 60 | \$26.04 | \$10.70 | \$13.02 | \$1.49 | \$51.25 |
| 8 | 65 | \$28.21 | \$10.70 | \$13.93 | \$1.59 | \$54.43 |
| 9 | 75 | \$32.55 | \$10.70 | \$15.74 | \$1.77 | \$60.76 |
| 10 | 85 | \$36.89 | \$10.70 | \$17.05 | \$1.94 | \$66.58 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$17.80 | \$10.70 | \$5.24 | \$0.00 | \$33.74 |
| 2 | 40 | \$17.80 | \$10.70 | \$5.24 | \$0.00 | \$33.74 |
| 3 | 45 | \$20.03 | \$10.70 | \$10.31 | \$1.24 | \$42.28 |
| 4 | 45 | \$20.03 | \$10.70 | \$10.31 | \$1.24 | \$42.28 |
| 5 | 50 | \$22.25 | \$10.70 | \$11.21 | \$1.32 | \$45.48 |
| 6 | 50 | \$22.25 | \$10.70 | \$11.46 | \$1.33 | \$45.74 |
| 7 | 60 | \$26.70 | \$10.70 | \$13.02 | \$1.51 | \$51.93 |
| 8 | 65 | \$28.93 | \$10.70 | \$13.93 | \$1.61 | \$55.17 |
| 9 | 75 | \$33.38 | \$10.70 | \$15.74 | \$1.79 | \$61.61 |
| 10 | 85 | \$37.83 | \$10.70 | \$17.05 | \$1.97 | \$67.55 |

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 |
|--|------------|---------|--------|--------|--------|---------|

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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 <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i> | 08/01/2016 | \$32.44 | \$10.91 | \$10.08 | \$0.00 | \$53.43 |
| | 12/01/2016 | \$32.44 | \$10.91 | \$10.89 | \$0.00 | \$54.24 |
| SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i> | 08/01/2016 | \$32.73 | \$10.91 | \$10.08 | \$0.00 | \$53.72 |
| | 12/01/2016 | \$32.73 | \$10.91 | \$10.89 | \$0.00 | \$54.53 |
| SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i> | 10/01/2016 | \$49.93 | \$8.52 | \$17.05 | \$0.00 | \$75.50 |
| | 03/01/2017 | \$50.83 | \$8.52 | \$17.05 | \$0.00 | \$76.40 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 10/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$17.48 | \$8.52 | \$8.55 | \$0.00 | \$34.55 |
| 2 | 40 | \$19.97 | \$8.52 | \$8.55 | \$0.00 | \$37.04 |
| 3 | 45 | \$22.47 | \$8.52 | \$8.55 | \$0.00 | \$39.54 |
| 4 | 50 | \$24.97 | \$8.52 | \$8.55 | \$0.00 | \$42.04 |
| 5 | 55 | \$27.46 | \$8.52 | \$8.55 | \$0.00 | \$44.53 |
| 6 | 60 | \$29.96 | \$8.52 | \$10.05 | \$0.00 | \$48.53 |
| 7 | 65 | \$32.45 | \$8.52 | \$10.05 | \$0.00 | \$51.02 |
| 8 | 70 | \$34.95 | \$8.52 | \$10.05 | \$0.00 | \$53.52 |
| 9 | 75 | \$37.45 | \$8.52 | \$10.05 | \$0.00 | \$56.02 |
| 10 | 80 | \$39.94 | \$8.52 | \$10.05 | \$0.00 | \$58.51 |

Effective Date - 03/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 35 | \$17.79 | \$8.52 | \$8.55 | \$0.00 | \$34.86 |
| 2 | 40 | \$20.33 | \$8.52 | \$8.55 | \$0.00 | \$37.40 |
| 3 | 45 | \$22.87 | \$8.52 | \$8.55 | \$0.00 | \$39.94 |
| 4 | 50 | \$25.42 | \$8.52 | \$8.55 | \$0.00 | \$42.49 |
| 5 | 55 | \$27.96 | \$8.52 | \$8.55 | \$0.00 | \$45.03 |
| 6 | 60 | \$30.50 | \$8.52 | \$10.05 | \$0.00 | \$49.07 |
| 7 | 65 | \$33.04 | \$8.52 | \$10.05 | \$0.00 | \$51.61 |
| 8 | 70 | \$35.58 | \$8.52 | \$10.05 | \$0.00 | \$54.15 |
| 9 | 75 | \$38.12 | \$8.52 | \$10.05 | \$0.00 | \$56.69 |
| 10 | 80 | \$40.66 | \$8.52 | \$10.05 | \$0.00 | \$59.23 |

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

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2016 | \$34.63 | \$13.00 | \$14.55 | \$0.00 | \$62.18 |
|--|------------|---------|---------|---------|--------|---------|

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$13.85 | \$13.00 | \$0.42 | \$0.00 | \$27.27 |
| 2 | 40 | \$13.85 | \$13.00 | \$0.42 | \$0.00 | \$27.27 |
| 3 | 45 | \$15.58 | \$13.00 | \$11.52 | \$0.00 | \$40.10 |
| 4 | 45 | \$15.58 | \$13.00 | \$11.52 | \$0.00 | \$40.10 |
| 5 | 50 | \$17.32 | \$13.00 | \$11.79 | \$0.00 | \$42.11 |
| 6 | 55 | \$19.05 | \$13.00 | \$12.06 | \$0.00 | \$44.11 |
| 7 | 60 | \$20.78 | \$13.00 | \$12.34 | \$0.00 | \$46.12 |
| 8 | 65 | \$22.51 | \$13.00 | \$12.62 | \$0.00 | \$48.13 |
| 9 | 70 | \$24.24 | \$13.00 | \$12.90 | \$0.00 | \$50.14 |
| 10 | 75 | \$25.97 | \$13.00 | \$13.17 | \$0.00 | \$52.14 |

Notes:

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|-------------------------------------|------------|---------|---------|---------|--------|---------|
| TERRAZZO FINISHERS | 08/01/2016 | \$49.70 | \$10.18 | \$19.22 | \$0.00 | \$79.10 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 02/01/2017 | \$50.27 | \$10.18 | \$19.22 | \$0.00 | \$79.67 |

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$24.85 | \$10.18 | \$19.22 | \$0.00 | \$54.25 |
| 2 | 60 | \$29.82 | \$10.18 | \$19.22 | \$0.00 | \$59.22 |
| 3 | 70 | \$34.79 | \$10.18 | \$19.22 | \$0.00 | \$64.19 |
| 4 | 80 | \$39.76 | \$10.18 | \$19.22 | \$0.00 | \$69.16 |
| 5 | 90 | \$44.73 | \$10.18 | \$19.22 | \$0.00 | \$74.13 |

Effective Date - 02/01/2017

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.14 | \$10.18 | \$19.22 | \$0.00 | \$54.54 |
| 2 | 60 | \$30.16 | \$10.18 | \$19.22 | \$0.00 | \$59.56 |
| 3 | 70 | \$35.19 | \$10.18 | \$19.22 | \$0.00 | \$64.59 |
| 4 | 80 | \$40.22 | \$10.18 | \$19.22 | \$0.00 | \$69.62 |
| 5 | 90 | \$45.24 | \$10.18 | \$19.22 | \$0.00 | \$74.64 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|----------------------------------|------------|---------|--------|---------|--------|---------|
| TEST BORING DRILLER | 06/01/2016 | \$37.20 | \$7.45 | \$14.00 | \$0.00 | \$58.65 |
| LABORERS - FOUNDATION AND MARINE | 12/01/2016 | \$38.20 | \$7.45 | \$14.00 | \$0.00 | \$59.65 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2016 | \$35.92 | \$7.45 | \$14.00 | \$0.00 | \$57.37 |
| | 12/01/2016 | \$36.92 | \$7.45 | \$14.00 | \$0.00 | \$58.37 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2016 | \$35.80 | \$7.45 | \$14.00 | \$0.00 | \$57.25 |
| | 12/01/2016 | \$36.80 | \$7.45 | \$14.00 | \$0.00 | \$58.25 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$43.81 | \$10.00 | \$15.15 | \$0.00 | \$68.96 |
| | 12/01/2016 | \$45.04 | \$10.00 | \$15.15 | \$0.00 | \$70.19 |
| | 06/01/2017 | \$46.03 | \$10.00 | \$15.15 | \$0.00 | \$71.18 |
| | 12/01/2017 | \$47.02 | \$10.00 | \$15.15 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i> | 08/01/2016 | \$33.02 | \$10.91 | \$10.08 | \$0.00 | \$54.01 |
| | 12/01/2016 | \$33.02 | \$10.91 | \$10.89 | \$0.00 | \$54.82 |
| TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i> | 06/01/2016 | \$48.08 | \$7.45 | \$14.40 | \$0.00 | \$69.93 |
| | 12/01/2016 | \$49.08 | \$7.45 | \$14.40 | \$0.00 | \$70.93 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i> | 06/01/2016 | \$50.08 | \$7.45 | \$14.40 | \$0.00 | \$71.93 |
| | 12/01/2016 | \$51.08 | \$7.45 | \$14.40 | \$0.00 | \$72.93 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i> | 06/01/2016 | \$40.15 | \$7.45 | \$14.40 | \$0.00 | \$62.00 |
| | 12/01/2016 | \$41.15 | \$7.45 | \$14.40 | \$0.00 | \$63.00 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i> | 06/01/2016 | \$42.15 | \$7.45 | \$14.40 | \$0.00 | \$64.00 |
| | 12/01/2016 | \$43.15 | \$7.45 | \$14.40 | \$0.00 | \$65.00 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i> | 08/01/2016 | \$32.44 | \$10.91 | \$10.08 | \$0.00 | \$53.43 |
| | 12/01/2016 | \$32.44 | \$10.91 | \$10.89 | \$0.00 | \$54.24 |
| WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i> | 06/01/2016 | \$31.90 | \$7.45 | \$12.65 | \$0.00 | \$52.00 |
| | 12/01/2016 | \$32.65 | \$7.45 | \$12.65 | \$0.00 | \$52.75 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.23 | \$10.00 | \$15.15 | \$0.00 | \$69.38 |
| | 12/01/2016 | \$45.48 | \$10.00 | \$15.15 | \$0.00 | \$70.63 |
| | 06/01/2017 | \$46.48 | \$10.00 | \$15.15 | \$0.00 | \$71.63 |
| | 12/01/2017 | \$47.48 | \$10.00 | \$15.15 | \$0.00 | \$72.63 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i> | 09/01/2016 | \$47.61 | \$11.32 | \$15.46 | \$0.00 | \$74.39 |
| | 03/01/2017 | \$48.61 | \$11.32 | \$15.46 | \$0.00 | \$75.39 |
| 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> | 08/28/2016 | \$26.61 | \$7.50 | \$1.80 | \$0.00 | \$35.91 |
| | 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> | 08/28/2016 | \$37.70 | \$7.50 | \$8.87 | \$0.00 | \$54.07 |
| | 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> | 08/28/2016 | \$31.05 | \$7.50 | \$8.89 | \$0.00 | \$47.44 |
| | 09/03/2017 | \$31.66 | \$7.75 | \$9.44 | \$0.00 | \$48.85 |
| For apprentice rates see "Apprentice- LINEMAN" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 08/28/2016 | \$24.39 | \$7.50 | \$1.73 | \$0.00 | \$33.62 |
| | 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> | 08/28/2016 | \$37.70 | \$7.50 | \$12.95 | \$0.00 | \$58.15 |
| | 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> | 08/28/2016 | \$33.26 | \$7.50 | \$9.63 | \$0.00 | \$50.39 |
| | 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> | 08/28/2016 | \$24.39 | \$7.50 | \$1.73 | \$0.00 | \$33.62 |
| | 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> | 08/28/2016 | \$19.96 | \$7.50 | \$1.60 | \$0.00 | \$29.06 |
| | 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> | 08/28/2016 | \$44.35 | \$7.50 | \$15.83 | \$0.00 | \$67.68 |
| | 09/03/2017 | \$45.23 | \$7.75 | \$16.61 | \$0.00 | \$69.59 |

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 08/28/2016

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$26.61 | \$7.50 | \$3.30 | \$0.00 | \$37.41 |
| 2 | 65 | \$28.83 | \$7.50 | \$3.36 | \$0.00 | \$39.69 |
| 3 | 70 | \$31.05 | \$7.50 | \$3.43 | \$0.00 | \$41.98 |
| 4 | 75 | \$33.26 | \$7.50 | \$5.00 | \$0.00 | \$45.76 |
| 5 | 80 | \$35.48 | \$7.50 | \$5.06 | \$0.00 | \$48.04 |
| 6 | 85 | \$37.70 | \$7.50 | \$5.13 | \$0.00 | \$50.33 |
| 7 | 90 | \$39.92 | \$7.50 | \$7.20 | \$0.00 | \$54.62 |

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> | 01/01/2016 | \$28.98 | \$4.25 | \$3.12 | \$0.00 | \$36.35 |
| TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 01/01/2016 | \$27.31 | \$4.25 | \$3.07 | \$0.00 | \$34.63 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|-----------------------|------------------|---------------|----------------|----------------------------------|-------------------|
| TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 01/01/2016 | \$27.31 | \$4.25 | \$3.07 | \$0.00 | \$34.63 |
| 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 |
| 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 Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

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SECTION 01010 - SUMMARY OF WORK AND ADMINISTRATIVE PROVISIONS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED:

- A. Work covered by contract documents.
- B. Examination of site and documents.
- C. Contractor use of premises.
- D. Work Schedule.
- E. Owner occupancy.
- F. Safety regulations.
- G. Fire Protection.
- H. Coordination.
- I. Field Engineering
- J. Project meetings.
- K. Construction Schedule.
- L. Utilities
- M. Sanitary Facilities
- N. Trash and Debris
- O. Emergency Contacts
- P. Sales Tax Exemption

1.2 WORK COVERED BY CONTRACT DOCUMENTS:

- A. The work of this contract is comprised of Dickson Memorial Chapel, Greenlawn Cemetery. The Base Bid work shall include all work not specifically described as an Additive Alternate. The work includes but is not limited to the following:
Window restoration/replication, stained glass and protective glazing, structural

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repairs, misc. masonry repairs, copper gutters replacement and associated work and replace missing slate roof tiles on north and south elevations.

1.3 EXAMINATION OF SITE AND DOCUMENTS

- A. The Contractor shall visit the site and examine contract documents before submitting a bid. The Contractor shall inspect and be thoroughly familiar with the same and conditions under which work will be carried out. Neither the Owner nor the Architect shall be responsible for errors, omissions and/or charges for extra work arising from the Contractor's failure to familiarize himself with the existing conditions or contract documents. By submitting a bid, the bidder agrees and warrants that the bidder had the opportunity to examine the site and the contract documents, that the bidder is familiar with the conditions and requirements of both and where they require, in any part of the work, a given result to be produced, that the contract documents are adequate and that the bidder will produce the required result.

1.4 CONTRACTOR USE OF PREMISES:

- A. During the period of construction, the Contractor shall control and limit general access to the construction site so as not to endanger the public or present the risk of damage to the Owner's property. Provide a barrier between work areas and the public.
- B. Coordinate use of premises under the direction of the Owner.
- C. Any construction materials or tools stored on site must be stored within storage containers to be paid for by the Contractor. Storage containers shall be located on the site in a location as determined and agreed upon in the pre-construction conference. Storage containers, if utilized, shall be removed from the site at completion of the project and the Contractor shall be repair any damage to the site caused by storage container placement and/or removal. Contractor shall submit a proposed plan for site use for review and approval by the Owner prior to the start of work.
- D. No tools or construction materials shall be stored within the Chapel.

1.5 WORK SCHEDULE

- A. The Contractor shall be allowed to work at the site from 7:00 am to 6:00 pm Monday through Friday, and from 8:00 am to 3:00 pm on Saturdays when scheduled in advance with the Owner. No work shall be allowed on Sundays.

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1.6 SAFETY REGULATIONS:

- A. This project is subject to compliance with Public Law 91-596, "Occupational Safety and Health Act of 1970" (OSHA), with respect to all rules and regulations pertaining to construction, including Volume 36, numbers 75 and 105, of the Federal Register, as amended, and as published by the U. S. Department of Labor.

1.7 FIRE PROTECTION:

- A. The Contractor is responsible for fire protection throughout all phases of construction. The following are minimum requirements:
1. Three 20 pound ABC fire extinguishers distributed evenly throughout all areas of work.
 2. A connected garden hose within 25 feet of construction.
 3. No unprotected welding in or within 25 feet of the structure.
 4. No open flames or similar cutting tools in or within 25 feet of the structure.
 5. No smoking inside the structure or on the roof.
 6. An active cellular telephone on the person of the project supervisor, at all times.

1.8 COORDINATION:

- A. Coordinate work of the various sections of the Specifications to assure efficient and orderly sequence of installation of construction work.
- B. Verify characteristics or elements of interrelated operating equipment are compatible; coordinate work various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

1.9 FIELD ENGINEERING:

- A. Be responsible for properly laying out the work and for lines and measurements for the work. Verify the figures shown on the drawings before laying out the work and report errors or inaccuracies to the Architect before commencing work. It is critical that all necessary field measurements be taken prior to the start of demolition work.

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1.10 PROJECT MEETINGS:

- A. Schedule a pre-construction meeting prior to the start of work which includes the critical sub-contractors which will be involved. The purpose of the meeting is to inform Owner and Architect of the intended construction sequence and projected schedule.
- B. Schedule and administer project meetings throughout the progress of the work. Progress meetings will be held weekly or as required. Subcontractors' attendance may be required periodically, depending on specific construction issues.

1.11 CONSTRUCTION SCHEDULE:

- A. Within two weeks after the award of the Contract, the Contractor shall submit to the Owner and Architect for review a construction schedule indicating the proposed plan to complete the work within the Contract completion time.

1.12 UTILITIES:

- A. The Contractor may use existing electric power and water service. Contractor shall install temporary exterior outlets, so that power access does not require intermittent access to the site. Any temporary service that is installed shall be removed at the completion of work. If additional circuiting is required to conduct the work, Contractor shall install at Contractor's expense.

1.13 SANITARY FACILITIES:

- A. The Contractor may use the existing public restrooms at the Chapel but shall be responsible for any damage or excess cleaning required.

1.14 TRASH AND DEBRIS

- A. Trash and construction debris shall not be allowed to accumulate on the site. Contractor shall remove debris no less than once a week. Debris shall be covered at the end of each day. Municipal trash receptors shall not be used for any disposal.

1.15 EMERGENCY CONTACTS

- A. The Contractor shall submit to the Owner and Architect a list of names, addresses, and telephone numbers of key members of their organization including Superintendent, Company Owner, and personnel at the site to be contacted in the

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event of emergencies at the building site which may occur during non-working hours.

1.16 SALES TAX EXEMPTION

- A. All materials and items which will be incorporated into the project, and which will become the property of the Owner upon completion of said project, will be exempt from the Massachusetts Sales Tax, in accordance with, and subject to the provisions of, M.G.L. Chapter 64H, Section 6(f). The General Contractor shall obtain from the Owner the Sales Tax Exemption Number, applicable for the project, and shall include said number when ordering materials for the project.

END OF SECTION 01010

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SECTION 01030 - ALTERNATES

PART 1 - GENERAL

1.1 GENERAL

- A. For each of the listed alternates, the Bidder(s) shall state in their proposals the amount to be added to the Contract Sum for the work of each of the Alternates.
- B. The work described under any or all of the listed Alternates may be accepted or rejected by the Owner. The Contract Agreement, at the time of execution, shall list those which are accepted, if any, and the work of the Contract shall thereby be modified to the extent described under the accepted Alternate(s). Also, the Contract Sum for the project shall be altered on the basis of alternate prices given on the successful Bidder's proposal.
- C. The detailed descriptions of Alternates herein and in the Specification trade Section(s) are detailed to assist the Contractor and various trades in understanding the work required thereby, and are intended to set the intent and to list the major work only. Such descriptions are not to be taken as limiting the work required under any of the Alternates, and all work required to carry out the intent of each of the accepted Alternates shall be done without additional cost to that agreed upon as the Alternate price.

1.2 DESCRIPTION OF ALTERNATES

Alternate No. 1 – Reinstallation of East Gable Stone Finial

Alternate No. 1 includes the reinstallation of the East Stone Gable Finial which is now in storage. See structural drawings. The alternate shall include all staging, rigging, and/or lifts required to complete the work.

Alternate No. 2 – South Gutter Replacement and Associated Roofing

Alternate No. 2 includes replacement of the South Gutter and associated roofing which is shown on architectural drawings. The alternate shall include all staging or lifts required to complete the work. Replace existing or missing downspouts with new copper-colored aluminum downspouts and concrete splash blocks, as indicated on drawings.

Alternate No. 3 – Steel Lintel Replacement

Alternate No. 3 includes replacement of four steel lintels as shown on structural drawings, including associated masonry work.

END OF SECTION 01030

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SECTION 01045 – CUTTING AND PATCHING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, fitting, and patching work, including attendant excavation and backfill, required to complete the Work or to:
1. Make its several parts fit together properly.
 2. Uncover portions of the Work to provide for installations of ill-timed work.
 3. Remove and replace defective work.
 4. Remove and replace work not conforming to requirements of Contract Documents.
 5. Remove samples of installed work as specified for testing.
 6. Provide routine penetrations of non-structural surfaces for installation of piping, ductwork, and conduit.

1.3 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section.

1.4 QUALITY ASSURANCE

- A. Permission to patch any items of work does not imply a waiver of the Architect's right to require complete removal and replacement in said areas and of said items if, in Architect's opinion, patching does not satisfactorily restore quality and appearance of work.
- B. Requirements for Structural Work: Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- C. Operational and Safety Limitations: Do not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.

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- D. Visual Requirements: Do not cut-and-patch work that is exposed on exterior or in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by the Architect. Remove and replace work judged by the Architect to be visually unsatisfactory.

1.5 SUBMITTALS

- A. Submit a written request to Architect well in advance of executing any cutting or alteration that affects:

1. Work of Owner or separate contractor.
2. Structural value or integrity of any element of the Project.
3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
4. Efficiency, operational life, maintenance, or safety of operational elements.
5. Visual qualities of sight-exposed elements.

- B. Request shall include:

1. Identification of the Project.
2. Description of affected work.
3. The necessity for cutting, alteration, or excavation.
4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
5. Description of proposed work:
 - a. Reason why cutting-and-patching cannot (reasonably) be avoided.
 - b. Scope of cutting, patching, alteration, or excavation.
 - c. How it will be performed.
 - d. How structural elements (if any) will be reinforced.
 - e. Trades who will execute the work.
 - f. Products proposed to be used.
 - g. Extent of refinishing to be done.
 - h. Approximate dates of the work, and anticipated results in terms of variations from the work as originally completed (structural, operational, visual, and other qualities of significance).
6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.

- C. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution as specified in Section 01300 – SUBMITTALS.

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- D. Submit written notice to Architect designating date and time the work will be uncovered.

PART 2 – PRODUCTS

2.1 MATERIALS

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

PART 3 – EXECUTION

3.1 INSPECTION

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

3.2 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project that may be exposed by cutting and patching work, and maintain excavations free from water.

3.3 PERFORMANCE

- A. Execute cutting and demolition by methods that will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

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1. In general, where mechanical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete.
- B. Employ original installer or fabricator to perform cutting and patching for:
 1. Weather-exposed or moisture-resistant elements.
 2. Sight-exposed finished surfaces.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- D. Restore work that has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.
- E. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- F. Patch with seams that are durable and as invisible as possible. Comply with specified tolerances for the work.
- G. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner that will eliminate evidence of patching.
 1. Where patch occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch.
- H. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 1. For continuous surfaces, refinish to nearest intersection.
 2. For an assembly, refinish entire unit.

END OF SECTION 01045

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SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SUMMARY

- A. This section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples and other miscellaneous submittals.

1.3 PLANNING AND SCHEDULING

- A. The Contractor shall submit to the Owner for its review four (4) copies of a construction schedule indicating his proposed plan to complete the work within the Contract completion time.
- B. The construction schedule shall clearly indicate the Contractor's sequencing of the work, and within each sequence the start and finish dates of critical activities and events shall be indicated. Identify each major area of construction for each major portion of the Work. Indicate where each construction activity with a major area must be sequenced or integrated with other construction activities.
 1. The Contractor shall indicate on the construction schedule the specific time periods of work elements.
 2. Identify in the schedule the key times when events directly effect the Owner's and occupants' use of the building. Specifically identify the beginning, end, and duration for closing the South steps, and vacating the office space directly below the new stage lift.
 3. The Construction Schedule shall be a horizontal bar chart. Provide separate bars for each trade or operation and identify each bar by specification section number.
 4. Update the construction schedule to reflect actual construction activity and issue the updated schedule at each job meeting. The Owner, Architect and the Contractor will

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jointly review the progress of the work at scheduled job meetings as specified herein. Should this review, in the opinion of the Owner or Architect, indicate that the work is behind the currently approved schedule, the Contractor shall provide a suitable, detailed explanation to the Owner of the steps proposed in order to conform to the construction schedule and shall submit to the Owner for its review, within seven calendar days of the review, a revised construction schedule for completion of the work remaining within the Contract completion time.

1.4 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording Information concerning events at the Project site:
 - 1. Count of personnel at the Project site.
 - 2. High and low temperatures and general weather conditions.
 - 3. Accidents.
 - 4. Meetings and significant decisions.
 - 5. Unusual events (refer to special reports).
 - 6. Stoppages, delays, shortages, and losses.
 - 7. Emergency procedures.
 - 8. Orders and requests of authorities.
 - 9. Change Orders received and implemented.
 - 10. Construction Change Directives received.

- B. Field Condition Reports: Immediately upon discovery of a difference between field conditions and Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

- C. Special Reports: Submit special reports directly to the Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence. When an event of an unusual and significant nature occurs at the Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise the Owner in advance when these events are known or predictable.

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1.5 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. The Contractor shall furnish to the Architect shop drawings, product data and/or samples for all work:
 - 1. Where specifically called for in the specifications.
 - 2. Where shop drawings, product data and/or samples are normally submitted for Architect's approval prior to the actual fabrication or installation of the Work.
 - 3. Where specifically requested by the Architect.

- B. Submittals shall be clearly identified as to project name, Owner, Architect, Contractor, Subcontractor, Supplier, Manufacturer or Fabricator, and the item's name and location. Shop Drawings shall clearly show all significant details of materials, fabrications, finish, and installation. Product data shall be sufficient to provide full verbal and pictorial description of physical, technical, and performance characteristics, and complete installation instructions. Samples shall be of adequate size to permit proper evaluation and show full range of variations of color, texture, dimensions, and other characteristics that will appear in the finished work. Adequacy of submittals shall be subject to the Architect's approval. Allow sufficient time for processing and review of submittals. No extension of Contract Time will be authorized because of failure to transmit submittals enough in advance of Work to permit processing.

- C. Shop Drawings: The following procedure for submission and approval of shop drawings shall be followed:
 - 1. The Contractor shall receive shop drawings from the various Subcontractors and Suppliers. Contractor shall date-stamp them, make any corrections necessary, highlight any deviations from the Contract Documents, and verify under signature that they have been checked for dimensions, fit, and conformance with Contract Documents. The Contractor shall submit six (6) sets to the Architect.
 - 2. The Architect will check shop drawings for compliance with the design concept of the project and for general compliance with information given in the Contract Documents only.
 - 3. The Contractor shall resubmit shop drawings for approval if requested to do so. Upon approval, Contractor shall furnish at his own expense all printings of drawings for all trades as required to properly carry out the work.

- D. Product Data: The following procedure for submission and approval of descriptive data shall be followed:

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1. The Contractor shall receive the descriptive data from the various Subcontractors and Suppliers. The Contractor shall verify under signature on a letter of transmittal that it has been checked for agreement with the Contract requirements.
 2. The Architect will review the descriptive data for general compliance with the information given in the Contract Documents only.
- E. Samples: The following procedure for submission and approval of samples shall be followed:
1. The Contractor shall receive samples from the various Subcontractors and Suppliers. The Contractor shall verify under signature on a letter of transmittal that they have been checked for agreement with the Contract requirements. The Contractor shall then forward two samples to the Architect for approval, testing, etc. One sample will be retained by the Architect and one sample retained at the Contractor's site office.
 2. The Architect will review the samples for general appearance and arrangement and for general compliance with the information given in the Contract Documents only. The Architect will indicate which colors and finishes, or other variable factors within the ranges specified, will be required. The Architect will, within a reasonable time after receipt of samples, notify the Contractor in writing of his acceptance or rejection of samples and basis for his decision. Rejected samples shall be replaced with acceptable materials, as approved by the Architect.
- F. It shall be the responsibility of the Contractor to submit shop drawings, product data, and samples in accordance with the above schedules. Failure to do so will not justify a delay in time of completion of the work.
- G. Emergency Contacts: The Contractor shall submit to the Owner and Architect a list including the names, addresses and telephone numbers of key members of their organization including Superintendent, Company Owner, and personnel at the site to be contacted in the event of emergencies at the building site which may occur during non-working hours.

END OF SECTION 01300

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SECTION 01500 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 RESPONSIBILITY AND COMPLIANCE

- A. All requirements set forth under this Section are directed to the Contractor except where otherwise noted.
- B. The Contractor shall be responsible for facilities as specified herein and as required for proper and expeditious prosecution of the work.
- C. The requirements of Section 01500 are in addition to, not in lieu of other protection and temporary controls contained elsewhere in these specifications.

1.2 SECURITY AND PROTECTION

- A. Provide and maintain all security precautions and proper protective measures as may be required to adequately protect the site and Owner's personnel, the public, and other interests of the Owner from hazards resulting from or related to the work performed hereunder.
- B. Repair any damage to the building or property which takes place during the contract period to the satisfaction of the Owner and Architect.
- C. Construct safety barricades and protective facilities in accordance with local and State regulations. Furnish and install all signs, lights, reflectors, and all such protection facilities as may be required.
- D. Keep all roads and walks clear of debris, materials and construction equipment during building operations. Repair streets, drives, curbs, sidewalks, fences, poles and the like where disturbed during the construction operations, and leave them in as good condition after completion of the Work as before operations started.
- E. Protect all planting, landscaping, trees and site improvements to remain or to be relocated.
- F. Remove all snow and ice which may impede the work, damage the finishes or materials or be detrimental to workmen.
- G. Contractor shall be responsible for all glass breakage

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- H. Maintain a weathertight building at all times.

1.3 ACCIDENT PREVENTION

- A. Comply with all Federal, State and municipal recommendations and requirements for safety, and accident prevention, and those of the Associated General Contractors of America, and the American Standards Association Standard A10.2. Ensure that the Field Superintendent conducts regular, frequent inspections of the site for compliance with safety regulations.
- B. Neither the Owner nor the Architect shall be responsible for providing a safe working place for the Contractor, Subcontractors, or their employees, or any individual responsible to them for the work.

1.4 TEMPORARY ELECTRIC LIGHT AND POWER

- A. The General Contractor shall furnish and install all work required to provide adequate light and power during construction. General Contractor shall furnish all temporary wiring, fixtures, and extension, and shall remove them upon completion. The Owner shall pay electric utility costs.

1.5 TEMPORARY WATER

- A. Existing hose bibs at the nearby Maintenance Building will be available for water usage by the Contractor. Any additional provisions required shall be furnished by the Contractor. The Owner shall pay the costs for water usage.

1.6 TEMPORARY TOILET FACILITIES

- A. The Contractor may use the existing restrooms located in the nearby Maintenance Building.

1.7 PREVENTION OF FIRE

- A. Before beginning any work on the site, the Contractor shall confer with the Owner's Project Representative and local fire department to outline the precautions which the Contractor proposes to take against fire, including his

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methods of ensuring that the minimum fire prevention requirements listed herein will be complied with at all times.

- B. The Contractor shall take all necessary precautions for the prevention of fire during construction. The Contractor shall be responsible that the area within contract limits is kept orderly and clean and that combustible rubbish is promptly removed from the site. The Contractor shall comply with all official recommendations of the local fire department.
- C. The Contractor shall provide and maintain in good working order under all conditions, suitable and adequate fire protection equipment and services.
- D. Strict safety precautions shall be observed when burning with a torch or using other open flames. The Contractor shall provide adequate type and number of portable fire extinguishers so that wherever and whenever a torch or open flame is used a fire watch armed with an appropriate fire extinguisher shall be used in accordance with all local authorities.

1.8 TEMPORARY HOISTING EQUIPMENT AND MACHINERY

- A. The Contractor or trade shall furnish, install, operate, and maintain in safe condition all hoisting equipment and machinery required to properly carry out and complete the Work.
- B. All hoisting equipment and machinery, and operation shall comply in all respects to all applicable Federal (including OSHA), State and local laws, rules, regulations, codes and ordinances.

1.9 TEMPORARY STAGING AND SCAFFOLDING

- A. The Contractor shall furnish, erect, and maintain in safe condition all exterior staging and scaffolding for his own use as required to properly carry out and complete the Work and for the use of all trades for execution of work over eight feet above ground level. The Contractor shall provide working platforms at the height required by each Sub-Contractor or trade. Relocation of planking as required to access work shall be done by the Sub-Contractor who requires the relocation.
- B. Staging and scaffolding shall comply in all respects to all applicable Federal (including OSHA), State and local laws, rules, regulations, codes, ordinances and shall be designed to withstand local wind loading.

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1.10 SNOW AND ICE REMOVAL

- A. The Contractor shall remove all snow and ice which may interfere with the Work, damage the materials or finishes, adversely affect sub-surfaces, impede workmen, the public or in any way interfere with the normal progress of the Work.

1.11 TEMPORARY CONTROLS

- A. Dust, Noise and Pollution Control: Protect the public from dust, noise and pollution. All work shall comply with applicable Federal, State and local codes.
- B. Debris Collection and Removal: The Contractor shall provide a dumpster on site throughout construction for use by all Sub-Contractors and trades. Prevent the accumulation of rubbish or debris at the site. Schedule collection and legal off-site disposal of all dumpsters in order to keep the site clean. Prevent dumpsters from damaging paved areas. No dumpsters shall be placed on non-paved areas.

1.12 OVERLOADING

- A. Do not permit any section of the building, staging or scaffolding to be loaded beyond designed live loads.

END OF SECTION 01500

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SECTION 01520 - STAGING, LIFTS AND ACCESS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

The drawing and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SCOPE

- A. All staging, stairs, hoisting, rigging, lifts and access required to complete the work shall be the responsibility of the General Contractor.
- B. The Contractor is responsible for obtaining and paying for required permits, erecting and maintaining in safe condition all scaffolding, stairs and hoisting, and associated equipment required on the job. All work shall comply with OSHA requirements and the requirements of all applicable state and local laws, codes, regulations and ordinances. Specifically, the contractor must designate a safety supervisor who is familiar with OSHA Publications 2202, 3077, and 3072, and those which deal with construction industry safety standards, personal protective equipment, and sling safety and labor. No swing staging shall be permitted without specific written approval of the Owner.
- C. The Contractor shall control access to the work area and prevent unauthorized access to the work area and any area where there is danger from falling objects.
- D. Adjoining windows, roof and building surfaces shall be protected by the Contractor.
- E. Contractor to allow access by other trades and coordinate scheduling and use.
- F. The Contractor shall submit a written safety plan to the Owner with detail for full protection along with a list of onsite competent persons.

END OF SECTION 01520

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SECTION 01580 - PROJECT SIGN

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

The drawing and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

- 1.2 The Contractor shall provide a 48" x 72" one-sided project sign with text and graphics as shown on drawing mounted on two wooden posts installed in the ground.

1.3 SUBMITTALS

- A. Submit shop drawings indicating sign design.

PART 2 - PRODUCTS

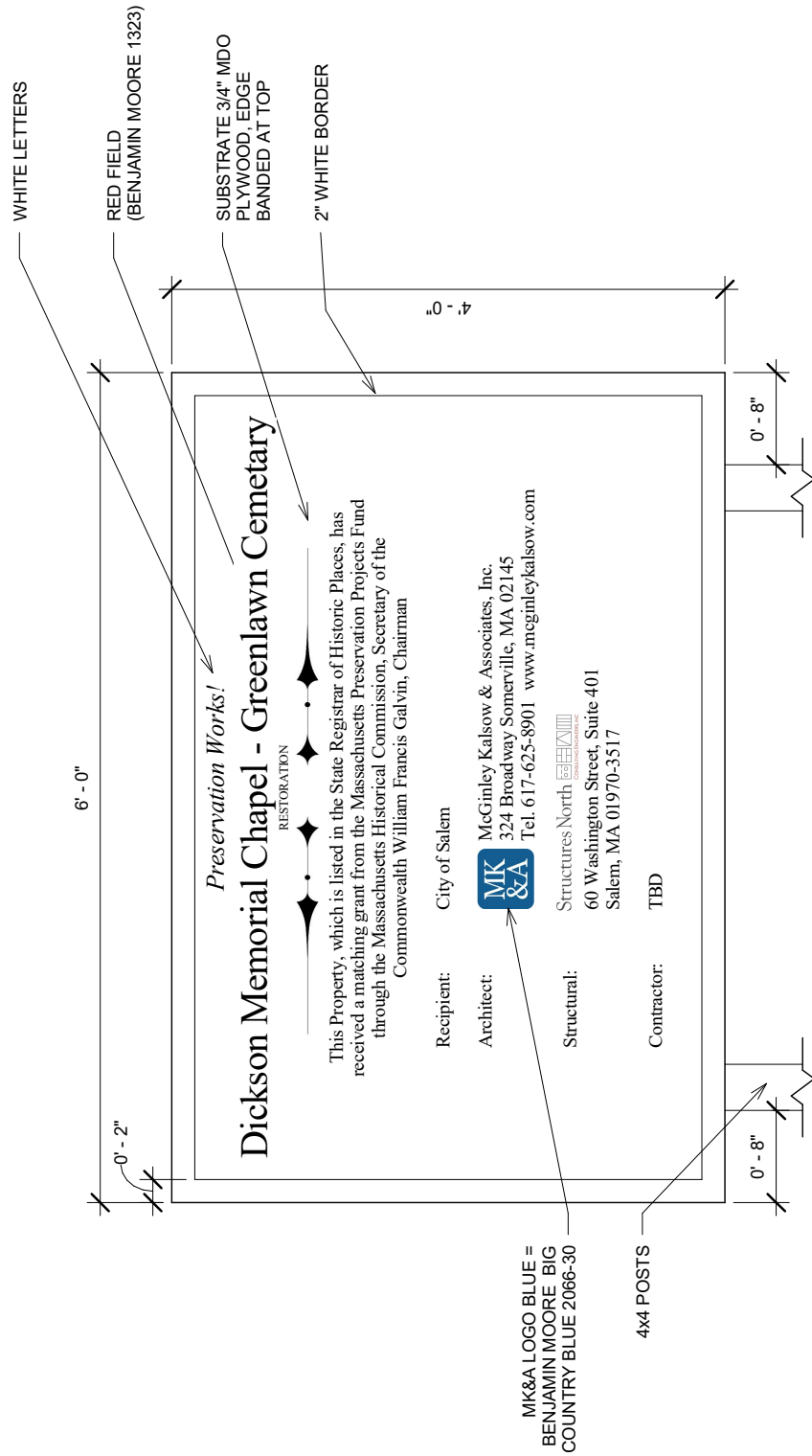
- 2.1 The sign shall be constructed of 3/4" MDO EXT plywood, top edge shall be banded. Posts shall be 4" x 4" wood (P.T. is not required) installed in the ground a minimum of 3'-6".

PART 3 - EXECUTION

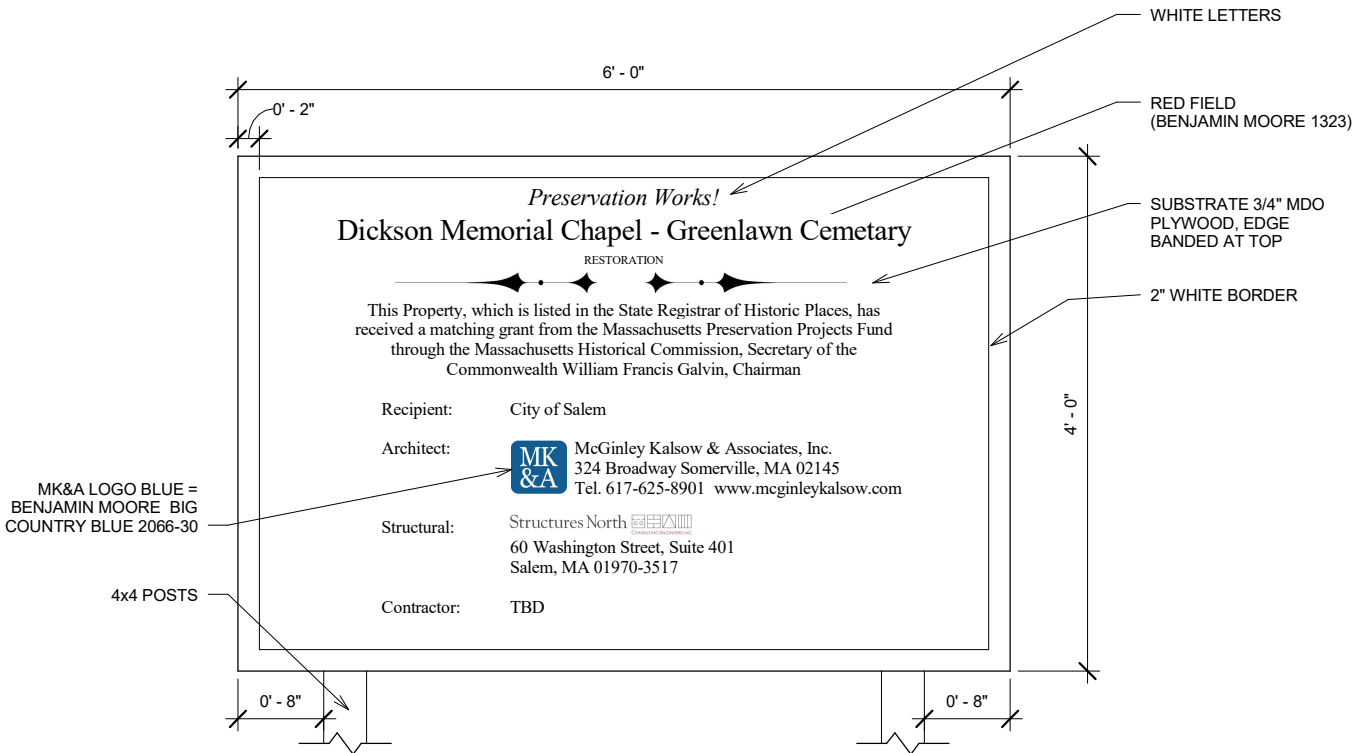
- 3.1 The sign shall be professionally lettered with white letters on a background color as supplied by the Architect. Graphics shall be silk-screened.
- 3.2 The sign shall be maintained during construction and removed at the completion of the job.

SEE NEXT PAGE FOR SIGN

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END OF SECTION 01580



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SECTION 01700 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. The following are prerequisites to issues of Certificate of Substantial Completion. Provide the following:
1. Punch list.
 2. Supporting documentation.
 3. Certifications.
 4. Warranties
- B. Provide the following requisites to final acceptance:
1. Final payment request with supporting affidavits.
 2. Completed punch list.
 3. Consent of Surety for Final Payment
 4. Release of Liens
 5. AIA forms 706, 706G, 707
 6. Certified payrolls
 7. All warranty and close out documents
 8. MBE/WBE where required
- C. Provide the following close out procedures:
1. Final cleaning and touch-up.
 2. Removal of temporary facilities, including all restoration and repair work required.

PART 2 - PRODUCTS. (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION 01700

SECTION 02070 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SUMMARY

- A. This Section includes selective demolition and removal of the following:

1. Rose Window
2. Broken/Cracked Slate Slab

- B. Contractor shall provide weather protection, dust protection, shoring, staging, and bracing associated with their work. Each individual Contractor shall be responsible for removal of debris on a regular basis to prevent buildup of debris on the site.

1.3 RELATED WORK

- A. Work in this Section is related to and shall be coordinated and performed with Work specified in:

SECTION 02090 – LEAD-CONTAINING PAINT CONSIDERATIONS

SECTION 08550 – WOOD ROSE WINDOW

1.4 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or recycled.
- B. Remove and Salvage: Detach items from existing construction and store for reinstallation.
- C. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or recycled.

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1.5 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become the individual Contractor's property and shall be removed from the Project site.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.7 PROTECTION AND SHORING

A. Conduct the work in a manner giving prime consideration to but not necessarily limited by the following: Protection of the public and personnel; compliance with all state and federal regulations relative to the demolition and removal of material from the site: protection from the weather, control of noise, shocks, and vibration; control of dirt and dust; orderly access for storage of materials, protection of any other work to remain and coordination and cooperation with the Owner at all times.

B. Use all means necessary to protect the existing work to remain before, during and after demolition and to protect the Work and materials of other trades.

C. The contractor shall be exclusively responsible for the design and implementation of all shoring and bracing which is required in order to protect and retain building elements, walls and structural systems which are to remain. Schedule selective demolition work to avoid any unbraced or unstable structural conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of building demolition required.

B. Inventory and record the condition of items to be removed and salvaged.

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3.2 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, building entries, and other building facilities during demolition operations.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during demolition and cleaned and reinstalled in their original locations after demolition operations are complete.

3.3 REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by building demolition operations.
- B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
- C. Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing. Patch, repair, or rehang existing walls, ceilings, and floors as necessary to provide an even-plane surface of uniform appearance.

END OF SECTION 02070

SECTION 02090 - LEAD-CONTAINING PAINT CONSIDERATIONS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies furnishing all labor, worker training, materials, equipment and tools for the minimum requirements needed for demolition impacting lead based paint prior to existing structures which may impact the substrates found to contain lead based paint.

1.2 RELATED DOCUMENTS

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

1.3 RELATED WORK

- A. Work in this Section is related to and shall be coordinated and performed with work specified in:

SECTION 02070 – SELECTIVE DEMOLITION
SECTION 08550 – WOOD ROSE WINDOW

1.4 WORK INCLUDED

- A. Provide all labor, materials, services, insurance and equipment necessary to perform the work in accordance with these Specifications and with all applicable local, state and federal regulations.
- B. The work of this Section specifies minimum requirements for the disturbance, removal, containment and disposal of lead-containing paint and associated waste generated as a result of renovation/demolition activities as outlined in the Specification.
- C. Lead based paint is assumed to be present in the following areas:
Exterior of Rose Windows

NOTE: Any amount of lead present on painted surfaces requires compliance with 29 CFR 1926.62 OSHA "Lead in Construction; Interim Final Rule".

- D. Determining airborne lead concentrations for each work method performed which will impact the lead painted surfaces in accordance with the methods specified in Section 2.4 (E) of this document.
- E. Preparation of each work area location in accordance with the methods described in Section 3.1 of this document.

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- F. Conduct the work in each work area using appropriate respiratory protection, protective clothing, and engineering controls to minimize the exposure of employees and the public in areas of the tower adjacent to work areas to airborne lead particulate.
- G. Proper clean-up procedures, handling and disposal of the waste generated in accordance with the methods described in Section 3.03 of this document.
- H. Periodic visual inspection of surfaces outside of the work area shall be performed by the Contractor to identify any visible suspect lead dust, debris, or particulate. Ambient air monitoring should be performed by the contractor to document airborne lead levels during construction activities. If any visible suspect lead dust or debris is observed, an immediate clean-up of the area shall be performed using HEPA-filtered vacuums and Tri-Sodium Phosphate solution in accordance with the methods described in Section 3.03 of this document.
- I. All debris generated from activities which disturb lead based paint shall be collected using HEPA-filtered vacuums or other appropriate methods. Disposal of all lead contaminated waste shall be in accordance with applicable Federal, State and local regulations. Disposal shall be based on results of TCLP analysis.

1.5 STANDARDS AND GUIDELINES

- A. The Contractor(s) shall comply with all federal, state and local regulations pertaining to the Contract. These regulations include but are not limited to:

Code Of Federal Regulations (CFR)

| | |
|------------------|--|
| CFR 29 Part 1910 | Occupational Safety and Health Standards |
| CFR 29 Part 1926 | Safety and Health Regulations for Construction |
| CFR 40 Part 148 | Hazardous Waste Injection Restrictions |
| CFR 40 Part 260 | Hazardous Waste Management System: General |
| CFR 40 Part 261 | Identification and Listing of Hazardous Waste |
| CFR 40 Part 262 | Standards Applicable to Generators of Hazardous Waste |
| CFR 40 Part 263 | Standards Applicable to Transporters of Hazardous Waste |
| CFR 40 Part 264 | Standards for Owners and Operations of Hazardous Waste Treatment, Storage, and Disposal Facilities |
| CFR 40 Part 265 | Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities |
| CFR 40 Part 268 | Land Disposal Restrictions |
| CFR 49 Part 172 | Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements |
| CFR 49 Part 178 | Specifications for Packaging |

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Commonwealth of Massachusetts

| | |
|---------------|--|
| 454 CMR 22.00 | Deleading Regulations and all policy statements. |
| 310 CMR 30.00 | Hazardous Waste Regulations |

National Fire Protection Association (NFPA)

| | |
|---------------|---|
| NFPA 701-1989 | Methods of Fire Test for Flame-Resistant Textiles and Films |
|---------------|---|

National Institute For Occupational Safety And Health (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

Underwriters Laboratories(UL)

| | |
|-------------|--|
| UL 586-1990 | High-Efficiency, Particulate, Air Filter Units |
|-------------|--|

American National Standards Institute

| | |
|-----------------|--|
| 9.2-1979(R1991) | Fundamentals Governing the Design and Operation of Local Exhaust Systems |
|-----------------|--|

| | |
|------------|------------------------|
| Z88.2-1992 | Respiratory Protection |
|------------|------------------------|

1.6 CONTRACTOR RESPONSIBILITY

- A. Prior to performance of work activities which will disturb lead based paint, provide workers with a comprehensive medical examination as required by 29 CFR 1926.62 (I) (1) (i) & (ii). The examination shall not be required if adequate records show that employees have been examined as required by 29 CFR 1926.62(I) within the last year.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 02090

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SECTION 04100 MASONRY RESTORATION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to PART A, Division 00 and PART B, Division 01, as listed in the TABLE OF CONTENTS, which are hereby made part of this Section by reference thereto.
- B. Attention is directed to the existing conditions at the site. The Contractor shall become thoroughly familiar with the existing conditions in order to assess the scope of work required.

1.2 WORK INCLUDED

- A. Setting of new slate units.
- B. Installation of new pressure treated legder at joist ends.
- C. Installation of new steel lintels.
- D. Re-setting of finial.

1.3 RELATED SECTIONS

- A. Section 04730 – Unit Slate
- B. Section 05500 – Structural Steel
- C. Section 06100 – Rough Carpentry

1.4 REFERENCES

- A. Comply with the following standard material specifications:
 - 1. ASTM C33 - Concrete Aggregates
 - 2. ASTM C141 - Hydrated Hydraulic Lime
 - 3. ASTM C144 - Sand for Mortar and Grout
 - 4. ASTM C216 - Facing Brick (Solid Masonry Units Made From Clay or Shale).
 - 5. ASTM C270 - Mortar and Mortar Testing for Unit Masonry

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6. ASTM C1713 - Mortars for the Repair of Historic Masonry
7. ASTM A276, Type 304 - Threaded Round Stainless Steel Bar Stock.
8. ACI 301 - Concrete Mix Design and Placement
9. ASTM C144 - Sand for Mortar and Grout
10. ASTM A123 - Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
11. ASTM A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate.
12. ASTM A525 - Steel Sheet, Zinc Coated, (Galvanized) by the Hot-Dip Process.
13. ASTM A580 - Stainless and Heat-Resisting Steel Wire.
14. ASTM B370 - Copper Sheet and Strip for Building Construction.
15. IMIAC - International Masonry Industry All-Weather Council:
Recommended Practices and Guide Specification for Cold Weather Masonry Construction.
16. UL - Fire Resistance Directory.

1.5 SUBMITTALS

- A. Submit the following items to the Engineer for review:
 1. Test reports required as per paragraph 1.6 - Quality Control.
 2. Product Data: Submit manufacturers' technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
 3. Product samples.
 4. Mortar mix design where needed.
- B. Submit shop drawings and samples for all masonry fabrications.
 1. Replacement stone sample where appropriate.
- C. Perform field-constructed mock-ups for review by the Architect:

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1. Samples of new structural pointing and patching mortars and grouts cured in same fashion as will be applied to structure.
2. 24"x24" raking (joint cutting) test/sample patches for (as preparation for repointing work) to be provided by the Contractor at exterior and interior wall surfaces and located as agreed with Architect on site. No raking or joint cutting shall be started until samples are approved.
3. 24"x24" pointing / repointing test/sample patches to be provided by the Contractor at exterior and interior wall surfaces and located at agreed with the Architect on site. No repointing shall be started until samples are approved.
4. Work that does not match the approved sample panels shall be rejected and redone. The Contractor shall be responsible for producing as many sample panels as necessary to provide a match of existing adjacent work that meets the satisfaction of the Architect.

1.6 QUALITY CONTROL

- A. Comply with all referenced standards for the products employed.
- B. Comply with requirements of Massachusetts State Building Code.
- C. Coordinate times of Special Inspections to comply with Massachusetts State Building Code.
- D. During periods of cold or questionable weather, keep a log of work including air temperature and weather conditions, work started and completed per day, and tests taken. No work shall be done when the ambient temperature of the structure or the air is less than 45 degrees F.
- E. Produce mortar and grout samples in the form of 2" x 2" x 2" flat slabs, placed against wooden side forms and backing, for easy removal of cured sample. Provide 8 samples per mortar and grout type taken on different days and cured under conditions that match field conditions to testing laboratory for compression testing. Provide at least four 2" x 2" x 2" field cut samples of existing mortar to the testing laboratory for comparative compression testing. Contractor shall arrange for and pay for all testing and shall submit results at 7 days and at 28 days to the Engineer. Adjustments in mix and re-tests shall be made as required at no additional cost to the owner. Test existing mortar samples and trial mixes at least three weeks before commencing masonry work.
- F. Masonry Contractor shall be a qualified, well-referenced brick and stone mason with at least 10 years of experience in stone construction, repair, and restoration.

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- G. Mortar colors and textures shall match existing cleaned stone and mortar surfaces. The contractor shall prepare an area of sufficient size to demonstrate the finish of tuck pointing mortar between the stones and stone filler mortar on the stones.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- B. Protect mortar and other cementitious materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.
- C. Restore any damage to site caused by storage, mixing or construction work.
- D. Packing and Loading of Materials: Carefully pack and load finished stone for shipment using all reasonable and customary precautions against damage in transit. Do not use any material that may cause staining or discoloration for blocking or packing.
- E. Store cementitious materials off the ground, under cover and in dry location.
- F. Store aggregates where grading and other required characteristics can be maintained.
- G. Protect mortar materials and stone accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

1.8 SEQUENCING/SCHEDULING

- A. Utilize sequence that best suits the work.

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1.9 PROJECT CONDITIONS

- A. Do not repoint mortar joints or repair masonry unless air temperatures are between 40°F (4°C) and 80°F (27°C) and will remain so for at least 48 hours after completion of work. During periods of questionable weather keep a log of work including air temperature and weather conditions, work started and completed per day and tests taken.
- B. Prevent grout or mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.
- C. Protect sills, ledges and projections from mortar droppings.
- D. Protection: Protect and maintain all work in a dry safe condition for the duration of the work.
- E. Protection of Work: Cover tops of walls with heavy waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides and hold cover in place.
 - 2. Staining: Prevent grout or mortar from staining the face of stone to be left exposed. Remove immediately grout or mortar in contact with such stone.
 - 3. Protect surrounding surfaces from rain-splashed soil and mortar splatter by means of coverings spread on ground and over wall surface. Protect sills, ledges and projections from droppings of mortar.
- F. Remove all masonry determined to be frozen or damaged by freezing conditions.
- G. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface. Protect sills, ledges and projections from droppings of mortar.
- H. Protection During Cleaning: Protect persons, motor vehicles, construction site and surrounding buildings from injury resulting from stone cleaning work.
 - 1. Protect all non-stone surfaces. Review all protective measures with Engineer.
 - 2. Protect all non-masonry surfaces. Review all protective measures with Architect.

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3. Prevent cleaning solutions from coming into contact with pedestrians, motor vehicles, plant materials, buildings and other surfaces that could be injured by such contact.
4. Do not clean stone during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
5. Dispose of run-off from cleaning operations by legal means and in a manner which prevents soil erosion, undermining of paving and foundations, and damage to adjacent landscaping.

1.10 COLD WEATHER PROTECTION

- A. Do not perform any wet masonry work when temperature of surrounding area is below 40 degrees F., or below 45 degrees F. and falling, or forecast by public news media to fall to or below 35 degrees F. within 24 hours without temporary heated enclosures or without heating materials or other precautions necessary to prevent freezing. Minimum temperature within heated enclosure shall be 40 degrees F. Do not use masonry materials which are likely to contain frost. Do not use accelerating ingredients with any mortar. Mortar shall harden without freezing and with no damage from frost. Protect all work against freezing for not less than 48 hours after installation.
- B. Do not lay masonry units that are cold and wet or frozen. Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen setting beds.
- C. Comply with requirements of International Masonry All-Weather Council's "Guide Specification for Cold-Weather Masonry Construction". Heat materials and provide temporary protection of completed portions of stone work.

1.11 HOT WEATHER PROTECTION

- A. Protect masonry work in hot weather to prevent excessive evaporation of setting beds and grout. Provide artificial shade, wind breaks and use cooled materials as required. Use fresh mortar. Discard mortar that has stiffened due to hydration.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- A. Stone: Provide new Siae units under Section 04370.
- B. Original Building Stone: Re-use original building stone or replicated new units only where original units cannot be re-used.

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2.2 MORTAR AND GROUT

A. Mortar and Grout Materials:

1. Cement: Type 1 white and/or gray cement as follows: Portland Cement: ASTM C150 complying with staining requirements of ASTM C91 for a low-alkali cement having a maximum of 0.60% equivalent alkalies. Mortar shall show no efflorescence when cast in a 2" x 7" x 1/2" slab consisting of 1 part of the cement to be used, 2 parts Ottawa plastic mortar sand and distilled water, and subjected to a 7 day "wick test" conforming to ASTM C67.
2. Hydrated Lime: ASTM C207, Type S.
3. Coarse Aggregate For Grout: ASTM C-33, 3/8" dia. minimum gravel or stone.
4. Fine Aggregate / Sand: For mortar and grout: ASTM C144, washed, to match surrounding in color where visible.
5. Water: Potable, clean, free of oils, acids, alkalis and organic matter.
6. Crack Seal for Lime-Cement Grout Injection: Lime-cement mortar to stay in place or removable caulking or jute.

B. Provide mortar in accordance with ASTM C1713 "Proportion Specification" in the following formulations. Provide other products meeting ASTM C1713.

1. Mortar for exposed masonry for re-setting and pointing of damaged stonework shall be shall be 1 part type I or II Portland Cement, 1 parts Hydrated Lime and 6 parts Bulked Sand. Sand shall be properly selected and blended to match the color, texture and appearance of the existing mortar sand, and when used, Portland Cement shall be a combination of white and gray cement that bests suits the color matching of the existing mortar binder. Where additionally needed, up to 10% by mineral oxide pigment by weight of binder may be added to best match the color of the original mortar. Pigments shall be chemically pure mineral oxides, alkali proof and light fast, and shall be equal or equivalent to "Solomon Grind" as manufactured by Chem Services Inc, of Springfield, IL.

C. Gravity-Feed Grout shall be Pozzolan Lime PHLc Grout with a 120-day compressive strength of between 1800-2000 psi and a maximum shrinkage of 0.06%.

D. The Contractor shall review the water content and any required adjustments along with proposed products with the Architect. Contractor shall then submit a record mortar mix design along with product data sheets to the Engineer for verification, review and approval before beginning any mixing or installation.

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2.3 MORTAR AND GROUT MIXING

- A. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.
- B. Mix grout in accordance with ASTM C94 or thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 Fine or Course grout.
- C. Mortar colors shall be chosen to match cleaned stone and mortar surfaces. Chemically clean an 18" square area of wall at a location to be designated in the field by the Architect for use in color comparison.
- D. Do not use anti-freeze compounds to lower the freezing point of grout.
- E. The contractor shall review the water content and any required adjustments along with proposed products with the Engineer. Contractor shall then submit a record mortar mix design along with product data sheets to the Engineer for verification, review and approval before beginning any mixing or installation.

2.4 REINFORCEMENT, ANCHORAGE AND ADHESIVE PRODUCTS

- A. Repair pins for re-attaching stone fragments shall be ASTM A276, Type 304, threaded round stock.
- B. Adhesive Anchorage System for Anchors, Pins, and Dowels into solid masonry or concrete: Hilti HY150 Adhesive Injection System as manufactured by the Hilti Corporation of Tulsa, OK or approved equal.
- C. Epoxy Adhesive for Injection of Cracks in Damaged Stone Units and for adhering loose shards and repair Dutchmen: Equal or equivalent to "Sikadur Injection Gel" as manufactured by the Sika Corporation of Lyndhurst, NJ. or approved equal. Crack Sealant for Epoxy Injection: "Sikadur 33" as manufactured by the Sika Corporation of Lyndhurst, NJ, or approved equal, along with ports as required.

2.5 MISCELLANEOUS PRODUCTS

- A. Sealant and Backer Rods
 1. Provide closed cell backer rod at all sealant joints. Backer rod shall be carefully sized per sealant manufacturer instructions for each joint.
 2. Provide 2-component polyurethane complying with ASTM C-920 and Federal Specification TT-S-00227E.
 3. Acceptable manufacturers: Equal or equivalent to Sika, Tremco product line.

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4. Backer Boards shall be Preservative Pressure Treated (P/T) Southern Yellow Pine adhered to the interior faces of the step treads with an approved paste-type epoxy adhesive.
- B. Provide Plastic Shims as needed for initial leveling and floating of stone units into bedding mortar. These shall be a stone-suitable product that is equal or equivalent to those supplied by Korolath of New England, Woburn, MA.

2.6 MORTAR WASHDOWN CLEANER

1. For non-pigmented mortars, use equal or equivalent to “Sure Klean 600 Detergent” as manufactured by ProSoCo Corp.
2. For pigmented mortars use equal or equivalent to “Vana Trol” as manufactured by ProSoCo Corp.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS OF THE WORK

- A. An effort shall be made to minimize the need for on-site storage of masonry materials, close coordination of the field personnel, material suppliers and the general contractor shall be maintained to provide for a steady flow of materials on a close to as-needed basis.
- B. All dismantled work shall be fully documented and the original geometry of the structure (before bulging and sagging) be established. Reconstruction shall be done to replicate original geometry.
- C. Inspect all masonry within work areas, identify all required repairs and removals.
- D. Perform all other indicated masonry work in accordance with the requirements of this section and all references.

3.2 REMOVAL OF DESIGNATED OR DAMAGED MASONRY

- A. Provide and install all temporary shoring, bracing and support to surrounding construction before beginning removal. Removal shall be done slowly and methodically to maintain stability to all remaining elements at all times. Contractor shall be responsible for maintaining integrity and safety of surrounding construction, in general, during work.

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- B. Carefully remove designated masonry, maintaining support to all surrounding and supported elements that are otherwise dependent upon the masonry being removed for support or stability. Following removal of the exterior grade veneer units, remove all remaining back-up masonry, storing both in separate locations. Clean and store all salvageable masonry units for re-use, provide replacement units for masonry units that cannot be re-used.
- C. Following removal of designated masonry, inspect and remove additional masonry that is loose, damaged or can be separated with unassisted hands.
- D. Clean the exposed surfaces of the remaining material, and remove shards of material which have become loose during work or have shifted from their proper positions.
- E. Notify the Engineer of any masonry beyond immediate work area, which becomes loosened during work. Stop work immediately, provide additional bracing and review with Engineer before resuming.
- F. Protect the existing interior structure from the external weather and from dust and debris caused by these operations. Provide weather protection as needed until the external envelope is restored.

3.3 RE-SETTING OF STONework

- A. At bed joints, add lead shims as needed to help float large units without squeezing out the mortar. Install stone anchors at proper alignments and stack next courses of units properly over them.
- B. At head joints, fill the gaps between stone ends solidly with mortar, using backer rods at the interior edges of cavity construction if needed. Add slate shims if greater than 1" thickness, in order to minimize shrinkage and sloughing.
- C. At bonded collar joints, hand rub a mortar paste slurry over the contact surfaces of the stone to be set and pre-butter depressions which are deeper than 1/4" to provide a non-concave surface. After setting and adjusting the stone units, pack bonded collar joints with mortar, adding stone aggregate shims if greater than 1" in thickness to minimize sloughing and shrinkage. Aggregate shall be washed, moistened pea-stone if the joint is between 1" and 3" in width, and small loose stones of suitable size if joint width is greater than 3".
- D. Stones shall be re-set to within 1/4" of their previous positions and surface alignment, with individual joints' widths along all sides within 1/8" of their cumulative average width per stone.

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- E. Strike outer joints at a recessed depth of 2 ½ times the joints' widths from the surrounding masonry and provide dovetail transitions to existing surrounding joints and to those that are to be re-pointed or removed.
- F. Finish point outer surfaces of the joints to match surrounding work after not less than 24 hours from the setting of the stones and filling of the joints.
- G. Work under this subsection shall only be done when the ambient air, material, and substrate temperatures are above 40 degrees F. by 9:00 AM and rising.

3.4 LINTEL AND BEAM INSTALLATION

- A. Carefully dismantle masonry to all of the minimum bearing of steel lintel or wood beam as required on the drawings.
- B. Repair masonry as needed to provide a solid base and support of lintel or beam.
- C. Install new galvanized steel angle lintels or P/T wrapped wood beam as indicated on the contract drawings, setting these on a thin film of leveling mortar but not on a full bed so that the lintel/beam fit within a coursing joint.
- D. Replace the masonry around the embedded lintel or beam end.

3.5 POINTING

- A. Pre-wet prepared mortar joint surfaces until they are saturated but surface dry.
- B. Apply final "tuck" lift of pointing mortar, tooling joints to exactly match the existing joint profiles that are adjacent to the work.
- C. Moist cure all work, spraying with a water mist and cover with damp cloth or tarpaulin.
- D. Clean mortar from all surfaces following completion and curing of work.
- E. Work under this subsection shall only be done when the ambient air, material, and substrate temperatures are above 40 degrees F. by 9:00 AM and rising.
- F. The Contractor shall be responsible for matching the joints of the mock-up surrounding work and shall re-cut and replace any joints that are poorly formed or do not match the mock-up or the surrounding work, as determined by the Engineer, at the Contractor's own expense.
- G. Moist cure all work, spraying with a water mist and cover with damp cloth or tarpaulin.

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- H. Chemically clean all surfaces following completion and curing of work, being careful to reveal the mortar aggregate but to not over-etch, weaken or discolor the mortar. Remove excess mortar from the surface before it sets using a bristle brush or by rubbing the surface with burlap or clean sand. If mortar is left on the surface, wash surface clean using dilute solutions of Hydroclean HT-455.

3.6 CLEANING AND PROTECTION OF COMPLETED MASONRY WORK

- A. As work proceeds and upon completion, remove excess mortar, smears and droppings. Clean adjacent and adjoining surface of marks arising out of execution of work in this Section.
- B. Sweep up and remove daily sand, cleaning compounds and mixtures, dirt, debris and rubbish. Sweep or flush away nightly, all residual washed materials. Keep the premises neat and clean at all times.
- C. After installation and pointing are completed, carefully clean all surfaces of all dirt, excess mortar, grout splatter, stains and/or other site incident defacements. Clean soiled surfaces using a non-acidic solution that will not harm stone or adjacent materials. Consult stone fabricator for acceptable cleaners. Do not use wire brushes, acid or other solutions which may cause discoloration. Use nonmetallic tools in cleaning operation. Apply in accordance with cleaner manufacturer recommendations.
- D. Mechanically remove all loose mortar and concrete splatter with hand tools without scratching, gouging or otherwise marring the existing substrate.
- E. Chemically clean stone following completion of work, and where specifically specified on the drawings.

3.7 SETTING/ RE-SETTING TOLERANCES

- A. Maximum Variation from Plane of Wall: 1/4" in 10 feet or as required by elevator clearances.
- B. Maximum Variation from Plumb: 1/4" per story non-cumulative, 1/2" total, or as required by elevator clearances.
- C. Maximum Variation from Level Coursing: 1/8" in 4 feet, 1/4" in 10 feet.
- D. Maximum Variation of Joint Thickness: 1/8".

END OF SECTION 04100

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SECTION 04730 UNIT SLATE

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to PART A, Division 00 and PART B, Division 01, as listed in the TABLE OF CONTENTS, which are hereby made part of this Section by reference thereto.
- B. Attention is directed to the existing conditions at the site. The Contractor shall become thoroughly familiar with the existing conditions in order to assess the scope of work required.

1.2 WORK INCLUDED

- A. This Section includes the following:
 - 1. Provide all labor, materials, equipment, and services required to complete the work as described on the drawings, as specified in this section, and as may be required.
 - 2. Slate Fabrication: Fabricate new Slate unit to replace the failed slate unit.

1.3 RELATED SECTIONS

- A. Section 04100 – Masonry Restoration

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm with a minimum of five (15) years experience in manufacturing Slate units similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to manufacture required units.

1.5 REFERENCE STANDARDS

- A. ASTM C119: Definitions of Terms Relating to Natural Building Stones
- B. ASTM C144: Aggregate for Masonry Mortar
- C. ASTM C150: Portland Cement
- D. ASTM C170: Compressive Strength
- E. ASTM C270: Mortar for Unit Masonry

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1.6 SUBMITTALS

- A. General: Submit the following according for review by the Engineer.
 - 1. Slate
 - a. Submit two 12" x 12" x 1" samples of matching all types of Slate to be replaced or repaired. Expose grain on half of sample for evaluation against aged and weathered existing stone. Sample may be acid washed or lightly sandblasted to expose grain.
 - 2. Shop Drawings:
 - a. Submit setting drawings showing the numbering system that will be used to label elements. Indicate anchor locations, diameter of holes and length and diameter of pins for all stone resetting.
 - b. Submit detailed shop drawings showing dimensions and profiles of replacement stone units. Indicate anchor locations, diameter of holes and length and diameter of pins to be used in setting.
 - c. Verify and take all necessary field measurements prior to fabrication.
 - d. Establish the jointing in accordance with industry standards if the Contract Drawings do not show the intent of jointing.
 - e. Sizes, kinds and spacing of anchors and dowels shall be engineered by shop drawing preparer for each type of anchoring system.
 - 3. Do not fabricate or install any items until shop drawings have been approved.
- B. Product data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
- C. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include a list of completed projects with project names, addresses, names of Engineers and Owners, and other information specified.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Pack, handle, and ship Slate units in suitable packs or pallets.
 - 1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move Slate units, if required, using dollies with wood supports.

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2. Store Slate units on wood skids or pallets with non-staining, waterproof covers. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.
- B. Store installation materials on elevated platforms, under cover, and in a dry location.
 - C. Protection:
 1. Use all means necessary to protect Slate and related materials before, during and after installation and to protect the installed work and materials of all other trades.
 - D. Replacements: In the event of damage, immediately make all repairs and replacements necessary for Engineer's approval, at no additional cost to the Owner.

1.8 COORDINATION

- A. Coordinate production and delivery of Slate with masonry restoration work to minimize the need for on-site storage and to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 SLATE UNITS:

- A. Slab units shall match color and finish of existing slate slab units.
- B. Exposed Edge Detail: Rock Face with cut arises
- C. Back Edge Detail: Sawcut Face
- D. Texture: Thermal Finish
- E. Physical Properties
 1. ASTM C-97:
Absorption= less than 1.10%
Specific Gravity= 162 pcf min.
 2. ASTM C-99: Modulus of Rupture
Parallel to bedding plane= 2,000 psi min.
Perpendicular to bedding plane= 2,800 psi min.
 3. ASTM C-170: Compressive Strength in Dry Condition
Parallel to bedding plane= 14,000 psi min.

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Perpendicular to bedding plane= 17,500 psi min.

4. ASTM C-170: Compressive Strength in Wet Condition
Parallel to bedding plane= 12,500 psi min.
Perpendicular to bedding plane= 16,000 psi min.
5. ASTM C-241 Abrasion Resistance to Foot Traffic= 27.0 min.

2.2 SLATE UNIT FABRICATION

- A. Cut all stone as required accurately to shape and dimensions and full to the square with jointing as shown or required. Cut to curvature where required. All exposed faces shall be dressed true. Beds and joints shall be at right angles to the face and joints shall have a uniform thickness of 3/8 inch except as required to match existing conditions. All exposed arrises shall be in true alignment and slightly eased to prevent snipping.
- B. Provide all necessary holes, slots, recesses and sinkages for accessories in accordance with industry standard practices. Provide cramp holes or Lewis pin holes for stones that can not be handled manually. No holes for handling devices will be allowed in exposed surfaces. Provide all cutting and drilling of stone to accommodate other trades.
 1. Incidental Cutting and Drilling: Where thickness permits, all pieces weighing over 100 pounds may have Lewis holes for lifting if desired. Lewis holes may extend no closer than 2" from the finished face, and will not be permitted on exposed surfaces except with written permission of the Landscape Engineer. Pieces under 4" in thickness may have holes for C-clamps if required, on surfaces not exposed.
- C. Dimensional Tolerance
 1. Thickness: the variation from nominal thickness as specified shall not exceed the following:
 - a. Up to 2-1/2" +/- 1/8"
 2. Face Dimensions: Maximum variation in the dimension of any piece shall be 1/4 of the specified bed joint width, however, in any case not less than +/- 1/16".

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- D. Flatness Tolerances: Variation from true plane, or flat surfaces shall be determined by a 4 foot dimension in any direction on the surface. Such variations on polished, honed and fine rubbed surfaces shall not exceed tolerances listed below or 1/3 of the specified joint width, whichever is greater. On surfaces having other finishes, the maximum variation from true plane shall not exceed the tolerance listed below or 1/2 of the specified joint width whichever is greater.
1. Sawn, 4-cut, 6-cut and 8-cut finishes: 1/8"
 2. Thermal and coarse stippled finishes: 3/16"
- E. Beds and Joints: Pieces shall be bedded and jointed as shown on the approved shop drawings, and bed and joint surfaces shall be cut as follows:
1. Beds and joints shall be cut or sawn full square for the specified minimum thickness of the piece. If the thickness is greater, the remainder shall fall under square not more than 3" in 12".
 2. Provide 3/8" joints unless otherwise shown on the Drawings.
 3. Provide for beds as shown on the Drawings.
- F. Backs of Pieces: Backs of pieces shall be sawn or roughly dressed to approximate true planes. Sawn backs shall be cleaned of all rust stains and free from iron particles. Wherever shown on approved shop drawings, pieces shall be backed off to clear structural members or other obstructions.
- G. Washes and Drips shall be constant in profile throughout their length, in strict conformity with details shown on approved shop drawings.
- H. Incidental Cutting and Drilling: Where thickness permits, all pieces weighing over 100 pounds may have Lewis holes for lifting if desired. Lewis holes may extend no closer than 2" from the finished face, and will not be permitted on exposed surfaces except with written permission of the Engineer. Pieces under 4" in thickness may have holes for C-clamps if required, on surfaces not exposed.
- I. Anchor Tolerances
1. The centers of all back anchors cut into stone shall be within +/- 1/4" of the location specified on the shop drawings. The dimensions of all back anchor sinkages shall be as shown on the shop drawings within a tolerance of +/- 1/16". The thickness of slots or kerfs cut into the edge of stone for anchorage purposes shall be within +/- 1/16" of the dimension shown on the shop drawings. The location across the stone thickness on the centers of slots or kerfs cut into the edge of stone shall be as stated on the shop drawings within a tolerance of +/- 1/16".

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2. Depth of kerfs, rebated kerfs or anchor holes shall be as shown on the shop drawings, but shall be allowed to vary in depth to a minimum required for anchorage clearance and a maximum not to impact the structural integrity of the anchoring system. In any case tolerances of $-1/8"$ $+3/8"$ will be allowed.

J. Shop clean Slate at time of final fabrication.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean Slate before setting by thoroughly scrubbing with fiber brushes followed by a through drenching with clear water. Use only mild cleaning compounds that contain no caustic chemicals.

3.2 INSTALLATION

- A. Installation of Slate is specified under Section 04100 – Masonry Restoration.

END OF SECTION 04730

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SECTION 05500 STRUCTURAL STEEL

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to PART A, Division 00 and PART B, Division 01, as listed in the TABLE OF CONTENTS, which are hereby made part of this Section by reference thereto.
- B. Attention is directed to the existing conditions at the site. The Contractor shall become thoroughly familiar with the existing conditions in order to assess the scope of work required.

1.2 WORK INCLUDED

- A. New structural steel members and fabrications, including steel lintels

1.3 RELATED SECTIONS

- A. Section 04100 – Masonry Restoration.
- B. Section 06100 - Rough Carpentry.

1.4 REFERENCES

- A. Comply with the following standard material specifications:
 - 1. AISC - Code of Standard Practice - Manual of Steel Construction - Allowable Stress Design (ASD).
 - 2. ASTM A36 - Structural Steel
 - 3. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
 - 4. ASTM A276, Type 304 - Threaded Round Stainless Steel Bar Stock.
 - 5. ASTM A514, Grade B, E, H, M, Q or P - High Strength Steel Plate
 - 6. ASTM A563 - Carbon and Alloy Steel Nuts.
 - 7. AWS A2.4 - Symbols for Welding, Brazing, and Nondestructive Examination.
 - 8. AWS D1.1 - Structural Welding Code.

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1.5 SUBMITTALS

- A. Submit the following items to the Architect for review:
 - 1. Shop Drawings of all metal fabrications showing field verified dimensions, locations of members, arrangement and type of bridging, and connections to be made in the field.
 - 2. Product literature for standard products and/or mass-produced items to be used.

1.6 QUALITY CONTROL

- A. Comply with all referenced standards for the products employed.
- B. Satisfy testing and inspection requirements per Massachusetts State Building Code. Coordinate times of inspections.

PART 2 - PRODUCTS

2.1 STRUCTURAL STEEL MATERIALS AND FABRICATIONS

- A. Channels, Angles and Plates: ASTM A 36/A 36M
- B. Stainless steel rods and anchors shall meet the requirements of ASTM A276, Type 316.
- A. Grout for setting and supporting steel bearing surfaces: Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time developing a minimum compressive strength of 7,000 psi at 28 days
- B. All structural steel shall be prepared per SSPC-SP3, power tool cleaned surfaces and coated with Tnemec PerimePrime Series 394 Primer in 3-3½” mil thickness. Top coat shall be Tnemec Hi-Build Epoxoline II N69 in 4-6 mill thickness.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. Bolts, Nuts, and Washers: ASTM A325 bolts, ASTM A563 nuts, galvanized to ASTM A123 for galvanized structural members.
- B. Anchor Bolts to existing masonry or wood: ASTM A307 Hot Dip Galvanized to ASTM A123 Specifications.
- C. Stainless Steel Items:
 - 1. Stainless steel rods and anchors shall meet the requirements of ASTM A276, Type 316.

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2. Pinning Rods shall be threaded over their entire lengths.

PART 3 - EXECUTION

3.1 INSTALLATION AND ERECTION OF STRUCTURAL STEEL

- A. Allow for erection loads, and for sufficient temporary bracing to maintain structure in safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- B. Field welding of members and connections shall not be permitted within the structure.
- C. Work shall be done from approved shop drawings only.
- D. Provide non-shrink grout between all steel and concrete or masonry contact surfaces for uniform bearing. Trowel edges of grouted surface smooth, splay neatly to 45 degrees.
- E. Erect members to within 1/4" tolerance from locations at which they are designated on shop drawings or as far as connections will allow, if less.
- F. Touch-Up and Repair: For damaged and field-welded metal coated surfaces, clean welds, bolted connections and abraded areas.
 1. For factory-applied finish coatings, the applicator shall be responsible for field-touch-up for up to 1 percent of the surface area at no additional expense to the Owner. Provide touch-up such that repair is not visible from a distance of 6 feet.
 2. A touch-up repair kit or touchup instructions shall be provided to the Owner for each type of factory-applied finish.

END OF SECTION 05500

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SECTION 06100 ROUGH CARPENTRY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to PART A, Division 00 and PART B, Division 01, as listed in the TABLE OF CONTENTS, which are hereby made part of this Section by reference thereto.
- B. Attention is directed to the existing conditions at the site. The Contractor shall become thoroughly familiar with the existing conditions in order to assess the scope of work required.

1.2 WORK INCLUDED

- A. Installation of new pressure treated ledger at joist ends.
- B. Borate-treatment of existing joists.

1.3 RELATED SECTIONS

- A. Section 04100 –Masonry Restoration

1.4 REFERENCES

- A. ALSC (American Lumber Standards Committee) - Softwood Lumber Standards.
- B. ASTM (American Society of Testing and Materials) D245 - Standard Practice for Establishing Structural Grades and Related Allowable Properties for Visually Graded Lumber.
- C. AWWA (American Wood Preservers Association) C1 - All Timber Products - Preservative Treatment by Pressure Process.
- D. MWPA (Massachusetts Wood Producers Association) - Grading Rules.
- E. MSBBRS (Massachusetts State Board of Building Regulations and Standards) - Grading Agency Certification.
- F. NELMA (Northeast Lumber Manufacturer's Association) - Grading Rules.
- G. NFPA (National Forest Products Association).
- H. NLGA (National Lumber Grades Authority).

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- I. SPIB (Southern Pine Inspection Bureau).
- J. WWPA (Western Wood Products Association).

1.5 SUBMITTALS

- A. Submit the following items to the Architect for review:
 - 1. Product data sheets for standard hangers and supports.
 - 2. Product data sheets for pressure treated lumber products.

1.6 QUALITY CONTROL

- A. Comply with all referenced standards for the products employed.
- B. Coordinate times for inspection of structural work by the Architect and Engineer.
- C. All work shall be performed by qualified carpenters who can demonstrate at least five years of experience performing this type of work in responsible charge.

PART 2 - PRODUCTS

2.1 DIMENSIONAL LUMBER

- A. Lumber Grading Rules: NELMA, NFPA, RIS, SPIB, WCLIB or WWPA.
- B. Pressure Treated Lumber (P/T) shall be Southern Yellow Pine #1 or #2, pressure preservative treated with a minimum retention of 0.6 pcf of CCA. Moisture content in post-treated, to-be-installed condition shall not exceed 19%.

2.2 MISCELLANEOUS FASTENERS, CONNECTORS AND WOOD PRESERVATIVE

- A. Provide standard attachment hardware consisting of nails, bolts, screws and standard fittings as noted on the drawings and as required. Hardware for rough carpentry shall be as follows:
 - 1. Bolts and Nuts: AISI / ASME Standard B18.2.1
 - 2. Lag Screws: AISI / ASME Standard B18.6.1
 - 3. Steel Washer Plates: Same as above or ASTM A36 for custom sizes.
 - 4. Standard Connectors (where specified or allowed): Items as manufactured by the Simpson Strong-Tie Company of San Leandro, CA, or approved equal.
- B. Wood Preservative of wood in contact with masonry and concrete shall be Boracare manufactured by the Nisus Corporation of Rockford, TN.

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PART 3 - EXECUTION

3.1 GENERAL FRAMING REQUIREMENTS

- A. Provide all framing in accordance with proper and standard practice, and all governing codes. Contractor shall be prepared to correct any unsuitable conditions per the direction of the Architect.
- B. Inspect all existing framing and report all unsound conditions to the Architect before closing finishes or other work that would obscure inspection or repair/replacement of damaged items.
- C. Wood construction is to conform to part II "design specifications" as published in the "Timber Construction Manual" (AITC) and to "National Design Specification for Wood Construction", latest editions.
- D. New lumber for structural use is to be surface dried and have a moisture content of not more than 19 percent.
- E. Wood construction shall conform to the Massachusetts State Building Code.
- F. Maintain proper lateral support to all existing members during all phases of the work.
- G. Materials:
 - 1. Structural lumber is to be identified by the grade mark of, or certificate of inspection issued by, a grading or inspection bureau or agency recognized as being competent.
 - 2. Structural lumber is to be visually stress-graded lumber in accordance with the provisions of ASTM designation D245-74, "methods for establishing structural grades and related allowable properties for visually graded lumber."
 - 3. Wood is to be handled and covered to prevent damage and moisture absorption from snow or rain.
- H. Connections:
 - 1. Anchor bolts and bolts for structural timber are to be ASTM A307. Standard cut washers are to be provided between the wood and bolt nut, unless steel plates or plate washers are used, as indicated on structural drawings.
 - 2. All exterior connection hardware including nails, bolts, and fabricated connectors is to be hot-dipped galvanized.
 - 3. Comply with manufacturer specifications installations for all of the above.

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- I. Provide nailers, blocking and grounds as needed for support of miscellaneous items and trim. Accurately cut and fit work, setting all items plumb and level.
- J. Create all required holes in wood floor and wall construction for the passage of structural steel or wooden columns and beams and solidly block around the columns and beams to fully laterally restrain the members.

3.2 INSTALLATION OF DIMENSIONAL LUMBER

- A. Field drill all holes and recesses for bolts, lag screws and shear plates. Inject all bolt and lead holes with wood preservative before installing hardware.
- B. Holes for through bolts and lag screw shanks shall be 1/32" greater in diameter than bolts and shanks.
- C. Drill lead holes for the threaded portions of lag screws to avoid splitting wood. Lead holes shall be properly sized for the threaded diameters and species type in accordance with the NFPA National Design Specification.
- D. Provide tapered oak shims of at least 1/8" thickness as required for adjustment and to provide solid, firm contact between bearing surfaces where proper fit is not otherwise provided with existing members. Maximum allowable tolerance to be accommodated by shims shall be 3/8" or less.
- E. Make all cut lines plumb and true, to within 1/8" of required dimension. Do not leave any splintered wood or checked end grain exposed to weather or soil.
- F. Make secondary fastenings not otherwise called out on drawings with at least (4) common wire nails or spikes per location, of a length which is four times the thickness of the thinner part joined but not of such length that it will not over-penetrate the thicker part, and of a diameter which is the greatest commonly available for the given length. Provide additional nails to detailed connections as may be helpful to keep them aligned and stable. Nails shall be located to be concealed from plain view.
- G. No wood members shall be notched unless otherwise noted on the drawings. Notches called out on drawings must not be over-cut, and any members that are over-cut at notches shall be removed and replaced at no cost to the Owner. Existing members that are to be cut to allow for a new flush-framed condition shall be cut no more than required to allow for the installation of new structure, and any members that are cut back beyond 90% of the hanger seat shall be sistered with full-length members at no cost to the Owner.
- H. Make all elevation and planar adjustments to the structure before installing new members.
- I. Install all standard and fabricated metal connectors as indicated.

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J. Leave completed structural framing work exposed for inspection by the Engineer.

3.3 APPLICATION OF WOOD PRESERVATIVE

A. Application of Boric Acid to wood framing members in contact with masonry and concrete.

1. Dilute concentrate with warm water at a 1:1 ratio. Application is recommended through use of a dedicated insecticide sprayer and solution must be well mixed to avoid inconsistent coverage and hose clogs.
2. Solution shall be applied within 24 hours after mixing, preferably immediately
3. Follow all manufacturer specifications, which shall supercede this Section if more stringent.

END OF SECTION 06100

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SECTION 06200 – FINISH CARPENTRY AND MISCELLANEOUS WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

The general provisions of the Contract, including General and Supplementary Conditions, and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SCOPE OF WORK

- A. All work not specifically identified in another Specification Section.
- B. Removal and reinstallation of wood rose window.
- C. Supply and installation of blocking for wood rose window.
- D. Miscellaneous carpentry.
- E. Supply and installation of flashing for wood rose window.

1.3 SUBMITTALS

Submit for approval product data and samples of each product.

1.4 QUALITY ASSURANCE

Finish Carpentry: Employ only workers with at least five (5) years documentable experience with use of materials and methods outline herein. Wood restoration specialist must have successfully completed a minimum of three (3) similar restoration projects on the National Register of Historic Places within the last five years. The Contractor shall submit to the Architect the names, addresses, Architect and contact person for at least three projects.

1.5 MANUFACTURER'S DATA

Provide four (4) copies of manufacturer's data for all materials

PART 2 - PRODUCTS

2.1 FLASHING

- A. 4lb. Lead
- B. High Temperature Ice and Water Shield

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- C. All fasteners shall be copper, brass, bronze or stainless steel.
- C. All fasteners shall be concealed or protected from weather.
- D. Sealant shall be polyurethane manufactured by Sika or Tremco.

PART 3 - EXECUTION

3.1 GENERAL

- A. No attempt is made in the following specific instructions to list all elements of carpentry and miscellaneous work required on this project, and it shall be the responsibility of the Contractor to determine from the Drawings the scope and nature of the work required.

END OF SECTION 06200

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SECTION 07500 - ROOFING AND FLASHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

The general provisions of the Contract, including General and Supplementary Conditions, and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 DESCRIPTION OF WORK

- A. Maintain a weather tight structure throughout construction.
- B. Remove and legally dispose of all roofing and flashings to be replaced.
- C. Provide and install all copper and brass work directed in the Drawings and Specifications, including, but not limited to: gutters, copper flashings and counter flashings. Carefully remove and reinstall bottom courses of slate as required for the transition of gutter to slate.
- D. Provide and install replacement slate at all broken and missing roof slate as indicated on the drawings and install with copper babbies. Remove selective areas of slate and salvage for re-use
- E. Replace deteriorated roof boards and blocking.
- F. Miscellaneous work associated with roofing
- G. Provide a two (2) year watertight warranty.
- H. Provide and install replacement Aluminum down spouts

1.3 QUALITY ASSURANCE

- A. Slate and Copper Roofing Contractor:
 - 1. The subcontractor shall have not less than five years successful experience restoring and installing slate and copper roofing. This experience shall include at least three National Register properties of comparable size and complexity during the last five years.

1.4 SUBMITTALS

- A. Field mock-ups are required of all copper fabrications for review and approval by the Architect. No work shall be done until the mock-ups are approved. Sufficient time shall be allowed by the Contractor for this review.

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- B. Submit shop drawings detailing special joint or termination conditions, and conditions of interface with other materials.
- C. Submit color options for sealant to the Architect for review and approval, and provide a mock-up on site of a typical sanded sealant joint for review prior to sealant work.

1.5 JOB CONDITIONS

A. Installation

Do not install slates or copper on snow or ice-covered or wet surfaces or when air temperature is below 40 degrees F.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS MATERIALS

- A. Ice and watershed: "Grace Ultra" cold applied, self adhering membrane manufactured by Grace Construction Products.
- B. Nailers, blocking and miscellaneous framing: #2 CCA treated (.40 lb./c.f.) S.P.F.
- C. Rosin paper: Type 1, Grade A, 6 pounds per 100 square feet.
- D. Roof cement: Red slater's cement by Bulldog, or equal

2.2 COPPER AND ACCESSORIES

- A. All copper shall be 20 ounce cold-rolled copper, unless specifically noted to be lead-coated copper.
- B. All fasteners shall be copper, brass or bronze.
- C. All fasteners shall be concealed or protected from weather.
- D. Sealant shall be polyurethane manufactured by Sika or approved equal by Tremco or Pecora.

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- E. Straps shall be cold rolled copper sized per drawing or if no specific information is given per Revere "Copper and Common Sense" or SMACNA's recommendations.
 - F. Solder shall be 50 percent block tin and 50 percent pig lead per ASTM B32.
 - G. All exposed edges shall be hemmed.
- 2.3 DOWNSPOUTS
- A. Downspouts shall be .019 aluminum 3" round corrugated with bronze baked enamel finish.
- 2.4 SLATE
- A. Slate shall conform to classification S-1 per ASTM C406-84. Slate shall be hard, dense, sound rock, punched for two nails each. Drilled slate shall have holes countersunk for nail heads. No cracked slate shall be used. No broken corners or covered ends which sacrifice nailing strength or the laying of watertight roof will be allowed.
 - B. Nails for slate: 10 gauge hard solid copper chisel-point slater's nails with minimum 5/16" diameter head and sufficient length to penetrate into sheathing at least 1".
 - C. New slate shall be equal to North Country Black sized to match existing, with exposure to match.

PART 3 - EXECUTION

3.1 HOISTING, SCAFFOLDING, STAGING AND PLANKING

Scaffolding, staging, and hoisting shall be provided under SECTION 01520.

3.2 EXAMINATION

Examine substrate and conditions under which slate and copper roof work is to be performed; notify Architect in writing of unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected.

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3.3 REMOVAL OF EXISTING MATERIALS

All roofing material to be removed shall carefully lowered to the ground and legally disposed of off site. No free fall of roofing materials is permitted. Carefully protect existing work.

3.4 SHEET METAL FABRICATION

A. Comply with SMACNA's "Architectural and Sheet Manual," and the requirements of NRCA's "A Manual of Roofing Practice."

1. Teardrop hem all exposed, free edges.
2. Fully solder all non-moving seams. Neutralize flux after soldering.
3. Fabricate to accommodate expansion and contraction. Provide sealant filled expansion control joints within 8 feet of ends of long runs and not over 20 feet on center in between.
4. Fabricate to be free from buckles, waves, oil canning, tool marks, and appearance defects.
5. Fabricate with sharp, even, true, and accurately aligned lines, joints, and seams.
6. Turn and fabricate lock joints to best shed water.
7. Fabricate work for maximum waterproof and weathertight performance.
8. Form work to fit substrates and field conditions.

3.6 SEALANT

All sealant filled joints in masonry shall have dry washed sand applied during curing to simulate mortar joints.

3.7 SLATE INSTALLATION

Where there is variation in the shading of slate, the contractor shall blend slate batches to achieve a uniform, random mix of the shades of product prior to installation. The bottom 3 ½ courses of slate shall be removed at the replacement gutters.

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Beginning at eaves, install slate roofing shingles in accordance with recommendations of manufacturer and with details and recommendations of NRCA Steep Roofing Manual. Provide continuous starter strip under slate at eaves. Provide minimum 3" lap between succeeding courses of slate shingles and break (stagger joints between courses a minimum of 3"). Do not allow a joint to be installed over a joint in the row immediately below. Cut and fit slate neatly around roof vents, pipes, ventilators and other projections through roof.

Nail slate shingles so nail heads just touch slate lightly, do not drive nails "home" or draw slates downward.

Slates overlapping sheet metal work shall have the nails placed as to avoid puncturing the sheet metal. All replacement slate shall have fasteners covered with copper babbies.

END OF SECTION 07500

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SECTION 08550 - WOOD ROSE WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

The drawing and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SUMMARY

A. This Section includes the following wood-framed window product types:

1. Custom Wood Window

1.3 SUBMITTALS

A. Sample: Typical Tracery and Perimeter Moldings and Trim Sections 12" long. Sample shall include typical wood plug. Samples shall be primed and painted or stained and varnished to match historic finishes. These samples should be reviewed and approved by Owner, Architect and Massachusetts Historical Commission.

B. Certification of selective harvesting (Green Stamp) pattern South American grain mahogany,

1.4 RELATED WORK

A. The General Contractor shall deliver the existing window to the window fabricator to be used for matching of profiles and dimensions and for reusing interior components as shown on drawings.

B. The Stained Glass Studio shall produce two sets of 1/4" wood templates to be used to confirm finish openings of each panel of glass.

SECTION 06200 – FINISH CARPENTRY
SECTION 08870 - STAINED GLASS RESTORATION

1.5 QUALITY ASSURANCE

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- A. The window fabricator shall have demonstrated experience and provide satisfactory references for three windows of similar size and complexity which have been completed and installed within the last ten (10) years on National Register Properties.
- B. All work shall meet the Architectural Woodwork Institute (AWI) standards for Custom Grade Exterior Windows.
- C. WARRANTY

Special Warranty: The Fabricator agrees to repair or replace wood windows that fail in materials and workmanship within Five (5) years from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Wood: South American Mahogany
 - 1. Curved Members: FAS
 - 2. Straight Members: Pattern Grade
 - 3. Moisture Content: KD 8-12%
 - 4. Size: 12/4 Maximum Stock
- B. Paint: Sherman Williams or approved equal
 - 1. Wood: SW A-100 Exterior Oil Wood Primer YZ4W20, 2.2 dft.
 - 2. SW Duration Top Coat (for exterior elements)
 - 3. Spar Varnish (for interior elements).

PART 3 - EXECUTION

3.1 FABRICATION

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- A. All work shall conform to AWI Custom Grade Exterior Window standards.
- B. Curved arches shall be let half-lapped where needed for strength or durability.
- C. All joints shall be reinforced with doweled biscuits and screws.
- D. The fabricator shall be responsible for the structural integrity and connection of all window components.
- E. Prime all exposed exterior and concealed surface after fabrication.
- F. Provide two top coats to all exterior surfaces and the space between stained glass and protective glazing.
- G. Strip existing varnish from interior components where will be reused.
- H. After thorough sanding, apply stain and spare varnish so that finished interior surfaces match original surfaces.
- I. Confirm all openings with templates supplied by Stained Glass Studio.
- J. Supply shipping, handling and installation directions to Contractor. Fabricate shipping protection and support frames.

END OF SECTION 08550

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SECTION 08870 – STAINED GLASS RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

The drawing and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 SCOPE OF WORK

- A. All of the conservation procedures employed while working on the panels of the window shall be documented with text and photographs.
- B. Complete removal of existing glass.
- C. Cleaning of both sides of the glass.
- D. Repair cracked glass.
- E. Replace glass considered not repairable. Allowance of one square foot shall be included.
- F. 100% Re-leading and waterproofing of each panel.
- G. Design and install support system.
- H. Reinstall each panel.
- I. Paint glazing sealant.
- J. New vented protective glazing
- K. Templates for both stained glass and protective glazing.

1.3 RELATED WORK

- A. SECTION 01520 – STAGING LIFTS AND ACCESS
- B. SECTION 06200 – FINISH CARPENTRY
- C. SECTION 08850 – WOOD ROSE WINDOW
- D. SECTION 09900 - PAINTING

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1.5 PROJECT PHILOSOPHY

- A. Specifications and procedures shall comply with the Secretary of the Interior's *Standards for Treatment of Historic Properties*.
- E. The windows will be treated as integral and functional parts of the building fabric.
- F. All original glass and artwork shall be maintained, stabilized and conserved.
- G. All restoration work shall be accurately recorded and all restoration procedures shall be proven reversible.

1.6 QUALITY ASSURANCE

- A. The Studio shall have demonstrable, acceptable experience within the past five (5) years on at least three projects requiring restoration of similar windows. References are required.
- B. The project foreman having no less than ten (10) years experience in stained glass restoration must be on site at all times during reinstallation, and be present in the studio at all times during restoration. He/she will be held directly responsible for all work.
- C. Stained glass work may be reviewed at any time during the course of the project by the Owner and/or Architect.
- D. Quality digital photographs (.jpeg format) of the restoration process shall be provided to the City by the studio at the key phases of the stained glass restoration.

1.7 GUARANTEE

- A. Provide a written guarantee for full replacement of all new materials and all craftsmanship performed under the scope of this project, for a period of three years from the date of final completion of the project.

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PART 2 - PRODUCT

2.1 GLASS

- A. Replacement glass will match the original in size, color, texture, thickness and appearance.

2.2 LEAD CAME

- A. Lead comes are to match the original in profile and dimension.
- B. Composition of the alloy shall match ASTM, spec. B.29-79, or shall include 0.03 - 0.06% copper and/or silver.

2.3 SOLDER

- A. 60/40 (tin/lead) or 63/37 (tin/lead).

2.4 FLUX

- A. For lead came: stearic acid, such as Allen Stearing Stick, #B-600 (L.B. Allen, Inc., Woodale, IL), or oelic acid or approved equal.
- B. For bars, zinc chloride, such as Soldering Paste (Hancock-Gross, Philadelphia, PA), or approved equal.

2.5 EPOXY ADHESIVE

- A. Hxtal NYL-1 (Conservation Materials, Sparks, NV), or approved equal.

2.6 WATERPROOFING

- A. Glaziers' putty containing calcium carbonate in an organic oil medium, mixed to a stiff consistency, such as Old Time Linseed Oil Putty or approved equal.

2.7 CLEANING AGENT

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- A. Non-ionic, pH-7 (neutral) detergent, such as Orvus, Triton or approved equal.
- B. Acetone will be used to degrease glass to be edge-glued.
- C. Whiting will be used to clean restored glass after puttying and installation.

2.8 SETTING SYSTEM

- A. Glaze-Ease 601 by Advanced Repair Technology, Inc. or approved equal with traditional glazing points.

2.9 TIE WIRES

- A. #16 gauge fully tinned copper wire.

2.10 NEW SUPPORT BARS

- A. Match size and profile of existing bars.

2.11 PROTECTIVE GLAZING

- A. 3/16" clean tempered glass.

2.12 VENTS

- A. Midget Louver, Regular Series, 1 1/2" Diameter, Brown Finish, Standard Collar

2.13 PAINT

- A. Paint for glazing compound shall be supplied by the General Contractor.

PART 3 - EXECUTION

3.1 DOCUMENTATION

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- A. All of the original conditions, and all conservation procedures employed while working on the panels of the window, will be documented. This will be accomplished with text and photographs. The original condition report will be augmented as the window undergoes conservation. This amended report will become part of the documentation package. In the final report, all procedures performed will be discussed and explained. The documentation package will include photography and rubbings of all of the panels. Each major set during restoration shall be photographed. A copy of this information will be turned over to the City and to the Architect at the end of the project. The following will be recorded on the rubbings: All lead lines; overall sizes of the panels; widths of the leads and designation as to flat or round, broken, missing, or cracked pieces of glass; support bar and/or tie wire attachment points; plating.

3.2 TRANSPORTATION OF WINDOWS

- A. The existing windows shall be checked and made ready for transport in crates from the Chapel. The stained glass studio shall transport the windows to and from their studio .

3.3 DISMANTLING

- A. The window will be carefully taken apart and glass placed onto its respective locations on the rubbings.

3.4 CLEANING

- A. All dirt will be removed from both sides of the panels. This cleaning will be done with a mild solution of Orvus, Triton X or an approved non-ionic detergent and water. Utmost care will be used around all painted areas. If painted areas appear unstable, do not clean.

3.5 REPAIR OF CRACKED GLASS

- A. There are a few cracked pieces of glass in the window. All cracked glass will be repaired in order to preserve the original glass. All of the original glass will be kept in the window unless it is severely damaged. The following repair techniques will be used: copper-foil technique and epoxy edge-gluing. The stained glass studio shall make recommendations to the Architect and Owner for specific areas based on visual impact, strength requirements, as well as a balancing of the desire for reversibility and

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durability. Samples of each repair technique approved by the Massachusetts Historic Commission shall be reviewed and approved before large scale repairs are undertaken.

3.6 REPLACEMENT GLASS

- A. An allowance of one square foot of replacement glass shall be included in the base contract. Replacement glass shall match original glass in color, texture, value and appearance. Any severely damaged glass shall be reviewed with the Architect before repairing or replacing.

3.7 RELEADING

- A. Match the width and profile of the existing lead flange and the thickness of the heart of the lead comes. All lead lines will be cross-woven and long, continuous, straight lines shall be avoided.

3.8 WATERPROOFING

- A. After complete releading, waterproofing putty will be forced under the leads. The putty will be composed of whiting (calcium carbonate) and an organic oil medium. Absolutely no Portland cement, plaster of Paris or other hardening agents will be used in the mixture. After the putty is forced under the leads, cut back flush with the edge of the lead with a sharpened hardwood stick. Clean all excess oil away with whiting and rags. Under no circumstances should patinas or coloring agents be used to darken the leads or the solder. Burnish all solder joints with a stiff brush.

3.9 SUPPORT SYSTEM

- A. The stained glass studio shall evaluate the original support system. Where the original support bar system has performed satisfactorily, this support system shall be replicated. In cases where buckling has occurred, the stained glass studio shall recommend revisions to the support system. New painted round bars will be installed into the wood frames and attached to the panels by means of copper tie wires. The tie wires will be firmly soldered onto the panels, bent around the round bars, twisted, cut, and folded over. Additional wires shall be added wherever two leads intersect with a bar line.

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3.10 INSPECTION AND REINSTALLATION

- A. Inspect the completed window frame and tracery in the fabrication shop and verify all critical dimensions are correct. Direct the contractor to make any corrections needed for glass to fit with acceptable expansion. The stained glass panels will be back beaded in a small amount of sealant. After seating glass, install traditional glazing points at 8" O.C. maximum. Tool glazing sealant to a smooth surface. If shrinkage occurs, reapply sealant to provide straight tooled surface. Paint glazing sealant to match adjoining finishes.

3.11 COORDINATION WITH OTHER CONTRACTORS

- A. The stained glass studio shall provide templates for both all stained panels and protective glazing panels.
- B. The stained glass studio shall review and approve internal venting of the window so that all panels are vented.
- C. The stained glass studio shall coordinate their work with the General Contractor and other Contractors.

END OF SECTION 08870

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SECTION 09900 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

The drawing and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and relevant sections of these Specifications, apply to the work specified in this Section.

1.2 GENERAL REQUIREMENTS

- A. The General Conditions and Division 1, General Requirements, are a part of this Division.
- B. Review all other Contract Documents for requirements and/or conditions affecting or relating to work described in this Section.

1.3 SCOPE

Provide all labor, materials, equipment, supervision and related services and items necessary to perform all PAINTING work.

- A. The work in this Section shall include but is not limited to the following:
 - 1. Carefully inspect all existing surfaces which are to be painted.
 - 2. Preparatory work of materials and surfaces to receive paint beyond that specified to be done as work of other Sections, shall be included as work of this Section.
 - 3. Field painting includes all new and existing:
 - a) Final top coat of paint on exterior and spar varnish on interior of rose window.

1.4 SUBMITTALS

- A. Submit two (2) copies of manufacturers specifications, including paint label and analysis for each material specified and/or used.
- B. Submit samples for Architects review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the Contractor. On 12" x

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12" hardboard, provide 2 samples of each color and material, with texture to simulate actual conditions. Resubmit each sample as requested until required sheen, color and texture is approved by the Massachusetts Historic Commission.

1.5 REFERENCE STANDARDS, SPECIFICATIONS AND CODES

A. The following are hereby made a part of this SECTION by reference:

1. Painting and Decorating Contractors of America (PDCA) publications (most recent edition):
 - a. P1 Touch-up Painting and Damage Repair.
 - b. P5 Benchmark Sample Procedures for Paint and other Decorative Coating Systems.
2. M.G.L. C111.55, 190-199A; 105 CMR 460.000, "Lead Poisoning Prevention and Control"; 454 CMR 22.00 "Deleading Regulations"; 29 CFR 1910.1025; Massachusetts Hazardous Materials Regulation at 310 CMR 30.00; 29 CFR Part 1926, "Safety and Health Regulations for Construction"; and 29 CFR Part 1926.62, "Lead In Construction". Also: 29 CFR 1910.20, 134, 145, 1200, 29 CFR Subpart T, 40 CFR 61 Subpart A, 152, 40 CFR 241, 257, 261, 262; American National Standards Institute 29.2-79, 288.2-80; NIOSH Manual of Analytical Methods; Underwriters Laboratories 586-77 (R 1982).

1.6 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original, new and unopened packages and containers bearing manufacturers name and label.

1.7 JOB CONDITIONS

- A. Do not apply paint materials when the temperature of surfaces to be painted and the surrounding air temperatures are below 50 degrees F, unless otherwise permitted by the paint manufacturers printed instructions.
- B. Test all surfaces to be painted with a moisture meter and do not apply paint to surfaces with a moisture content greater than 12%.

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PART 2 - PRODUCTS

2.1 COLORS AND FINISHES

- A. Paint colors are similar to existing. Architect will provide a color schedule. Submit samples, as specified herein, before proceeding with the work.

2.2 MATERIAL QUALITY

- A. Provide the best quality of the various types of coatings as regularly manufactured by approved paint materials manufacturers. Material not displaying the manufacturer's identifications as a standard, best-grade product will not be acceptable.
- B. Provide undercoat paints which are compatible with the finish coats. Use only thinners approved by the paint manufacturer and use only within recommended limits.

2.3 MATERIALS

A. Paint Systems

The products listed are manufactured by Sherwin Williams. Equivalent products by other manufacturers may be submitted for review and approval by Owner and Architect. Provide the number of coats specified as a minimum, or as required to completely cover.

a. Exterior wood windows & trim:

1st Coat: Sherwin Williams A-100 Stain Blocking Primer –
shopped prime by window fabrication.

2nd Coat: Sherwin Williams Duration Exterior Acrylic Latex –
shop primed by window fabrication.

3rd Coat: Sherwin Williams Duration Exterior Acrylic Latex –
shop primed by window fabrication.

4th Coat: Field-Applied Sherwin Williams Duration Exterior
Acrylic Latex

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b. Interior Wood Window and Trim

1st Coat: Transparent stain if required to match historic color – shop applied by window fabricator

2nd Coat: Spar Varnish - shop applied by window fabricator

3rd Coat: Spar Varnish - shop applied by window fabricator

4th Coat: Field-applied Spar Varnish

PART 3 - EXECUTION

3.1 INSPECTION

- A. The Contractor must examine the areas and conditions under which painting work is to be applied. Notify in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Contractor.
- A. Starting of painting work will be construed as the Contractor's acceptance of the surfaces and conditions.
- B. Do not paint over dirt, rust, scale, grease, moisture scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

3.2 SURFACE PREPARATION

- A. General: Perform preparation and cleaning procedures in strict accordance with the paint manufacturers instructions and as herein specified, for each particular substrate condition.

- 1. Sand and clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from the cleaning process will not fall onto wet, newly painted surfaces.

Scrape with hand tools all surfaces exhibiting areas of loose paint or poor adhesion. Feather all rough edges with sandpaper to provide smooth transition between paint layers of substrate. A sample of the desired quality

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level of scraping and sanding and feathering shall be provided by the Contractor for approval by the Architect.

3.3 MATERIALS PREPARATION

- A. Mix and prepare painting materials in accordance with manufacturers directions.
- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition free of foreign materials and residue.
- C. Stir materials before application to produce a mixture of uniform density, and stir as required during the application of the materials. Do not stir surface film into the material. Remove the film and if necessary, strain the material before using.

3.4 APPLICATION

- A. Apply paint materials in accordance with the manufacturers directions. All paint shall be brush applied.
- B. Apply paint materials so as to completely cover all surfaces with an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, laps, refinish, or repaint work not in compliance with specified requirements.
- C. Apply additional coats when undercoats, stains or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance.
- D. Prime Coats: Apply a prime coat to those areas which are badly worn or where there is exposed bare substrate.
- E. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or paint work not in compliance with specified requirements

3.5 CLEAN-UP PROTECTION

- A. During the progress of the work, remove from the project daily all discarded paint materials, rubbish, cans and rags. No paint materials will be allowed to be kept within the structure itself for any reason.

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- B. Protect all areas of the building and site, whether to be painted or not, against damage by painting and finishing work. Correct any damages by cleaning, repairing or replacing and repainting, as directed by the Architect.
- C. Provide "Wet Paint" signs as required to protect newly painted finishes
- D. Upon completion of painting work, clean all window glass and other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

END OF SECTION 09900



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