



## **Project Manual**

Bid No. 16-21

Arlington Public Schools

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# **ARLINGTON HIGH SCHOOL PRE-K CLASSROOM CONVERSION**

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Arlington, Massachusetts

AWARDING AUTHORITY

**TOWN OF ARLINGTON**

acting through and by its

**TOWN MANAGER**

Town Hall Annex

730 Massachusetts Ave.

Arlington, MA 02476

ARCHITECT

**DRUMMEY ROSANE ANDERSON, INC.**

235 Bear Hill Rd., 4th Floor

Waltham, MA 02451

April 27, 2016

ARLINGTON-HIGH SCHOOL  
PRE-K CLASSROOM CONVERSION  
ARLINGTON, MA

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ARLINGTON HIGH SCHOOL  
PRE-K CLASSROOM CONVERSION  
ARLINGTON, MA

INVITATION FOR BID

Sealed Bids for construction of:

**Arlington High School**  
**Pre-K Classroom Conversion**  
Arlington, MA.

in accordance with Contract Documents prepared by:

**DRUMMEY ROSANE ANDERSON, INC.**  
235 Bear Hill Road, 4th Floor  
Waltham, MA 02451

hereinafter called the Architect, will be received by:

**Town of Arlington**  
acting by and through its  
**Town Manager: Mr. Adam Chapdelaine**

hereinafter called the "Awarding Authority", or "Owner" at:

**Purchasing Department**  
Town Hall Annex  
730 Massachusetts Ave.  
Arlington, MA 02476  
Attention: Town Manager Mr. Adam Chapdelaine

Bidding procedures and award of the Contract shall be in accordance with the provisions of Commonwealth of **Massachusetts General Laws, Chapter 30, Section 39M** as amended.

Bids shall be received by the Awarding Authority at the address listed above, no later than

**10:30 AM, local legal time, May 12, 2016.**

at which times and place they will be publicly opened and forthwith read aloud. Any bid received after the time and date specified will not be considered.

A bid deposit in the amount of five percent (5%) of the Bid amount shall be submitted with each Bid. Bid deposit shall be in the form of certified check, Treasurer or Cashier's check issued by a responsible bank or trust company payable to **Town of Arlington**, or a bid bond (a) in a form satisfactory to the Awarding Authority, (b) with a surety company qualified to do business in the Commonwealth of Massachusetts, and (c) conditioned upon faithful performance by the principal of the agreements contained in the Bid. Return of bid deposits will be in accordance with the provisions of the applicable Massachusetts General Laws.

The Awarding Authority will reject Bids when required to do so by the above-referenced General Laws. In addition, the Awarding Authority reserves the right to waive any informalities in bidding and to reject any and all Bids if it deems to be in the public interest to do so. Also, the Awarding Authority reserves the right to reject any bid if it determines that such bid does not represent the bid of a person or firm competent to perform the work as specified, or if less than three bids are received, or if bid prices are not acceptable without further competition.

**By submitting a bid, the Bidders shall acknowledge that the award of the contract for this Project is contingent upon the project funding appropriation approval scheduled for the Arlington Town Meeting begins from April 25, 2016. The Awarding Authority may not award or enter a contract without the Town Meeting approval.**

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The successful Bidder will be required to furnish a Payment Bond in the amount of 50% of the applicable maximum Contract Amount. The cost of such bonds shall be included in the bid price. Such bonds shall be of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts.

Wages and contributions to be paid employees on the Project shall not be less than those established by a schedule issued by the Commissioner of the Department of Labor and Workforce Development of the Commonwealth of Massachusetts, in accordance with MGL c.149, §§ 26 to 27H inclusive, a copy of which is included in the Contract Documents, and shall be made a part of the Contract.

One set of Contract Documents may be obtained by each Bidder from the office of the Architect during normal business hours (9:00 AM to 5:00 PM) Monday through Friday, beginning after 2:00 PM on April 27, 2016 on payment of check or money order for **\$50.00** per set, payable to the **Town of Arlington**. Deposit will be refunded upon return of complete sets of Contract Documents in good condition within fourteen (14) days after opening of the bids. Otherwise, the deposit will be retained by the Awarding Authority. Bidders requesting Bid Documents to be mailed shall include an additional separate non-refundable check of \$20 (\$30 international) for each set, payable to Drummey Rosane Anderson, Inc. for packaging and handling.

Contract Documents may also be examined during regular office hours at the Architect's office free of charge.

The Awarding Authority is exempt from sales and federal excise tax to the extent permitted under law; bidders should not include such taxes in figuring or in references to any bid.

A pre-bid site visit will be held by the Awarding Authority at 3:30 PM, local legal time, on May 5, 2016 at the Arlington High School Front Entrance Lobby, 869 Massachusetts Ave., Arlington, MA 02476. All bidders are invited to attend.

Commonwealth of Massachusetts General Laws are incorporated herein by reference. Any inconsistency between the Invitation to Bid, Instructions to Bidders, Bid Forms, Conditions of the Contract, and any other Contract Documents and these statutes, or any other applicable statutes, bylaws, or regulations existing on the date on which the bids are to be received, shall not be grounds for invalidating the bidding procedures, but, where required by law, such statute, bylaw, or regulation shall be deemed to govern.

**TOWN OF ARLINGTON  
acting through and by its  
TOWN MANAGER**

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**INSTRUCTIONS TO BIDDERS**

1.00 COMPLEMENTARY DOCUMENT

- A. INVITATION FOR BID, included herewith, is complementary to this document and shall be carefully reviewed by bidders for specific instructions which are not repeated herein.

2.00 STATUTES REGULATING COMPETITIVE BIDDING

- A. Bidding procedures and award of contract shall be in accordance with the provisions of Chapter 30, Section 39M of the General Laws of the Commonwealth of Massachusetts, including all current amendments.
- B. In the event of any discrepancy or inconsistency between the provisions of these Instructions to Bidders and Contract Documents and the above-mentioned statutes, the provisions of the above-mentioned statutes shall govern. In such event, the application of all remaining provisions not in conflict to any circumstance other than that in which the conflict occurs shall not be affected thereby.

3.00 BIDDER'S QUALIFICATIONS

- A. No individual or firm may submit a Bid unless it includes, in the Bid Form, a list of at least **Three** (3) references of similar projects completed in the last **Five** (5) years.
- B. The Awarding Authority will reject Bids when required to do so by the above-referenced General Laws. In addition, the Awarding Authority reserves the right to waive any informalities in bidding and to reject any and all Bids if it deems to be in the public interest to do so. Also, the Awarding Authority reserves the right to reject any bid if it determines that such bid does not represent the bid of a person or firm competent to perform the work as specified, or if less than three bids are received, or if bid prices are not acceptable without further competition.

4.00 INTERPRETATION OF DOCUMENTS: NOTIFICATION OF ERRORS

- A. Interpretation of the provisions of the Contract Documents will be made by the Architect upon written request of any bidder, provided that such request is received by the Architect at least seven (7) days prior to date of applicable bid opening, and that the Architect considers such interpretation to be of sufficient importance. Oral or telephone interpretations will not generally be made, and if made, shall be strictly informal and not legally valid or binding.
- B. Architect's interpretations shall be in the form of Addenda to the Contract Documents.
- C. Bidders are urged to communicate all errors or discrepancies found in the Contract Documents to the Architect. Telephone calls pointing out any such errors or discrepancies will be taken by the Architect, but only for the purpose of receiving the information in order that it may be properly processed, and not for interpretation or clarification.

5.00 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- A. Each Bidder shall carefully examine the Contract Documents to obtain a thorough understanding of the work of his bid in addition to work of related trades. In addition, each Bidder shall personally visit the site to become thoroughly acquainted with the conditions as they exist thereon.
- B. A set of drawings titled "**Arlington High School Additions & Renovations**" dated July 7, 1978 as prepared by **DRA/ARC** Architects will be made available by the Awarding

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Authority for examination upon request during bidding period. This set of drawings is provided for information only to assist the bidder to gain better understanding of the Project. However, the information contained in the set is not guaranteed and may differ from the existing conditions in part or in whole. The bidder shall be responsible to verify the field conditions as they exist that may affect the Work.

- C. Failure of any Bidder to thoroughly examine the Contract Documents, available existing drawings, or to visit and examine the site shall in no way relieve the bidder of any obligation with respect to his/her bid or of any responsibility assigned the bidder under the Contract.

6.00 PRE-BID SITE VISIT

- A. Pre-bid site visit will be held at location and time stipulated in the INVITATION FOR BID.

7.00 MODIFICATION AND WITHDRAWAL OF BIDS

- A. Modifications of Bids will be permitted after submission of such bids provided clearly written, readily understandable instructions for same are received by the Awarding Authority in writing prior to time established for opening of such bids.
- B. No Bid may be withdrawn for a period of **30** days, excluding Saturdays, Sundays and legal holidays, after actual date of the Bid opening.

8.00 ADDENDA

- A. Addenda may be required during the bidding period to modify, clarify, or interpret the Contract Documents. It is intended, but not guaranteed, that such Addenda shall be mailed or faxed by the Architect to all persons or parties to whom Contract Documents have been issued (Bidders of Record). Failure to receive such Addenda shall in no way relieve any bidder from the execution of its provisions. All bidders are cautioned to verify the number of Addenda that have been issued and to secure any needed copies from the Architect before submitting a bid.

9.00 BID FORM

- A. The Awarding Authority will make available to every person applying therefor, a Bid Form. Each bona fide Bidder will be furnished a form for his/her proposal upon request. Such form will be made available at the Office of the Architect during regular office hours throughout the bidding period. Bids must be submitted on the form provided by the Awarding Authority or on form included in the bid documents of the Project Manual.
- B. All blank spaces provided on the bid form shall be filled in with ink or typewritten. Where space is provided, sums shall be expressed in both words and figures. In case of discrepancy between the two, the written words shall govern.
- C. No interlineations, additions, alterations, or erasures shall be made on the forms.
- D. The Awarding Authority is exempt from sales and federal excise tax to the extent permitted under law; bidders should not include such taxes in figuring or in references to any bid.

10.00 ALTERNATES

[Not Applicable.]

11.00 SUBMISSION OF BIDS

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- A. The **Bid Form** shall be properly executed and enclosed with **Bid Deposit** (equal to 5% of the value of the total bid) in a sealed envelope. Sealed envelope shall be plainly marked on the outside with the following information:

BID FOR: **Arlington High School  
Pre-K Classroom Conversion  
Arlington, MA.**

SUBMITTED BY: \_\_\_\_\_

(Name of Bidder)

\_\_\_\_\_  
(Address of Bidder)

- B. If Bid is mailed, the above-required envelope shall be enclosed in a second envelope identified with the above markings and mailed to the place of bid opening, as stipulated in the Invitation for Bid. Mailed Bids must be received before time scheduled for opening of bids.

**12.00 PAYMENT BONDS**

- A. The Payment Bond required of the Contractor shall be in the amount of 50% of the Contract Sum from a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and approved by the Awarding Authority.

**13.00 FOREIGN CORPORATIONS**

- A. The attention of bidders is called to the General Laws, Chapter 30, Section 39L, as amended by The Acts of 1967, Chapter 3, under which the Awarding Authority may not enter into a contract with a foreign corporation (a corporation not organized under the Laws of Massachusetts), nor approve a foreign corporation as a contractor, unless the foreign corporation has filed with the Awarding Authority a certificate by the State Secretary stating that the foreign corporation has complied with General Laws, Chapter 181, Sections 3 and 5, and stating the date of such compliance.

**14.00 AWARD OF CONTRACT**

- A. The Contract will be awarded to the lowest responsible, competent and eligible bidder except in the event of substitution as provided under Chapter 149, Sections 44E and 44F of the above-referenced General Laws.
- B. By submitting a bid, the Bidders shall acknowledge that the award of the contract for this Project is contingent upon the project funding appropriation approval scheduled for the Arlington Town Meeting begins from April 25, 2016. The Awarding Authority may not award or enter a contract without the Town Meeting approval.**

**15.00 COMMENCEMENT AND COMPLETION OF WORK**

- A. The successful bidder, upon execution of the Contract Agreement, which may constitute as Notice to Proceed unless specifically indicated by Awarding Authority otherwise, shall commence the work of the Contract within seven (7) calendar days. Thereafter the Contractor shall diligently and continuously carry on the work in such manner as to substantially complete the work of on or before the date as stipulated in Division 01 Section "Town of Arlington General Contract".

**16.00 LIQUIDATED DAMAGES**



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- A. Liquidated damages for not completing the work within the time limit specified above will be assessed by the Owner. Liquidated damages will be in the amount as stipulated in "Town of Arlington General Contract". The liquidated damages amount per calendar day is a minimum damage figure to compensate the Owner for administrative costs and loss or delay of its use of the project, and for added Owner's Project Manager, Architect and consultant fees, and does not limit in any way the liability of the Contractor for damages in excess of the specified liquidated damages amount for other damages, in particular, damages for breach of Contract. It is expressly understood that such liquidated damages do not constitute a penalty.

**END OF DOCUMENT**

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**ARLINGTON HIGH SCHOOL  
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**BID FORM**

TO THE AWARDING AUTHORITY:

A. The undersigned proposes to furnish all labor and materials required for the construction of

Arlington High School  
**PRE-K CLASSROOM CONVERSION**  
Arlington, MA

in accordance with accompanying Plans and Specifications prepared by the Architect

**Drummey Rosane Anderson, Inc.**  
235 Bear Hill Road, 4th Floor  
Waltham, MA 02451

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.

(\$ \_\_\_\_\_).

D. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the Contract Documents:

1. Have been in business under present business name for \_\_\_\_\_ years.

2. Ever failed to complete any work awarded? \_\_\_\_\_.

3. List **three** (3) separate Owner references for projects completed in the past **five** (5) years on which you served as contractor for work of similar character as required for this project:

| <u>Project</u> | <u>Owner Ref. Name</u> | <u>Telephone No.</u> | <u>Amount of Contract</u> |
|----------------|------------------------|----------------------|---------------------------|
|----------------|------------------------|----------------------|---------------------------|

|       |       |       |       |
|-------|-------|-------|-------|
| _____ | _____ | _____ | _____ |
|-------|-------|-------|-------|

|       |       |       |       |
|-------|-------|-------|-------|
| _____ | _____ | _____ | _____ |
|-------|-------|-------|-------|

|       |       |       |       |
|-------|-------|-------|-------|
| _____ | _____ | _____ | _____ |
|-------|-------|-------|-------|

4. Bank Reference: \_\_\_\_\_.

E. **The undersigned hereby certifies, under the pains and penalties of perjury, that he has carefully examined the Contract Documents, established a thorough understanding of the existing conditions, and has obtained sufficient information for executing the work of his bid and the work of all related trades.**

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- F. The undersigned agrees that, if selected as Contractor, he will within five (5) days, Saturdays, Sundays, and legal holidays excluded, after presentation thereof by the Awarding Authority, execute the Contract in accordance with the terms of this bid and furnish a labor and materials payment bond, of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, and in the amount no less than 50% of the Contract Price, the premium for which is to be paid by the Contractor and is included in the Contract Price.
- G. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with Owner's separate contractor(s) and all other elements of labor employed or to be employed on the work and that he/she will comply fully with all laws and regulations applicable to awards made subject to MGL c.149, § 44A.
- H. The undersigned bidder hereby certifies, under the pains and penalties of perjury, the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result if (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wages rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.
- I. The undersigned hereby certifies that all employees to be employed at the worksite shall have successfully completed a course in construction safety and health approved by the **OSHA** that 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.
- J. **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.
- K. The undersigned further certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of Section 29F of Chapter 29, or any other applicable debarment provisions of any chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: \_\_\_\_\_  
(Name of General Bidder)

Signed: \_\_\_\_\_

(Seal) By: \_\_\_\_\_  
(Print Name and Title of Person Signing Bid)

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

\_\_\_\_\_  
(City and State)

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(Business Telephone Number)

**TOWN OF ARLINGTON**  
**GENERAL CONTRACT**

THE TOWN OF ARLINGTON, a municipal corporation of the Commonwealth of Massachusetts, acting through its Town Manager, and

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(The Contractor)

hereby mutually agree as follows:

**ARTICLE I - THE CONTRACT DOCUMENTS**

The Contract Documents, as defined in the CONSOLIDATED GENERAL CONDITIONS, including said CONSOLIDATED GENERAL CONDITIONS are hereby incorporated by reference and made a part hereof, and shall include Addenda and Alternates, if any.

**ARTICLE II - GENERAL DESCRIPTION OF THE WORK**

The Contractor shall furnish all of the materials and perform all of the Work required by the Contract Documents entitled **Arlington High School Pre-K Classroom Conversion** dated **April 27, 2016** prepared by Drummey Rosane Anderson, Inc., Bear Hill Road, 4th Floor, Waltham, MA 02451, acting as, and in these Contract Documents entitled, the Architect.

**ARTICLE III – COMMENCEMENT AND COMPLETION OF WORK AND LIQUIDATED DAMAGES**

It is agreed tat time is of the essence of this Contract.

The Contractor shall commence work only upon the execution of this Contract by the Town of Arlington by its Town Manager, the certification of the availability of the appropriation by the Town Comptroller, approval as to form by the Town Counsel, and upon Issuance of a Notice to Proceed, and shall bring the Work to Substantial Completion by **August 19, 2016**, and to Final Completion within 45 calendar days thereafter. Liquidated damages in the amount of \$500 per calendar day will be applicable after the date of Substantial Completion for which the project is not substantially complete, and for each day after the date of Final Completion for which the project is not finally complete, and otherwise in accordance with the provisions of the CONSOLIDATED GENERAL CONDITIONS. The liquidated damages amount per calendar day is a minimum damage figure to compensate the Owner for administrative costs and loss or delay of its use of the building and site, and does not limit in any way the liability of the Contractor for damages in excess of the specified liquidated damages amount for other damages, for example, damages for breach of Contract, and added architect and consultant fees. It is expressly understood that such liquidated damages do not constitute a penalty. All work shall be phased (if applicable) in accordance with the Contract Documents.

NOTE: NOTWITHSTANDING ANYTHING TO THE CONTRARY, THE TIME OF COMMENCEMENT SHALL ONLY BE BY WRITTEN NOTICE TO PROCEED WITH THE

WORK AS DATED AND ISSUED TO THE CONTRACTOR BY THE TOWN OF ARLINGTON. NOTICE TO PROCEED MAY BE GIVEN ANYTIME AFTER THE AWARD OF THE CONTRACT, BUT NOT LATER THAN 14 DAYS AFTER THE EXECUTION OF THE CONTRACT.

ARTICLE IV – COMPENSATION TO BE PAID BY TOWN

The Town shall pay and the Contractor shall accept, as full compensation for everything furnished, done by or resulting to the Contractor in carrying out this Contract, subject to additions and deductions in the Contract Documents in the sum of:

\_\_\_\_\_ (\$ \_\_\_\_\_ )

ARTICLE V – AVAILABILITY OF APPROPRIATION

This Contract is subject to an appropriation being available therefor.

This Contract is executed by the Town of Arlington and by the Contractor as of this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

TOWN OF ARLINGTON

Signed: \_\_\_\_\_  
Town Manager

Approved as to Availability  
Of Appropriation

\_\_\_\_\_  
Town Comptroller

Approved as to Form:

\_\_\_\_\_  
Town Counsel

CONTRACTOR:

Signed: \_\_\_\_\_

By: \_\_\_\_\_  
(Name)

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

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

(Affix Corporate Seal Here)

Bond No. \_\_\_\_\_

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENT, that we \_\_\_\_\_ with a place of business at \_\_\_\_\_ as principal (the "Principal"), and \_\_\_\_\_, a corporation qualified to do business in the Commonwealth of Massachusetts, with a place of business at \_\_\_\_\_ as Surety (the "Surety"), are held and firmly bound unto TOWN OF ARLINGTON as Obligee (the "Obligee"), in the sum of \_\_\_\_\_ lawful money of the United States of America, to be paid to the Obligee, for which payment, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the Principal has assumed and made a contract with the Obligee, bearing the date of \_\_\_\_\_, for the construction of \_\_\_\_\_.

NOW, THE CONDITIONS of this obligation are such that if the Principal and all subcontractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the Surety of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, the provisions of Massachusetts General Laws, Chapter 30, Section 39A, and Chapter 149, Section 29, as amended then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

IN WITNESS WHEREFORE, the Principal and Surety have hereto set their hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

PRINCIPAL

SURETY

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
[Name and Seal]

\_\_\_\_\_  
[Attorney-In-Fact] [Seal]

\_\_\_\_\_  
[Title]

\_\_\_\_\_  
[Address]

\_\_\_\_\_  
[Phone]

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

The rate for this bond is \_\_\_\_\_% of the first \$ \_\_\_\_\_ and \_\_\_\_\_% for the next \$ \_\_\_\_\_.

The total premium for this Bond is \$ \_\_\_\_\_.

**END OF PAYMENT BOND**

CONSOLIDATED GENERAL CONDITIONS  
OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), the Consolidated General Conditions of the Contract for Construction, the Supplemental Statutory Conditions, Drawings, Specifications, including all numbered sections, Addenda issued prior to execution of the Contract, Instructions to Bidders and Proposal, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of addenda relating to bidding requirements).

In the event of any conflict among the Contract Documents, the Documents shall be construed according to the following priorities:

|                   |  |
|-------------------|--|
| Highest Priority: | Modifications                          |
| Second Priority:  | Agreement                              |
| Third Priority:   | Addenda--later date to take precedence |
| Fourth Priority:  | Supplemental Statutory Conditions      |
| Fifth Priority:   | Consolidated General Conditions        |
| Sixth Priority:   | Specifications and Drawings            |
| Seventh Priority: | Instructions to Bidders and Proposal   |

Any references throughout the contract documents (or any other project documents) to "General Conditions" or "Supplementary General Conditions" are deleted and "Consolidated General Conditions and Supplemental Statutory Conditions" is substituted therefor. All bidders and sub-bidders take note that the Town has consolidated and modified former versions of the standard form AIA Document A210 General Conditions of the Contract for Construction with the Town's desired Supplementary General Conditions into one document. The Supplemental Statutory Conditions remain intact and separate, and form a part of the Contract Documents.



### 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. Except as provided in Paragraph 3.18, nothing contained in the Contract Documents shall be construed to create any contractual relationship (1) between the Architect and the Contractor, (2) between the Owner or the Architect and a Subcontractor or Sub-subcontractor, (3) between the Owner and the Architect, or (4) between any persons or entities other than the Owner and the Contractor. The Contract Documents shall comply with the requirements of Mass. Gen. Laws Chapter 44, Section 31C.

### 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

### 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

### 1.1.5 THE DRAWINGS

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

### 1.1.6 THE SPECIFICATIONS

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

### 1.1.7 THE PROJECT MANUAL

The Project Manual is the volume usually assembled for the work which may include the bidding requirements, sample forms, Consolidated General Conditions of the Contract and Specifications.

## 1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract Documents shall be signed by the Owner and Contractor as provided in the Agreement. A copy of the signed set shall be deposited with the Architect. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

1.2.2 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents. By executing the Contract, the Contractor also certifies, under penalties of perjury, that to the best of his information, knowledge and belief he has complied with all laws of the Commonwealth of Massachusetts relating to taxes.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. All Work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others.

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

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

1.2.6 Where codes, standards, requirements and publications of public and private bodies are referred to in the Specifications, references shall be understood to be to the latest revisions prior to the date of receiving bids, except where otherwise indicated.

1.2.7 Where no explicit quality or standards for materials or workmanship are established for Work, such Work or materials is to be of good, workmanlike quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the Project generally.

1.2.8 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

1.2.9 The Mechanical, Electrical and Fire Protection Drawings are diagrammatic only, and are not intended to show the alignment, physical locations or configurations of such Work.

Such Work shall be installed without additional cost to the Owner to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the Contractor shall prepare coordination drawings showing the exact alignment, physical location and configuration of the Mechanical, Electrical and Fire Protection installations and demonstrating to the Contractor's satisfaction that the installations will comply with the preceding sentence.

1.2.10 Exact locations of fixtures and outlets shall be obtained from the Architect as provided in Subparagraph 3.2.5 before the Work is roughed in; Work installed without such information from the Architect shall be relocated at the Contractor's expense.

1.2.11 Test boring or soil test information included with the Contract Documents or otherwise made available to the Contractor was obtained by the Owner for use by the Architect in the design of the Project or Work. The Owner does not hold out such information to the Contractor as an accurate or approximate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed except as provided in Subparagraph 4.3.6.

### 1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

1.3.1 The Drawings, Specifications and other documents prepared by the Architect are instruments of the Architect's service through which the Work to be executed by the Contractor is described. The Contractor may retain one contract record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect, and unless otherwise indicated, and except as provided in the Owner/Architect Agreement for the Project, the Architect shall be deemed the author of them and will retain all common law, statutory and other reserved rights, in addition to the copyright. All copies of them, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner and Architect. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's copyright or other reserved rights.

Notwithstanding anything herein to the contrary, as between the Owner and Architect, their rights and obligations with respect to the Architect's instruments of service are governed by the provisions of the Owner/Architect Agreement for the Project.

#### 1.4 CAPITALIZATION

1.4.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in a document or (3) the titles of documents published by the American Institute of Architects.

#### 1.5 INTERPRETATION

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

### ARTICLE 2

#### OWNER

#### 2.1 DEFINITIONS

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. From time to time herein the Owner is referred to as the Town.

2.1.2 The Project Manager is the person or entity identified as such in writing by the Owner, at the Owner's option. The Project Manager shall act as the Owner's representative with respect to all matters pertaining to the Project. The duties, responsibilities, and obligations of the Project Manager under this Contract may be modified from time to time by the Town, so long as such modifications do not interfere materially with the Contractor's performance of the Work hereunder, and so long as the Contractor is given notice of any such modifications that affect the Contractor's performance of the Work.

#### 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 The Owner upon reasonable written request shall furnish to the Contractor in writing information which is necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein at the time of execution of the Agreement.

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

2.2.3 Except for permits and fees which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures, or for permanent changes in existing facilities.

2.2.4 Information or services required of the Owner hereunder shall be furnished by the Owner with reasonable promptness after receipt from the Contractor of a written request for such information or services.

2.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

2.2.6 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Article 6 (Construction by Owner or by Separate Contractors), Article 9 (Payments and Completion) and Article 11 (Insurance and Bonds).

### 2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2 or persistently fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed by the Project Manager, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

2.3.2 The Owner may order the 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 Owner; provided however, that if there is a suspension, delay or interruption ordered by the Owner for fifteen days or more or due to a failure of the Owner to act within the time specified in this Contract, the Owner shall make an adjustment in the Contract Sum for any increase in the cost of performance of this Contract, but shall not include any profit to the Contractor on such increase; and provided further, that the Owner shall not make any adjustment in the Contract Sum 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 Sum under any other contract provisions.

2.3.3 The Contractor must submit the amount of a claim under Subparagraph 2.3.2 to the Owner 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 21 days after the end thereof. Except for costs due to a suspension order, the Owner shall not approve any costs in the claim incurred more than twenty days before the Contractor notified the Owner in writing of the act or failure to act involved in the claim.

## 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to begin and prosecute correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Construction Change Directive shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

## ARTICLE 3

### CONTRACTOR

#### 3.1 DEFINITION

3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.

#### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1 Before starting the Work, and at frequent intervals during the progress thereof, the Contractor shall carefully study and compare the Contract Documents with each other and with any information furnished by the Owner pursuant to Subparagraph 2.2.2 and shall at once report to the Architect any error, inconsistency or omission the Contractor may discover. Any necessary change shall be ordered as provided in Article 7, subject to the requirements of Paragraph 1.2 and other provisions of the Contract Documents. If the Contractor proceeds with the Work without such notice to the Architect, having discovered such errors, inconsistencies or omissions, or if by reasonable study of the Contract Documents the Contractor could have discovered such, the Contractor shall bear all costs arising therefrom.

3.2.2 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Architect at once. Any necessary change shall be ordered as provided in Article 7, subject to the requirements of Paragraph 1.2 and other provisions of the Contract Documents. If the Contractor proceeds with the Work without such notice to the Architect, having discovered such errors, inconsistencies or omissions, the Contractor shall bear all costs arising therefrom.

3.2.3 The Contractor shall perform the Work in accordance with the Contract Documents and any submittals made in accordance with Paragraph 3.12.

3.2.4 The Contractor shall give the Architect timely notice of any additional Drawings, Specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work.

3.2.5 The Contractor shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from the Architect as provided in Subparagraph 3.2.4. If the Contractor proceeds with such Work without obtaining further Drawings, Specifications or instructions, the Contractor shall correct Work incorrectly done at the Contractor's own expense.

### 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. Where the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of work implied by the operations described, but the actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the Contractor, who shall notify the Architect in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage, liability, or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless the Contractor has given timely notice to the Owner and Architect in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Owner has then instructed the Contractor in writing to proceed at the Owner's risk.

3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

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

3.3.4 The Contractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

### 3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The word "provide" shall mean furnish and install completely, including connections, unless otherwise specified.

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

### 3.5 WARRANTY

3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect occurring after Substantial Completion and caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.

3.5.2 The Contractor shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Architect may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the Architect, would lead to a reasonable certainty that any material used, or proposed to be used in the Work, meets the requirements of the Contract Documents. All such data shall be furnished at the Contractor's expense. This provision shall not require the Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

3.5.3 If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents, in accordance with the procedures set forth in Mass. Gen. Laws Chapter 30, Section 39I.

3.5.4 In requesting approval of deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or



deviation meets or exceeds the requirements set forth in Mass. Gen. Laws Chapter 30, Section 39M(b). If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation.

3.5.5 The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.

3.5.6 Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner or the Architect, unless such substitution was made at the written request or direction of the Owner or the Architect.

3.5.7 The warranty provided in this paragraph 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

3.5.8 The Contractor shall procure and deliver to the Architect, no later than the date claimed by the Contractor as the date of Substantial Completion, all special warranties required by the Contract Documents. Delivery by the Contractor shall constitute the Contractor's guarantee to the Owner that the warranties shall be performed in accordance with their terms and conditions.

### 3.6 TAXES

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

### 3.7 PERMITS, FEES AND NOTICES

3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or

negotiations concluded. Notwithstanding the foregoing, the Town hereby waives the fee for the Town's building permit for the Project.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

3.7.3 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

3.7.4 If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs.

### 3.8 ALLOWANCES

3.8.1-3.8.2 OMITTED.

### 3.9 SUPERINTENDENCE

3.9.1 The Contractor shall employ a competent superintendent, acceptable to the Owner, and necessary assistants who shall be in attendance at the Project site full time during the progress of the Work until the date of Substantial Completion, and for such additional time thereafter as the Architect may determine to be necessary for the expeditious completion of the Work. The superintendent shall be licensed to act as superintendent in accordance with all applicable laws for projects of this type. The Contractor shall remove the superintendent if requested to do so in writing by the Owner, and shall promptly replace him with a competent person reasonably acceptable to the Owner. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

3.9.2 The Contractor shall retain a competent Registered Professional Engineer or Registered Land Surveyor, acceptable to the Architect, who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated Work such as, but not limited to, roads, utilities and site grading. The Engineer or Land Surveyor shall certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries.

3.9.3 The Contractor shall establish the building grades, lines, levels, column, wall and partition lines required by the various Subcontractors in laying out their Work.

3.9.4 The Contractor shall coordinate and supervise the Work performed by Subcontractors to the end that the Work is carried out without conflict between trades and so that

no trade, at any time, causes delay to the general progress of the Work. If such delays occur, the Owner may deduct anticipated liquidated damages from the Progress Payments to the Contractor. The Contractor and all Subcontractors shall at all times afford each trade, any separate contractor, or the Owner, every reasonable opportunity for the installation of Work and the storage of materials.

### 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.10.1 The Contractor shall prepare and submit to the Architect a progress schedule, and shall comply with such schedule, as described in Subparagraphs 8.2.4 through 8.2.8.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

### 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Architect is subject to the limitations of this Paragraph 3.12 and Paragraph 4.2.

3.12.5 The Contractor shall review, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness, in accordance with the Contractor's progress schedule approved by the Architect, and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action.

3.12.6 The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed by the Architect. Such Work shall be in accordance with reviewed and approved submittals.

3.12.7 By approving and submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor thereby represents that the Contractor has determined and verified all dimensions, quantities, field dimensions, relations to existing work, coordination with work to be installed later, coordination with information on previously accepted Shop Drawings, Product Data, Samples, or similar submittals and verification of compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the Contractor. In reviewing Shop Drawings, Product Data, Samples, and similar submittals the Architect shall be entitled to rely upon the Contractor's representation that such information is correct and accurate.

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

3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. Unless such notice has been given, the Architect's review of a resubmitted Shop Drawing, Product Data, Sample, or similar submittal shall not constitute acceptance of any changes not requested on the prior submittal.

3.12.10 Informational submittals upon which the Architect is not expected to take responsible action may be so identified in the Contract Documents.

3.12.11 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Owner shall be entitled to rely upon such certifications, and neither the Owner nor the Architect shall be expected to make any independent examination with respect thereto.

3.12.12 The Architect will not check dimensions or quantities on any Shop Drawings and will not assume any responsibility for any errors in dimensions or quantities on Shop Drawings.

### 3.13 USE OF SITE

3.13.1 The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times in the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine the Contractor's apparatus, the storage of materials and the

operations of the Contractor's workers to limits indicated by law, ordinances, the Contract Documents and permits and/or directions of the Architect, and shall not unreasonably encumber the premises with the Contractor's materials. The Owner shall not be liable to the Contractor, the Subcontractors, their employees or anyone else with respect to the conditions of the premises, except only for a condition caused directly and solely by the negligence of the Owner.

### 3.14 CUTTING AND PATCHING

3.14.1 The Contractor and its Subcontractors shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly, all to be performed in accordance with the requirements of the Contract Documents.

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

### 3.15 CLEANING UP

3.15.1 The Contractor daily shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. Immediately prior to the Architect's inspection for Substantial Completion, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures and equipment shall be thoroughly cleaned. Stains, spots, dust, marks and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the Contractor at the Contractor's expense.

3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.15.3 The provisions of paragraphs 3.15.1 and 3.15.2 shall apply equally to all subcontractors at the project insofar as each subcontractor's work is concerned.

### 3.16 ACCESS TO WORK

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

### 3.17 ROYALTIES AND PATENTS

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

### 3.18 INDEMNIFICATION

3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expense, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.

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

3.18.3 The obligations of the Contractor under this Paragraph 3.18 shall not extend to the liability of the Architect, the Architect's consultants, and agents and employees of any of them arising out of (1) the preparation of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications, or (2) directions or instructions given by the Architect, the Architect's consultants, and agents or employees of any of them.

### 3.19 COVENANT NOT TO SUE

3.19.1 In consideration of the Contractor's undertaking to indemnify and hold harmless the Architect, the Architect's consultants and agents or employees of any of them, in accordance with Paragraph 3.18, agree that the Architect will not bring any civil suit, action or other proceeding in law, equity or arbitration against the Contractor, or the officers, employees, agents and servants of the Contractor, for or on account of any action which the Architect may have arising out of or in any manner connected with the Work, except to enforce the provisions of

Paragraph 3.18 and this Paragraph 3.19; and the Contractor, or any successor, assign or subrogee of the Contractor, agrees not to bring any civil suit, action or other proceeding in law, equity or arbitration against the Architect, or the officers, employees, agents and servants of the Architect, for the enforcement of any action which the Contractor may have arising out of or in any manner connected with the Work.

### 3.20 RECORD KEEPING REQUIREMENTS

3.20.1 The Contractor shall comply with all applicable requirements of Mass. Gen. Laws Chapter 30, Section 39R.

## ARTICLE 4

### ADMINISTRATION OF THE CONTRACT

#### 4.1 ARCHITECT

4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld. To the extent inconsistent herewith, the rights and responsibilities of the Architect shall be governed by the Owner/Architect Agreement for the Project.

4.1.3 In case of termination of employment of the Architect, the Owner shall appoint an architect whose status under the Contract Documents shall be that of the former architect.

#### 4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents. The Architect will advise and consult with the Owner. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified by written instrument in accordance with other provisions of the Contract.

4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. The Architect will visit the site at least once per week during periods of active construction. The Architect will not be required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work. On the basis of on-site observations as an architect, the Architect will keep the Owner informed

of progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work.

4.2.3 The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in Paragraph 3.3. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

4.2.4 Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate through the Project Manager. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers generally shall be through the Contractor, although the Owner and Project Manager may have direct communications with subcontractors and suppliers intended to facilitate or expedite construction. Communications by and with separate contractors shall be through the Owner.

As to any written communications between two of the three of the Owner, Architect, and Contractor, a concurrent copy shall be sent to the third.

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

4.2.6 In accordance with generally accepted standards of professional practice the Architect will review, approve, and take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, for the purpose of checking for conformance with the Contract Documents. The Architect's action will be taken with reasonable promptness, while allowing sufficient time in the Architect's professional judgment to permit adequate review, and in any event shall take no longer than the time permitted by law. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of obligations set forth in Paragraphs 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods,



techniques, sequences or procedures. The Architect's action with respect to any specific item shall not indicate approval of an assembly of which the item is a component.

4.2.7 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph 7.4.

4.2.8 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner for the Owner's review and records written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

4.2.9 If the Owner and Architect agree in writing, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents. If no such exhibit has been so incorporated, the duties, responsibilities, and limitations of authority of such project representatives shall be as set forth in the edition of AIA Document B352 current as of the date of the Agreement.

4.2.10 The Architect will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made with reasonable promptness and within any time limits agreed upon. The Architect may, as the Architect judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work; such drawings or instructions may be effected by field order or other notice to the Contractor, and provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such additional drawings or instructions without additional cost or extension of the Contract Time. If the Contractor claims additional cost or time on account of such additional drawings or instructions, the Contractor shall give the notice provided in Subparagraph 4.3.7.

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

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

#### 4.3 CLAIMS AND DISPUTES

4.3.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" includes Change

Order requests by the Contractor as well as other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

4.3.2 Decision of Architect. Claims arising prior to final payment or the earlier termination of the Contract shall be referred initially to the Architect for action as provided in Paragraph 4.4. Action by the Architect, as provided in Paragraph 4.4, shall be required as a condition precedent to arbitration of a Claim between the Contractor and Owner as to all such matters arising prior to the date final payment is due. Action by the Architect in response to a Claim shall not be a condition precedent to arbitration in the event (1) the position of Architect is vacant; (2) the Architect has failed to take action as required under Subparagraph 4.4.1 within 15 days after the Claim is made; (3) the Architect has failed to take action required under Subparagraph 4.4.4 within 30 days after the Claim is made, unless the Architect has notified the parties in writing of the reasons why action could not be taken within 30 days, and of the date by which action will be taken; or (4) the Claim relates to a mechanic's lien.

4.3.3 Time Limits on Claim. Claims by either party must be made within 35 days after occurrence of the event giving rise to such Claim or within 35 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be made by written notice. Any change or addition to a previously made Claim shall be made by timely written notice in accordance with this Subparagraph 4.3.3.

4.3.4 Continuing Contract Performance. Pending final resolution of a Claim including arbitration, unless otherwise agreed in writing the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

4.3.5 Waiver of Claims: Final Payment. The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

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

Any Claim which has not been waived in accordance with this Subparagraph shall be deemed to have accrued upon discovery by the Owner of the condition or breach upon which such Claim is based, for the purpose of any applicable statute of limitation.

4.3.6 Claims for Differing Subsurface or Latent Physical Conditions. If, during the progress of the Work, the Contractor or the Owner 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 Owner may request

an equitable adjustment in the Contract Sum 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 Owner 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 Owner shall make an equitable adjustment in the Contract Sum and the Contract shall be modified in writing accordingly.

4.3.6.1 Should conditions encountered below the surface of the ground require that footings, foundations or other parts of the building or other structure be raised, lowered or changed, or if additional depth of excavation below the levels shown on the Drawings is required in order to provide proper bearing for the building or other structure or for any permanent utilities on the site or for permanent grading or other permanent site work, any change in the amount of excavation, dewatering, sheeting, protection, rock excavation, backfill, concrete or other structural work, or any other work permanently incorporated in the building shall be considered a change in the Work, and the Contract Sum shall be adjusted as provided in this Article, provided that the Work has been ordered in writing as provided in 7.1.1.

4.3.7 Claims for Additional Cost or Time. If the Contractor claims that any acts or omissions of the Owner or the Architect, including any instructions or orders, whether oral, written, by Drawings, or otherwise, involve extra cost or time, and the Contractor has not received a written acknowledgment by the Owner or Architect that extra payment will be made or time extended on account thereof, the Contractor shall promptly so notify the Architect in writing of such Claim and shall not proceed with the Work relating to such Claim until the Contractor has received a further written order to proceed except, as provided in Paragraph 10.3, in the case of an emergency affecting life or property. No Claim by the Contractor on account of such acts, omissions, instructions or orders shall be valid unless the Contractor has so notified the Architect before proceeding, and has received the further written order to proceed.

4.3.7.1 OMITTED

4.3.7.2 The Contractor shall have the burden of demonstrating the effect of the claimed act or omission on the Contract Sum or Contract Time, and shall furnish the Architect with such documentation relating thereto as the Architect may reasonably require. In the case of a continuing act or omission only one Claim is necessary.

4.3.7.3 Adverse weather conditions shall not be the basis for a Claim for additional time or cost.

4.3.8 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of

the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after first observance. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided in Subparagraph 4.3.7.

#### 4.4 REVIEW OF CLAIMS BY ARCHITECT

4.4.1 The Architect shall take one or more of the following actions within ten days of receipt of a Claim: (1) defer any action with respect to all or any part of a Claim and request additional information from either party; (2) decline to render a decision for any reason which he deems appropriate (including but not limited to the fact that the Claim involves allegations of fault on the part of the Architect); (3) render a decision on all or a part of the Claim, or (4) submit a schedule to the parties indicating when the Architect expects to take action. The Architect shall notify the parties in writing of any action taken with respect to such Claim. If the Architect renders a decision or declines to render a decision, either party may proceed in accordance with Paragraph 4.5. If the Architect decides that the Work relating to such Claim should proceed regardless of his disposition of such Claim, the Architect shall issue to the Contractor a written order to proceed. The Contractor shall proceed as instructed, and all rights of both parties with respect to such Claim shall be deemed to have been reserved.

4.4.2 If a Claim is resolved by agreement of the parties, the Architect will prepare or obtain appropriate documentation indicating the parties' agreement to the resolution. In the absence thereof the Claim shall be treated as not resolved.

4.4.3 If a Claim has not been resolved, the party making the Claim shall, within ten days after the Architect's request, take one or more of the following actions: (1) submit additional supporting data requested by the Architect; (2) modify the initial Claim; (3) respond to the Architect's action under paragraph 4.4.1; or (4) notify the Architect that the initial Claim stands. Upon receipt of the response or supporting data, the Architect will either reject or approve the claim in whole or in part.

#### 4.5 ARBITRATION

4.5.1 Controversies and Claims Subject to Arbitration. Any Claim arising out of or related to the Contract, or the breach thereof, except claims relating to aesthetic effect, shall be settled by arbitration, subject to the foregoing provisions of paragraph 4.4 and the provisions of Subparagraph 4.5.7. Arbitration will be conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association and judgment upon the award rendered by the Arbitrator or Arbitrators may be entered in any Court having jurisdiction thereof. In any such arbitration in which the amount stated in the demand is \$100,000 or less, a single arbitrator shall be appointed in accordance with the procedures set forth in the American Arbitration Association Construction Industry Arbitration Rules. In any such arbitration in which the amount stated in the demand is in excess of \$100,000, a panel of three arbitrators shall be appointed in accordance with the procedures set forth in the American Arbitration Association Construction Industry Arbitration Rules.

4.5.2 Rules For Arbitration. The parties may agree to any arbitration forum. If unable to agree, by default the forum shall be the American Arbitration Association. If the neutral arbitrator(s) is/are appointed by the American Arbitration Association, the said Association shall administer the arbitration and its Construction Industry Arbitration Rules shall govern all aspects of the proceeding including the enforcement of any award. If the neutral arbitrator(s) is/are not appointed by the American Arbitration Association, then the arbitrator(s) shall act as the administrator of the arbitration but the Construction Industry Arbitration Rules of the Association shall nonetheless govern all aspects of the proceeding, including the enforcement of any award. The arbitration panel shall have all of the powers and duties conferred on the Association pursuant to said rules.

In addition, the following rules shall govern the selection of arbitrators and the proceedings:

4.5.2.1 Neither party may appoint as arbitrator an employee or an owner of that party, nor the parent, spouse or child of an employee or owner of that party.

4.5.2.2 After the neutral arbitrator has been appointed, neither party may engage in ex parte communication with the arbitrator appointed by that party.

4.5.3 Contract Performance During Arbitration. During arbitration proceedings, the Owner and Contractor shall comply with Subparagraph 4.3.4.

4.5.4 When a written decision of the Architect states that the decision is final, any demand for arbitration of the matter covered by such decision must be made within two months after substantial completion of the project, as determined by the Architect in accordance with paragraph 9.8.2 hereof. The failure to demand arbitration within said two month period will result in the Architect's decision becoming final and binding upon the Owner and the Contractor.

4.5.4.1 A demand for arbitration shall be made within the time limits specified in Subparagraph 4.5.4, and in no event shall be made after the date when the institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations.

4.5.5 Claims and Timely Assertion of Claims. A party who files a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded. When a party fails to include a Claim through oversight, inadvertence or excusable neglect, or when a Claim has matured or been acquired subsequently, the arbitrator or arbitrators may permit amendment.

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

4.5.7 Notwithstanding any provision contained in this Paragraph 4.5 or elsewhere in the Contract Documents, the Owner reserves the following rights in connection with Claims and disputes between the Owner and the Contractor:

- .1 the right to institute legal action against the Contractor in any court of competent jurisdiction in lieu of demanding arbitration pursuant to this Paragraph 4.5, in which case the dispute or disputes which are the subject of such action shall be decided by such court, and not by arbitration;
- .2 the right to obtain from any court of competent jurisdiction a stay of any arbitration instituted by the Contractor, provided that the application for such stay is made before the appointment of the neutral arbitrator in such arbitration, in which case the dispute or disputes which are the subject of such arbitration shall be decided by such court, and not by arbitration;
- .3 the right to require the Contractor to join as a party in any arbitration between the Owner and the Architect relating to the Project, in which case the Contractor agrees to be bound by the decision of the arbitrator or arbitrators in such arbitration.

In case the Owner elects to proceed in accordance with 4.5.7.1 or 4.5.7.2 above, the word "litigation" shall be deemed to replace the word "arbitration" wherever the latter word appears in the Contract Documents.

## ARTICLE 5

### SUBCONTRACTORS

#### 5.1 DEFINITIONS

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

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

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

5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the

Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection.

5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection, unless otherwise required by law to do so.

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. The Contract Sum shall be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

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

5.2.5 The form of each filed Subcontract shall be submitted to the Owner for its acceptance, which shall not be unreasonably withheld or delayed. The form of subcontract shall be that set forth in Mass. Gen. Laws Chapter 149, Section 44F. Each Subcontract shall expressly provide for the contingent assignment referred to in Paragraph 5.4.

### 5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner and Architect, including without limitation the obligations set forth in Paragraph 3.18. Each Subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that Subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed Subcontract agreement which may be at

variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

#### 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 Each Subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

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

### ARTICLE 6

#### CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTS

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

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

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

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



## 6.2 MUTUAL RESPONSIBILITY

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

6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgement that the Owner's or separate contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonable discoverable.

6.2.3 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

6.2.4 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.2.5. 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 Contractor'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 arbitration costs which the Owner has incurred.

6.2.5 Claims and other disputes and matters in question between the Contractor and a separate contractor shall be subject to the provisions of Paragraph 4.3 provided the separate contractor has reciprocal obligations.

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

## 6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.15, the Owner may clean up and allocate the cost among those responsible as the Architect determines to be just.

## ARTICLE 7

### CHANGES IN THE WORK

#### 7.1 CHANGES

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

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

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

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

#### 7.2 CHANGE ORDERS

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

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

#### 7.3 CONSTRUCTION CHANGE DIRECTIVES

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

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

7.3.3 Upon request of the Owner or the Architect, the Contractor shall without cost to the Owner submit to the Architect, in such form as the Architect may require, an accurate written estimate of the cost of any proposed extra Work or change contemplated by a Construction Change Directive. The estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of materials shall be shown if required by the Architect. The Contractor shall promptly revise and resubmit such estimate if the Architect determines that it is not in compliance with the requirements of this Article, or that it contains errors of fact or mathematical errors. If required by the Architect, in order to establish the exact cost of new Work added or of previously required Work omitted, the Contractor shall obtain and furnish to the Architect bona fide proposals from recognized suppliers for furnishing any material included in such Work. Such estimates shall be furnished promptly so as to occasion no delay in the Work, and shall be furnished at the Contractor's expense. The Contractor shall state in the estimate any extension of time required for the completion of the Work if the change or extra work is ordered.

7.3.3.1 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods, as selected by the Owner:

- (a) By unit prices stated in the Contract Documents or otherwise mutually agreed upon.
- (b) By Cost and Percentages (as defined below) estimated by the Contractor as provided in Subparagraph 7.3.3 and accepted by the Owner; the Contractor's estimate shall become a fixed price which shall not be changed by any variation in the actual cost of executing the Work covered by the change.
- (c) By actual Cost determined after the Work covered by the change is completed, plus Percentage.
- (d) By use of the dispute resolution procedures set forth in Paragraph 4.3.

As used in this Paragraph 7.3, "Cost" shall mean the estimated or actual net increase or decrease in cost to the Contractor, Subcontractor, or Sub-subcontractor for performing the Work covered by the change, including actual payments for materials, equipment, rentals, expendable items, wages and associated benefits to workmen and to supervisors employed full time at the site, insurance, bonds and other provable direct costs, but not including any administrative, accounting or expediting costs, or other indirect or overhead costs, or any wages or benefits of supervisory personnel not assigned full time to the site, or any amount for profit or fee to the Contractor, Subcontractor or Sub-subcontractor.

"Percentage" shall mean an allowance to be added to or subtracted from the Cost in lieu of overhead and profit and of any other expense which is not included in the Cost of the Work

covered by the change, as defined above. Percentage for a Sub-subcontractor shall be 10% of any net increase or decrease of Cost of any Work performed by the Sub-subcontractor's own forces plus 5% of any aggregate net increase in Cost of any Work performed for the Sub-subcontractor by other contractors. Percentage for a Subcontractor shall be such percentage allowances for overhead and profit as are set forth in the Subcontract between such Subcontractor and the Contractor. Percentage for the Contractor shall be 9 1/2% of any net increase or decrease of Cost of any Work performed by the Contractor's own forces plus 4 1/2% of any net increase or decrease in the Cost for all other Work covered by the change.

When in the reasonable judgment of the Architect a series of Construction Change Directives or Change Orders effect a single change, Percentage shall be calculated on the cumulative net increase or decrease in Cost, if any.

7.3.3.2 If the Owner elects to determine the cost of the Work as provided in method (a) of sub-Subparagraph 7.3.3.1, the unit prices shall be subject to Subparagraph 7.1.4. Notwithstanding the inclusion of unit prices in the Contract Documents, it shall be the Owner's option to require the Cost of any given change to be determined by one of the other methods stated in 7.3.3.1. If the Owner elects to determine the Cost of the change by unit prices and the nature of the work is such that its extent cannot readily be measured after the completion of such work or any subsequent work, the Contractor shall keep daily records, available at all times to the Architect for inspection, of the actual quantities of such work put in place, and delivery receipts or other adequate evidence, acceptable to the Architect, indicating the quantities of materials delivered to the site for use in such unit price work, and distinguishing such other similar material delivered for use in work included in the base Contract Sum. If so required by the Architect, materials for use in unit price work shall be stored apart from all other materials on the Project.

7.3.3.3 If the Owner elects to determine the cost of the Work as provided in methods (c) or (d) of sub-Subparagraph 7.3.3.1 or if the method of determining the cost has not been established before the Work is begun, the Contractor shall keep detailed daily records of labor and materials costs applicable to the Work.

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

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

7.3.6 If the Owner and Contractor do not agree with the adjustment in Contract Sum or Contract Time or the method for determining the adjustment, the dispute shall be governed by the procedures set forth in Paragraph 4.3.

## 7.4 MINOR CHANGES IN THE WORK

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

## ARTICLE 8

### TIME

#### 8.1 DEFINITIONS

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

8.1.2 The date of commencement of the Work is the date established in the Agreement. The date shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.

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

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

#### 8.2 PROGRESS AND COMPLETION

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

8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.

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

8.2.4 Within two weeks after award of the Contract, the Contractor shall submit to the Architect a Progress Schedule showing for each class of work the percentage completion to be obtained and the total dollar value of work to be completed as of the first of each month until Substantial Completion.

8.2.5 The Progress Schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation (including adequate time for submission and review of submittals), and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The Progress Schedule will be reviewed by the Architect for compliance with the requirements of this Article and will be accepted by the Architect or returned to the Contractor for revision and resubmittal. Unless specifically required by law, no payment under this Contract shall be due until the Progress Schedule has been approved by the Architect.

8.2.6 If in any application for payment as provided for in Paragraph 9.2, the total value of the completed Work in place, as certified by the Architect, is less than 90% of the total value of the Work in place estimated in the Progress Schedule, the Owner may, at the Owner's option, require the Contractor to accelerate the progress of the Work without cost to the Owner by increasing the work force or hours of work, or by other reasonable means approved by the Architect.

8.2.7 If each of three successive applications for payment indicate that the actual Work completed, as certified by the Architect, is less than 90% of the values estimated in the Progress Schedule to be completed by the respective dates, the Owner may at the Owner's option, treat the Contractor's delinquency as a default justifying the action permitted under Paragraph 14.2.

8.2.8 If the Architect has determined that the Contractor should be permitted to extend the time for completion as provided in Paragraph 8.3, the calendar dates in the Progress Schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Substantial Completion, and the dollar value of Work to be completed as of the first of each month shall be adjusted pro rata.

8.2.9 If the Contractor fails to submit any application for payment in any month, the Architect shall, for the purpose of this evaluation of progress, certify separately to the actual value of the Work in place completed as of the first of the month and to the best of the Architect's knowledge.

8.2.10 Nothing herein shall limit the Owner's right to liquidated or other damages for delays by the Contractor or to any other remedy which the Owner may possess under other provisions of the Contract Documents or by law.

8.2.11 The Progress Schedule required hereunder shall be a CPM Schedule in accordance with the Project Specifications and shall be updated in accordance therewith.

### 8.3 DELAYS AND EXTENSION OF TIME

8.3.1 If the Contractor is delayed at any time in progress of the Work by an act or neglect of the Owner or Architect, of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes (except weather) beyond the Contractor's control, or by delay authorized by the Owner, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3.

8.3.3 The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Owner or the Architect on account of any delay in the commencement of the Work and/or any delay or suspension of any portion of the Work, whether such delay is caused by the Owner, the Architect, or otherwise, except as specifically provided in Subparagraphs 2.3.2 and 2.3.3. The Contractor acknowledges that, except as provided therein, the Contractor's sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article.

8.3.4 No claim for delay shall be allowed on account of failure of the Architect to furnish Drawings, Specifications or instructions or to return Shop Drawings or Samples until the expiration of the applicable time period referred to in Mass. Gen. Laws Chapter 30, Section 39P, and not then unless such claim be reasonable.

8.3.5 No extension of time shall be granted because of seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the Contractor, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on account of any additional costs of operations or conditions resulting therefrom.

## ARTICLE 9

### PAYMENTS AND COMPLETION

#### 9.1 CONTRACT SUM

9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the maximum amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents, or in equity, should the Contractor assert a quantum meruit claim for the fair value of Contractor's Work, regardless of whether the Contractor is terminated hereunder.

## 9.2

### APPLICATIONS FOR PAYMENT

9.2.1 Within fifteen days after receipt from the Contractor, at the place designated by the Owner if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the Owner 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 Owner, less (1) retention based on the Owner's 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 Subparagraph 9.6.2, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment.

9.2.2 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 Owner, less than one percent of the original Contract Sum, or (b) the Contractor substantially completes the work and the Owner takes possession for occupancy, whichever occurs first, the Owner 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 the cost of completing the incomplete and unsatisfactory items of Work and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of Subparagraph 9.6.2, 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 Subparagraph 9.6.2. If the Owner fails to make payment as herein provided, there shall be added to each such payment daily interest at 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 after receipt of such a periodic estimate from the Contractor, at the place designated by the Owner 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.

9.2.3 The Owner 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 Owner 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 correct 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 and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday, Sunday, or holiday shall be the first working day thereafter.



9.2.4 All periodic estimates shall be submitted to the Owner, or to the Owner's representative, and the date of receipt by the Owner or its representative shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each sub-subtrade listed in sub-bid form as required by the Specifications and a column listing the amount paid to each Subcontractor and Sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the Owner 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.

9.2.5 The format and number of copies of applications for payment shall be as directed by the Architect. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for elsewhere in the Contract Documents.

9.2.5.1 Such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders when such Construction Change Directives have set forth an adjustment to the Contract Sum.

9.2.5.2 Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

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

9.3 The Contractor warrants that title to all Work covered by an application for payment will pass to the Owner either by incorporation in the construction or upon 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."

#### 9.4 CERTIFICATES FOR PAYMENT

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

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

## 9.5 DECISIONS TO WITHHOLD CERTIFICATION

9.5.1 The Architect may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss 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, and that the retainage currently held by the Owner would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.

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

## 9.6 PROGRESS PAYMENTS

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

### 9.6.2 Payments to Subcontractors

9.6.2.1 Forthwith after the Contractor receives payment on account of a periodic estimate, the 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 Contractor.

9.6.2.2 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 Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the Subcontractor; and the Owner shall pay that amount to the Contractor. The Contractor shall forthwith pay to the Subcontractor the full amount received from the Owner less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the Contractor.

9.6.2.3 Each payment made by the Owner to the Contractor pursuant to Subparagraphs 9.6.2.1 and 9.6.2.2 of this paragraph for the labor performed and the materials furnished by a Subcontractor shall be made to the Contractor for the account of that Subcontractor; and the Owner shall take reasonable steps to compel the Contractor to make each such payment to each such Subcontractor. If the Owner has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the Subcontractor as provided in Subparagraphs 9.6.2.1 and 9.6.2.2, the Owner shall act upon the demand as provided in this section.

9.6.2.4 If, within seventy days after the Subcontractor has substantially completed the Subcontract work, the Subcontractor has not received from the Contractor the balance due under the Subcontract including any amount due for extra labor and materials furnished to the

Contractor, less any amount retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of Work, the Subcontractor may demand direct payment of that balance from the Owner. The demand shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the 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 Owner and delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the Owner 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 Contractor and of the amount due for each claim made by the Contractor against the Subcontractor.

9.6.2.5 Within fifteen days after receipt of the demand by the Owner, but in no event prior to the seventieth day after substantial completion of the Subcontract work, the Owner 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 Contractor, less any amount (i) retained by the Owner 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 Contractor in the sworn reply; provided, that the Owner 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 9.6.2.4. The Owner 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.

9.6.2.6 The Owner shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of Subparagraph 9.6.2.5 in an interest-bearing joint account in the names of the Contractor and the Subcontractor in a bank in Massachusetts selected by the Owner or agreed upon by the Contractor and the Subcontractor and shall notify the 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 Contractor and the Subcontractor or as determined by decree of a court of competent jurisdiction.

9.6.2.7 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 9.6.2.6 shall be made out of amounts payable to the Contractor at the time of receipt of demand for direct payment from a Subcontractor and out of amounts which later become payable to the Contractor and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the Owner to the Contractor to the extent of such payment.

9.6.2.8 The Owner shall deduct from payments to the Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to Subparagraph 9.6.2.6, 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 Contractor.

9.6.2.9 If the Subcontractor does not receive payments as provided in Subparagraph 9.6.2.1 or if the 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 9.6.2.1, the Subcontractor may demand direct payment by following the procedure in Subparagraph 9.6.2.4 and the Contractor may file a sworn reply 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 Contractor. Thereafter the Owner shall proceed as provided in Subparagraphs 9.6.2.5, 9.6.2.6, 9.6.2.7 and 9.6.2.8.

9.6.3 Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, Sub-subcontractor or material supplier, except as provided in Subparagraph 9.6.2, or otherwise as provided by law.

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

9.6.5 "Subcontractor" as used in Sub-subparagraphs 9.6.2.1 through 9.6.2.9 shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the Contractor. "Subcontractor" as used in other provisions of the Contract Documents shall, except as otherwise expressly provided, have the meaning set forth in Subparagraph 5.1.1.

## 9.7 FAILURE OF PAYMENT

9.7.1 If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's application for payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended as provided in Article 7.

## 9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use and only minor items which can be corrected or completed

without any material interference with the Owner's use of the Work remain to be corrected or completed.

9.8.2 When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete and the premises comply with Subparagraph 3.15.1, the Contractor shall submit to the Architect (1) a list of items to be completed or corrected, (2) all special warranties required by the Contract Documents, endorsed by the Contractor and in a form reasonably acceptable to the Architect and (3) the permits and certificates referred to in Subparagraph 13.5.4. The failure to include any items on the list mentioned in the preceding sentence does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect on the basis of an inspection determines that the Work or designated portion thereof is substantially complete and the other conditions have been met, the Architect will then prepare 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. The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

9.8.3 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Architect, 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 PARTIAL OCCUPANCY OR USE

9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage. Such partial occupancy or use may begin whether or not the portion is substantially complete, provided that the respective responsibilities of the Owner and Contractor with respect to payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work, insurance, correction of the Work, and warranties shall be established by agreement of the Owner and Contractor or, absent such agreement, shall be determined by the Architect subject to the right of either party to contest such determination as provided in Paragraph 4.5.

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

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

## 9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final application for payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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

9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims. The making of final payment shall constitute a waiver of claims by the Owner to the extent provided in Subparagraph 4.3.5.

9.10.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing

and identified by that payee as unsettled at the time of final application for payment. Such waivers shall be in addition to the waiver described in Subparagraph 4.3.5.

## 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 performance of the Contract.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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

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



10.2.5 The Contractor shall promptly remedy damage and loss to property referred to in Clauses 10.2.1.2, 10.2.1.3 and 10.2.1.4. If the damage or loss is due in whole or in part to the Contractor's failure to take the precautions required by this Paragraph 10.2, the Contractor shall, subject to any reimbursement to which the Contractor is entitled under the property insurance required by the Contract Documents, bear the cost.

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

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

10.2.8 The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services, and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site.

10.2.9 The Contractor shall at all time protect excavations, trenches, buildings and materials, from rain water, ground water, backup or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end.

10.2.10 The Contractor shall remove snow and ice which might result in damage or delay.

10.2.11 During the progress of the Work and at all times prior to the date of Substantial Completion or occupancy of the Work by the Owner, whichever is earlier, the Contractor shall provide temporary heat, ventilation, and enclosure, as required by Mass. Gen. Laws Chapter 149, Section 44F(1). The permanent heating and ventilation systems may be used for these purposes when available unless otherwise provided in the Contract Documents.

### 10.3 EMERGENCIES

10.3.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

### 10.4 VANDALISM

10.4.1 The Contractor shall be responsible for protecting the work, the work site, materials, and equipment stored at the site (or incorporated in the work), other property at the

site, or other property of the Owner, against vandalism by known or unknown persons. In discharging this obligation the Contractor shall utilize security personnel, measures, procedures, and equipment or materials necessary to prevent vandalism.

10.4.2 In the event of any damage caused by vandalism to the property/materials/equipment/items referenced in the preceding Article 10.4.1, and regardless of whether the Contractor has exercised due care in avoiding same, the Contractor shall be financially responsible therefor to whatever extent said damage is not indemnified by insurance coverage available to either the Contractor or Owner. The Contractor's obligation hereunder shall include payment of damages to whatever extent insurance coverage is unavailable due to self-insurance, a deductible, or a self-insured retention.

10.4.3 Any monies owed by the Contractor to the Owner on account of damages referenced in the preceding Article 10.4.2 may be offset by the Owner against any periodic payments made under the Contract.

## ARTICLE 11

### INSURANCE AND BONDS

#### 11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located and to which the Owner has no reasonable objection such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another 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;
- .6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
- .7 claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph 3.18.

11.1.2 The insurance required by Subparagraph 11.1.1 shall include all major divisions of coverage, and shall be on a comprehensive general basis including Premises and Operations (including X-C-U), Owner's and Contractor's Protective, Products and Completed Operations, and Owned, Nonowned, and Hired Motor Vehicles. Such insurance shall be written for not less than any limits of liability required by law or those set forth in the Contract Documents, whichever is greater.

All insurance shall be written on an occurrence basis, unless the Owner approves in writing coverage on a claims-made basis. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment. The Owner shall be added as an Additional Insured on all policies, which shall constitute primary insurance for the Owner in relation to any similar or concurrent insurance independently maintained by the Owner.

11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates and the insurance policies required by this Paragraph 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. These certificates shall set forth evidence of all coverage required by 11.1.1 and 11.1.2. The form of certificate shall be AIA Document G705. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending limits of coverage. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final application for payment as required by Subparagraph 9.10.2.

11.1.4 In addition to Statutory Workers' Compensation Coverage, the Contractor shall provide Employers Liability Coverage at the following limits of liability:

Each accident - \$500,000;

Disease - policy limit \$500,000;

Disease - each employee \$500,000.

11.1.5 The liability insurance coverage purchased by the Contractor in order to comply with Section 11.1.1 (.1-.7) above shall contain the following limits of liability:

- \$3,000,000 - general aggregate;
- \$3,000,000 - products/completed operations aggregate;
- \$1,000,000 - personal injury and advertising;
- \$1,000,000 - each occurrence;
- \$1,000,000 - auto liability including hired and non-owned;
- \$2,000,000 - umbrella.

## 11.2 OWNER'S LIABILITY INSURANCE

11.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance. Optionally, the Owner may purchase and maintain other insurance for self-protection against claims which may arise from operations under the Contract. The Contractor shall not be responsible for purchasing and maintaining this optional Owner's liability insurance unless specifically required by the Contract Documents.

## 11.3 PROPERTY INSURANCE BUILDERS RISK POLICY

11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.3 to be covered, whichever is earlier. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

11.3.1.1 Property insurance shall be on an all-risk policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, false-work, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's services and expenses required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise provided in the Contract Documents. The form of policy for this coverage shall provide for coverage in the event of a loss up to the contemplated value of the property following completion of all Work required under the Contract.

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

11.3.1.3 The property insurance maintained hereunder by the Owner has a deductible of \$100,000 applicable to each/any claim thereunder. In the event of any property damage arising from any occurrence prior to the Architect's issuance of a final Certificate for Payment under Section 9.10.1, including but not limited to property damage arising from vandalism or casualty of any kind, the Contractor shall be responsible for the cost of said property damage: (a) to the extent not indemnified by the Owner's insurance policy because of said deductible; or (b) to the extent not indemnified by the Owner's insurance policy for any other reason.

11.3.1.4 Property insurance for portions of the Work stored off site and in transit shall be procured and the cost borne by the Contractor, unless otherwise provided in the Contract Documents.

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

11.3.3 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused, to the extent covered and paid by insurance under this Subparagraph 11.3.3.

11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be borne by the Contractor.

11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Subparagraph 11.3.7 for damages caused by fire or other perils covered by this separate property

insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

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

11.3.7 Waivers of Subrogation. INTENTIONALLY OMITTED.

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

11.3.9 If required in writing by a party in interest, the Owner shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties all subject to the requirements, if any, of the Owner's construction and/or permanent lender. The cost of required bonds shall be charged against proceeds received by Owner. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or in accordance with an arbitration award in which case the procedure shall be as provided in Paragraph 4.5.

11.3.10 The Owner shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection be made, arbitrators shall be chosen as provided in Paragraph 4.5. The Owner shall, in that case, make settlement with insurers in accordance with directions of such arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

11.4 PERFORMANCE BOND AND PAYMENT BOND

11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. Said bonds shall satisfy the applicable statutory requirements of the place in which the Work is to be performed.

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

## ARTICLE 12

### UNCOVERING AND CORRECTION OF WORK

#### 12.1 UNCOVERING OF WORK

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

12.1.2 If a portion of the Work has been covered in accordance with the requirements specifically expressed in the contract documents, and which the Architect has not specifically requested to observe prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

#### 12.2 CORRECTION OF WORK

12.2.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby and any cost, loss, or damages to the Owner resulting from such failure or defect.

12.2.2 If, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Subparagraph 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This period of one year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation under this Subparagraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

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

12.2.4 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Paragraph 2.4. If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten days after written notice, the Owner may upon ten additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation for the Architect's services and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

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

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

### 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

## ARTICLE 13

### MISCELLANEOUS PROVISIONS

#### 13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the law of the place where the Project is located.



## 13.2 SUCCESSORS AND ASSIGNS

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except as hereinafter provided, neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner. The Owner may assign the Contract to any institutional lender providing construction or permanent financing for the Project or to any person acquiring the Owner's interest in the Project, and the Contractor agrees to execute all consents, certificates, and other documents required by such lender or other person in connection with such assignment.

13.2.2 If the Owner conveys its interest in the Project to a third party, any rights which the Owner may have against the Contractor arising from this Agreement shall automatically transfer to such third party.

## 13.3 WRITTEN NOTICE

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

## 13.4 RIGHTS AND REMEDIES

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

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

## 13.5 TESTS AND INSPECTIONS

13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so the Architect may

observe such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

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

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

13.5.4 The Contractor shall obtain and deliver promptly to the Architect any occupancy permit and any certificates of final inspection of any part of the Contractor's work and operating permits for any mechanical apparatus, such as elevators, escalators, boilers, air compressors, etc., which may be required by law to permit full use and occupancy of the premises by the Owner. Receipt of such permits or certificates by the Architect shall be a condition precedent to Substantial Completion of the Work.

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

## 13.6 LIMITATION OF LIABILITY

13.6.1 The Owner shall be liable only to the extent of its interest in the Project; and no officer, director, partner, agent or employee of the Owner (or any partner of a partner or any agent or employee of a partner) shall ever be personally or individually liable with respect to this Contract or the Work. Each Subcontract shall include the foregoing limitation, which shall be effective if the Owner ever succeeds to the Contractor's rights and obligations under a Subcontract.

13.7 The Contractor shall comply with any decisions of the Arlington Redevelopment Board applicable to the Project, and with any other Laws, By-Laws, Rules, and Regulations or Ordinances within the Town of Arlington.

## ARTICLE 14

### TERMINATION OR SUSPENSION OF THE CONTRACT

#### 14.1 TERMINATION BY THE CONTRACTOR

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

- .1 issuance of an order of a court or other public authority having jurisdiction; or
- .2 an act of government, such as declaration of national emergency, making material unavailable.

14.1.2 If one of the above reasons exists, the Contractor may, upon seven additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit and damages.

14.1.3 If the Work is stopped for a period of 60 days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Subparagraph 14.1.2.

#### 14.2 TERMINATION BY THE OWNER

14.2.1 If the Contractor is adjudged a bankrupt, or if the Contractor makes a general assignment for the benefit of the Contractor's creditors, or if a receiver is appointed on account of the Contractor's insolvency, or if the Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if the Contractor fails to make prompt payment to Subcontractors for materials or labor, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a significant violation of any provision of the Contract, including the failure to perform the Work in Accordance With the Contract, then the Contractor shall be in default, and the Owner may, without prejudice to any other right or remedy, and upon seven days' written notice to the Contractor, take possession of all materials, tools, appliances, equipment, construction equipment and machinery and vehicles, offices and other facilities on the Project site, and all

materials intended for the Work, wherever stored, and may terminate the employment of the Contractor, accept assignment of any or all Subcontracts pursuant to Paragraph 5.4, and finish the Work by whatever method the Owner may deem expedient. The Owner shall be entitled to collect from the Contractor all direct, indirect, liquidated, and consequential damages suffered by the Owner on account of the Contractor's default, including without limitation additional services and expenses of the Architect made necessary thereby. The Owner shall be entitled to hold all amounts due the Contractor at the date of termination until all of the Owner's damages have been established, and to apply such amounts to such damages.

14.2.2 When the Owner terminates the Contract for one of the reasons stated in Subparagraph 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. Any payment to the Contractor in quantum meruit shall be capped at the amount due under this Contract, including any adjustments, regardless of whether said termination by the Owner is deemed rightful or wrongful.

14.2.3 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, 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 amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

215453.1

## SUPPLEMENTAL STATUTORY CONDITIONS

### ARTICLE 1 - WAGES AND EMPLOYMENT PRACTICES

- 1.1 Preference To Veterans and Citizens In Public Work; Rate of Wages. (Statutory reference: Mass. Gen. Laws Chapter 149, Section 26) This Paragraph applies to every contract or subcontract for the construction of public works by the Commonwealth or by a county, town or district, or by persons contracting or subcontracting for such works.
- 1.1.1 In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers, 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 veterans as defined in Mass. Gen. Laws Chapter 4, Section 7, clause 43, 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 provision to this effect. Each county, town or district in the construction of public works, or persons contracting or subcontracting for such works, shall give preference to veterans and citizens who are residents of such county, town or district.
- 1.1.2 The rate per hour of the wages paid to said mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works shall not be less than the rate or rates of wages to be determined by the Commissioner of Labor and Industries as hereinafter provided; provided, that the wages paid to laborers employed on said works shall not be less than those paid to laborers in the municipal service of the town or towns where said works are being constructed; provided, further, that where the same public work is to be constructed in two or more towns, the wages paid to laborers shall not be less than those paid to laborers in the municipal service of the town paying the highest rate; provided further, that if, in any of the towns where the works are to be constructed, a wage rate or wage rates have been established in certain trades and occupations by collective agreements or understandings in the private construction industry between organized labor and employers, the rate or rates to be paid on said works shall not be less than the rates so established; provided, further, that in towns where no such rate or rates have been so established, the wages paid to mechanics and apprentices, teamsters, chauffeurs and laborers on public works, shall not be less than the wages paid to the employees in the same trades and occupations by private employers engaged in the construction industry. This section shall also apply to regular employees of the Commonwealth or of a county, town or district, when such employees are employed in the construction, addition to or alteration of public buildings for which special appropriations of more than one thousand

dollars are provided. Payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans under collective bargaining agreements or understandings between organized labor and employers shall be included for the purpose of establishing minimum wage rates as herein provided.

1.2

List of Jobs; Classifications; Determination of Rate of Wages; Schedule.  
(Statutory reference; Mass. Gen. Laws Chapter 149, Section 27) This Paragraph applies to every contract or subcontract for the construction of public works by the Commonwealth, or by a county, town or district.

The Commissioner of Labor and Industries shall prepare, for the use of such public officials or public bodies whose duty it shall be to cause public works to be constructed, a list of the several jobs usually performed on various types of public works upon which mechanics and apprentices, teamsters, chauffeurs and laborers are employed. The Commissioner shall classify said jobs, and he may revise such classifications from time to time, as he may deem advisable. Prior to awarding a contract for the construction of public works, said public official or public body shall submit to the Commissioner a list of the jobs upon which mechanics and apprentices, teamsters, chauffeurs and laborers are to be employed, and shall request the Commissioner to determine the rate of wages to be paid on each job. Said rates shall apply to all persons engaged in transporting gravel or fill to the site of said public works or removing gravel or fill from such site, regardless of whether such persons are employed by a contractor or subcontractor or are independent contractors or owner-operators. The Commissioner, subject to the provisions of Paragraph 1.1 of these Supplementary Statutory Conditions, shall proceed forthwith to determine the same, and shall furnish said official or public body with a schedule of such rate or rates of wages as soon as said determination shall have been made. In advertising or calling for bids for said works, the awarding official or public body shall incorporate said schedule in the advertisement or call for bids by an appropriate reference thereto, and shall furnish a copy of said schedule without cost, to any person requesting the same. Said schedule shall be made a part of the contract for said works and shall continue to the minimum rate or rates of wages for said employees during the life of the contract. Any person engaged in the construction of said works shall cause a legible copy of said schedule to be kept posted in a conspicuous place at the site of said works during the life of the contract. The aforesaid rates of wages in the schedule of wage rates shall include payment by employers to health and welfare plans, pension plans, and supplementary unemployment benefit plans and such payments shall be considered as payments to persons under this section performing work as herein provided. Any employer engaged in the construction of such works who does not make payments to a health and welfare plan, a pension plan and a supplementary unemployment benefit plan, where such payments are included in said rates of wages, shall pay the amount of said payments directly to each employee engaged in said construction. Note: The awarding authority does not guarantee the accuracy of any schedule of wage rates

furnished to the Contractor hereunder, and the Contractor shall be responsible for ascertaining the prevailing wages in the area where the work will be performed.

1.3 Employment Records To Be Kept By Contractor, Subcontractor; Statement of Compliance. (Statutory reference; Mass. Gen. Laws Chapter 149, Section 27B) This Paragraph applies to every contract or subcontract for the construction of public works by the Commonwealth, or by a county, town or district.

Every Contractor, Subcontractor or public body engaged in said public works to which Paragraph 1.2 of these Supplementary Statutory Conditions applies 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 of Labor and Industries, 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 of Labor and Industries at any reasonable time, and as often as may be necessary.

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.

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 or by any authorized officer or employee of the Contractor, Subcontractor or public body who supervises the payment of wages in the following form:

STATEMENT OF COMPLIANCE \_\_\_\_\_, 2004

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 \_\_\_\_\_ and that all mechanics (building or project) 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.

- 1.4 **Wages Paid to Operators of Trucks and Other Equipment.** (Statutory reference: Mass. Gen. Laws Chapter 149, Section 27F) This Paragraph applies to every contract for the construction of public works by the Commonwealth, or by a county, city, town or district.

Prescribed rates of wages, as determined by the Commissioner of Labor and Industries, shall be paid to the operators of all trucks, vehicles or equipment employed on the Project. Said rates of wages shall be requested of said Commissioner by the awarding authority and shall be furnished by the Commissioner in a schedule containing the classification of jobs, and the rate of wages to be paid for each job. Said rates of wages shall include payments to health and welfare plans, or, if no such plan is in effect between employer and employees, the amount of such payments shall be paid directly to said operators.

- 1.5 **Reserve Police Officers** (Statutory reference: Mass. Gen. Laws. Chapter 149, Section 27B) This Paragraph 1.5 applies to every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public works for the Commonwealth or any political subdivision thereof.

The Contractor shall pay to any reserve police officer employed by him in any city or town the prevailing rate of wage paid to regular police officers in such city or town.

- 1.6 **Eight-Hour Day, etc.** This Paragraph 1.6 applies only to contracts which are subject to the provisions of Mass. Gen. Laws Chapter 149, Sections 30 and 34.

No laborer, worker, mechanic, foreman or inspector working within this Commonwealth in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or 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.

- 1.7 **Lodging, etc.** (Statutory reference: Mass. Gen. Laws Chapter 149, Section 25) This Paragraph applies to every contract with the Commonwealth, a county, city or town, or with a department, board, commission, or officer acting therefor, for the doing of public work.

Every employee under this contract shall lodge, board and trade where and with whom he elects, and neither the Contractor nor his agents or employees shall, either directly or indirectly, require as a condition of the employment of any



person that the employee shall lodge, board or trade at a particular place or with a particular person.

- 1.8 Access to Contractor's Records (Executive Order No. 195) This paragraph applies to every contract for the purchase of services or material by any agency, bureau, board, commission, institution, or department of the Commonwealth.

The Governor or his designee, the secretary of administration and finance, and the state auditor or his designee shall have the right at reasonable times and upon reasonable notice to examine the books, records, and other compilations of data of the Contractor which pertain to the performance and requirements of this contract.

- 1.9 Worker's Compensation Insurance (Statutory reference: Mass. Gen. Laws Chapter 149, Section 34A) This Paragraph 1.9 applies to 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.

The Contractor shall, before commencing performance of the contract, provide by insurance for the payment of compensation and the furnishing of other benefits under Mass. Gen. Laws Chapter 152 to all persons to be employed under the contract, and the Contractor shall continue such insurance in full force and effect during the term of the contract. Sufficient proof of compliance with this Paragraph 1.9 must be furnished at the time of execution of this contract. 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 awarding authority at least fifteen days prior to the intended effective date thereof, which date shall be expressed in full notice.

## ARTICLE 2 - EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION

(Statutory reference: Mass. Gen. Laws Chapter 151B; Executive Orders No. 74, No. 116 and No. 246). The provisions of this Article 2 are intended to comply with the Commonwealth's Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program, referred to in Executive Order No. 116 and administered by the Massachusetts Commission Against Discrimination. If no specific percentage has been inserted in Subparagraph 2.2.3 below, the applicable minimum percentage provided for in such Supplemental Program shall be deemed to have been so inserted.

- 2.1 Definitions. For purposes of this Contract, "minority" refers to Asian-Americans, Blacks, Spanish-Surnamed Americans, North American Indians, and Cape Verdeans. "Commission" refers to the Massachusetts Commission Against Discrimination.

- 2.2 **Non-Discrimination and Affirmative Action Requirements.** During the performance of this Contract, the Contractor and all of his Subcontractors (hereinafter "Contractor"), for himself, his assignees and successors in interest, agree to comply with Subparagraphs 2.2.1 through 2.2.11.
- 2.2.1 In connection with the performance of Work under this Contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth.
- 2.2.2 In connection with the performance of Work under this Contract, the Contractor shall undertake in good faith affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Commonwealth public construction projects.
- 2.2.3 As part of his obligation of remedial action under the foregoing Subparagraph 2.2.2, the Contractor shall maintain on this project a not less than ten percent (10%) ratio of minority employee man hours to total man hours in each job category including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those "classes of work" enumerated in Mass. Gen. Laws Chapter 149, Section 44F.
- 2.2.4 In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the Commission, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee (described in Subparagraph 2.2.5 below) or the Commission.

- 2.2.5 At the discretion of the Commission there may be established for the life of this Contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, hereinafter called the administering agency, the Commission and such other representatives as may be designated by the Commission in conjunction with the administering agency.
- 2.2.6 The Contractor (or his agent, if any, designated by him as the on-site equal employment opportunity officer) shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.
- 2.2.7 The Contractor shall prepare projected manning tables on a quarterly basis. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also when updated, to the Commission and Liaison Committee.
- 2.2.8 Records of employment referral orders, prepared by the Contractor, shall be made available to the Commission and to the Liaison Committee on request.
- 2.2.9 The Contractor shall prepare weekly reports in a form approved by the Commission of hours worked in each trade by each employee, identified as a minority or non-minority. Copies of these shall be provided at the end of each week to the Commission and to the Liaison Committee.

If the Contractor shall use any Subcontractor on any work performed under this Contract, he shall take affirmative action to negotiate with qualified minority Subcontractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include notification to the Office of Minority Business Assistance (within the Executive Office of Communities and Development) or its designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.

In the employment of journeymen, apprentices, trainees and advanced trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to the perform the work to which the employment relates, and, secondly, to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States.

A designee of the Commission and a designee of the Liaison Committee shall each have right of access to the construction site.

2.2.10 The Contractor shall maintain as a goal on this project a not less than five percent ratio of women work force to total project hours in both the general contract and each individual filed sub-bid contract.

A Labor Scheduling Table will be used as a tool for achieving a range of women work force participation for the entire project in both the general contract and each individual filed sub-bid contract. Said Labor Scheduling Table shall be in a form acceptable to the Town.

2.2.11 Before starting work, the Contractors (includes the General Contractor, for itself and its Subcontractors, as well as all filed sub-bid Contractors) will submit plans for achievement of the equal opportunity goals of the contract. All Contractors will be required to make a good faith effort to achieve these goals. The plan will indicate if the Contractors expect to achieve the requirements during the first quarter. If there are reasons why the Contractors do not expect to achieve the requirements during the first quarter year of the contract construction phase, then the Contractors shall provide a plan calculated to address, to the extent reasonably possible, these obstacles to a good faith effort to achieve such goals.

Not more than ten days following the end of each work quarter, the Contractors will report on the achievement of the goals, detailing the good faith efforts that have been made and will continue to be made and any other appropriate efforts not yet undertaken.

All reports will be signed by an officer or principal of the company who has the authority to contractually obligate the company.

2.3 The Contractor shall comply with the provisions of Executive Order No. 74, as amended by Executive Order No. 166, dated May 1, 1975, and of Mass. Gen. Laws Chapter 151B, both of which are herein incorporated by reference and made a part of this Contract.

2.4 The Contractor, in the performance of all Work, and prior to completion of the Work, will not discriminate on grounds of race, color, religious creed, national origin, age or sex in employment practices, in the selection or retention of Subcontractors, or in the procurement of materials and rentals of equipment.

2.5 In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential Subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this Contract relative to non-discrimination and affirmative action.

2.6 The Contractor hereby certifies that he shall comply with the minority manpower ratio and specific action steps contained herein. The Contractor shall be required to obtain from each of its Subcontractors and submit to the administering agency

prior to the performance of any work under the Contract a certification by said Subcontractor, regardless of tier, that it will comply with the minority manpower ration and specific affirmative action steps contained herein. Such certification shall be provided on forms furnished by the administering agency or, in the absence thereof, on forms prescribed by the Commission.

2.7 The Contractor's certification form must be signed by all successful low bidder(s) prior to award by the administering agency.

2.8 Compliance Information, Reports and Sanctions.

2.8.1 The Contractor will provide all information and reports required by the administering agency or the Commission on instructions issued by either of them and will permit access to its facilities and books, records, accounts and other sources of information which may be determined by the Commission to affect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth's supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering agency or the Commission as appropriate and shall set forth what efforts he has made to obtain the information.

2.8.2 Whenever the administering agency, the Commission or the Liaison Committee believes the Contractor or any Subcontractor may not be operating in compliance with the terms of this Paragraph 2.8, the Commission directly, or through its designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Paragraph 2.8. If the Commission or its agent finds the Contractor or any Subcontractor not in compliance, it shall make a preliminary report on noncompliance, and notify such Contractor in writing of such steps as will in the judgment of the Commission or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Commission shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If, however, the Commission believes the Contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen days of the receipt of the recommendations of the Commission, the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:

- (i) The recovery by the administering agency from the Contractor of 1/100 of 1% of the contract award price or \$1,000, whichever sum is greater, in the nature of liquidated damages or, if a Subcontractor is in non-compliance, the recovery by the administering agency from the Contractor, to be assessed by the Contractor as a back charge against

the Subcontractor, of 1/10 or 1% of the subcontract price, or \$400, whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply;

- (ii) The suspension of any payment or part thereof due under the Contract until such time as the Contractor or any Subcontractor is able to demonstrate his compliance with the terms of the contract;
- (iii) The termination, or cancellation, of the Contract, in whole or in part, unless the Contractor or any subcontractor is able to demonstrate within a specified time his compliance with the terms of the Contract;
- (iv) The denial to the Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.

If at any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate that he is in compliance with this Paragraph 2.8, he may request that the administering agency, in consultation with the Commission, suspend the sanctions conditionally, pending a final determination by the Commission as to whether the Contractor is in compliance. Upon final determination of the Commission, the administering agency, based on the recommendation of the Commission, shall either lift the sanctions or reimpose them.

Sanctions enumerated under Subparagraph 2.8.2 of this Paragraph 2.8 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used in Mass. Gen. Laws Chapter 30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

**2.9** Severability. The provisions of this Article 2 are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

**2.10** The Contractor shall comply with the provisions of Executive Order No. 246, relating to discrimination against and equal employment opportunity for the handicapped, which is herein incorporated by reference and made a part of this Contract. In connection with the performance of work under this Contract, the Contractor, Subcontractors and suppliers of goods and services shall not discriminate against the handicapped. Furthermore, Contractors, Subcontractors and suppliers of goods and services must give written notice of their commitments under this Paragraph 2.10 to any labor union, association or brotherhood with which they have a collective bargaining contract or other agreement, and must give such notice to handicapped contractors and to handicapped contractor

associations. A copy of such notice must be furnished to the awarding authority at the time of the signing of the contract.

- 2.11 Suspension of Payments.
- 2.11.1 If the awarding authority determines after investigation that the Contractor or any Subcontractor is not in compliance with the terms of Article 2, it may suspend any payment or portion thereof due under the Contract until the Contractor demonstrates compliance with the terms of Article 2.
- 2.11.2 Payment shall not be suspended if the awarding authority finds that the Contractor made his best efforts to comply with Article 2, or that some other justifiable reason exists for waiving the provisions of Article 2 in whole or in part.
- 2.11.3 Payment may be suspended only after the Contractor and any other interested party shall have been given the opportunity to present evidence in support of its position at an informal hearing held by the awarding authority and the awarding authority has concluded upon review of all the evidence that such penalty is justified.
- 2.11.4 This temporary suspension of payments by the awarding authority is separate from the sanctions set forth in Paragraph 2.8 above, which are determined by the Commission and recommended to the awarding authority.

### ARTICLE 3 - MASSACHUSETTS PUBLIC CONSTRUCTION STATUTES

- 3.1 To whatever extent Massachusetts statutory laws regarding public construction apply to this project, said laws specifically are incorporated herein as if re-stated herein.

### ARTICLE 4 - TITLE I GENERAL GOVERNMENT, ARTICLE 16 CONSTRUCTION PROJECTS, § 1-3 OF THE TOWN OF ARLINGTON GENERAL BY-LAWS

- 4.1 Women Work Force Participation.
- 4.1.1 The contractor shall maintain as a goal on this project a not less than five percent ratio of women work force to total project hours in both the general contract and each individual filed sub-bid contract, if applicable. The preceding sentence shall be included in all construction contracts whether entered into by the Town pursuant to the provisions of M.G.L. c. 149 or M.G.L. c. 30, § 39M et. seq. provided however, that if entered into under Chapter 30 same shall not be deemed to apply where the projected bid price as determined by the Director of Public Works is not likely to exceed \$200,000.

- 4.1.2 A Labor Scheduling Table which will be used as a tool for achieving a range of women work force participation for the entire project in both the general contract and each individual filed sub-bid contract.
- 4.2 Equal Opportunity Goal Compliance.
- 4.2.1 Before starting work, the contractors (includes the general contractor, for itself and its subcontractors, as well as all filed sub-bid contractors, if applicable) will submit plans for achievement of the equal opportunity goals of the contract. All contractors will be required to make a good faith effort to achieve these goals. The plan will indicate if the contractors expect to achieve the requirements during the first quarter. If there are reasons why the contractors do not expect to achieve the requirements during the first quarter year of the contract construction phase, then the contractors shall provide a plan calculated to address, to the extent reasonably possible, these obstacles to a good faith effort to achieve such goals.
- 4.2.2 Not more than ten days following the end of each work quarter, the contractors will report on the achievement of the goals, detailing the good faith efforts that have been made and will continue to be made and any other appropriate efforts not yet undertaken.
- 4.2.3 All reports will be signed by an officer or principal of the company who has the authority to contractually obligate the company.
- 4.3 Recruitment and Training
- 4.3.1 Any board, officer, committee, or other agency of the Town, which acts on behalf of the Town in making or supervising any contract, in any amount exceeding the sum of \$100,000 for the purchase of goods or services or for the construction, renovation, or repair of buildings or other improvement of real estate, may make arrangements with contractors and other interested agencies for special programs of recruitment and training in connection with the work to be performed on such contract, with the objective of promoting equal employment opportunity for members of minority groups protected by the fair employment laws of the Commonwealth and the United States. Any board, officer, committee or other Town agency may expend Town funds in carrying them out provided that appropriations specifically designed for such purposes have been voted by the Town Meeting.

215451.1



**The Massachusetts Prevailing Wage Law  
M.G.L. c. 149, §§26-27**

**NOTICE TO AWARDING AUTHORITIES**

- The enclosed wage schedule applies only to the specific project listed at the top of the schedule, and these rates will remain in effect for the duration of the project, except in the case of multi-year projects. For projects lasting longer than one year, awarding authorities must request updated rates.
- You should request an updated wage schedule from the Department of Labor Standards if you have not opened bids or selected a contractor within 90 days of the date of issuance of the enclosed wage schedule.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project for which it has been issued.
- Once a contractor has been selected by the awarding authority, the wage schedule shall be made a part of the contract for that project.

**NOTICE TO CONTRACTORS**

- The enclosed wage schedule must be posted in a conspicuous place at the work site during the life of the project.
- The wages listed on the enclosed wage schedule must be paid to employees on public works projects regardless of whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- The enclosed wage schedule applies to all phases of the project, including the final clean-up. Contractors whose only role is to perform final clean-up must pay their employees according to this wage schedule.
- All apprentices must be registered with the Massachusetts Division of Apprenticeship Standards (DAS) in order to be paid at the lower apprentice rates. All apprentices must keep his/her apprentice identification card on his/her person during all work hours. If a worker is not registered with DAS, they must be paid the "total rate" listed on the wage schedule regardless of experience or skill level. For further information, please call 617-626-5409, or write to:

DAS  
19 Staniford Street, 1<sup>st</sup> Floor  
P.O. Box 146759,  
Boston, MA 02114.

**WEEKLY PAYROLL RECORDS REPORT  
& STATEMENT OF COMPLIANCE**

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

In addition, every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. This is required to be done on a weekly basis. Once collected, the awarding authority is also required to preserve those records for three years from the date of completion of the project.

Each such contractor or subcontractor shall furnish to the awarding authority directly within 15 days after completion of its portion of the work, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this 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  
\_\_\_\_\_ on the \_\_\_\_\_  
(Contractor, subcontractor or public body) (Building or project)

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

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

# MASSACHUSETTS WEEKLY CERTIFIED PAYROLL REPORT FORM



| Company's Name:                    |                                   |                      | Address:                   |              |     |     | Phone No.:                                     |     |                   | Payroll No.:              |                                      |                      |                                 |                        |                  |  |   |               |
|------------------------------------|-----------------------------------|----------------------|----------------------------|--------------|-----|-----|--|-----|-------------------|---------------------------|--------------------------------------|----------------------|---------------------------------|------------------------|------------------|--|---|---------------|
| Employer's Signature:              |                                   |                      | Title:                     |              |     |     | Contract No.:                                  |     | Tax Payer ID No.: |                           | Work Week Ending:                    |                      |                                 |                        |                  |  |   |               |
| Awarding Authority's Name:         |                                   |                      | Public Works Project Name: |              |     |     | Public Works Project Location:                 |     |                   | Min. Wage Rate Sheet No.: |                                      |                      |                                 |                        |                  |  |   |               |
| General / Prime Contractor's Name: |                                   |                      | Subcontractor's Name:      |              |     |     | "Employer" Hourly Fringe Benefit Contributions |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
| Employee Name & Complete Address   | Employee is OSHA 10 Certified (?) | Work Classification: | Appr. Rate (%)             | Worked Hours |     |     |  |     |                   |                           | Project Hours (A)<br>All Other Hours | Hourly Base Wage (B) | Health & Welfare Insurance (C') | ERISA Pension Plan (D) | Supp. Unemp. (E) | (B+C+D+E)<br>Total Hourly Prev. Wage (F) | (A x F)<br>Project Gross Wages (G)<br>Total Gross Wages | Check No. (H) |
|                                    |                                   |                      |                            | Su.          | Mo. | Tu. | We.  | Th. | Fr.               | Sa.                       |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |
|                                    |                                   |                      |                            |              |     |     |  |     |                   |                           |                                      |                      |                                 |                        |                  |  |   |               |

**NOTE:** Pursuant to MGL Ch. 149 s.27B, every contractor and subcontractor is required to submit a "true and accurate" copy of their weekly payroll records directly to the awarding authority. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

|  |
|--|
| Date received by awarding authority<br>/ / |
|--|



**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:** Town of Arlington  
**Contract Number:** 16-21 **City/Town:** ARLINGTON  
**Description of Work:** Renovating and converting existing offices and accessory spaces into a Pre-K Classroom with accessible toilet room at the existing Arlington High School.  
**Job Location:** 869 Mass. Ave., Arlington, MA 02476

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 |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| <b>Construction</b>  |                |           |         |         |                           |            |
| (2 AXLE) DRIVER - EQUIPMENT<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>                    | 12/01/2015     | \$32.75   | \$10.41 | \$10.08 | \$0.00                    | \$53.24    |
|  | 06/01/2016     | \$33.25   | \$10.41 | \$10.08 | \$0.00                    | \$53.74    |
|  | 08/01/2016     | \$33.25   | \$10.91 | \$10.08 | \$0.00                    | \$54.24    |
|  | 12/01/2016     | \$33.25   | \$10.91 | \$10.89 | \$0.00                    | \$55.05    |
| (3 AXLE) DRIVER - EQUIPMENT<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>                    | 12/01/2015     | \$32.82   | \$10.41 | \$10.08 | \$0.00                    | \$53.31    |
|  | 06/01/2016     | \$33.32   | \$10.41 | \$10.08 | \$0.00                    | \$53.81    |
|  | 08/01/2016     | \$33.32   | \$10.91 | \$10.08 | \$0.00                    | \$54.31    |
|  | 12/01/2016     | \$33.32   | \$10.91 | \$10.89 | \$0.00                    | \$55.12    |
| (4 & 5 AXLE) DRIVER - EQUIPMENT<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>                | 12/01/2015     | \$32.94   | \$10.41 | \$10.08 | \$0.00                    | \$53.43    |
|  | 06/01/2016     | \$33.44   | \$10.41 | \$10.08 | \$0.00                    | \$53.93    |
|  | 08/01/2016     | \$33.44   | \$10.91 | \$10.08 | \$0.00                    | \$54.43    |
|  | 12/01/2016     | \$33.44   | \$10.91 | \$10.89 | \$0.00                    | \$55.24    |
| ADS/SUBMERSIBLE PILOT<br><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<br><i>LABORERS - ZONE 1</i>   | 12/01/2015     | \$36.10   | \$7.45  | \$13.55 | \$0.00                    | \$57.10    |
|  | 06/01/2016     | \$36.85   | \$7.45  | \$13.55 | \$0.00                    | \$57.85    |
|  | 12/01/2016     | \$37.85   | \$7.45  | \$13.55 | \$0.00                    | \$58.85    |
| For apprentice rates see "Apprentice- LABORER"   |                |           |         |         |                           |            |
| ASBESTOS REMOVER - PIPE / MECH. EQUIPT.<br><i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i> | 12/01/2015     | \$34.38   | \$10.40 | \$5.95  | \$0.00                    | \$50.73    |
| ASPHALT RAKER<br><i>LABORERS - ZONE 1</i>  | 12/01/2015     | \$35.60   | \$7.45  | \$13.55 | \$0.00                    | \$56.60    |
|  | 06/01/2016     | \$36.35   | \$7.45  | \$13.55 | \$0.00                    | \$57.35    |
|  | 12/01/2016     | \$37.35   | \$7.45  | \$13.55 | \$0.00                    | \$58.35    |
| For apprentice rates see "Apprentice- LABORER"   |                |           |         |         |                           |            |
| ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE<br><i>OPERATING ENGINEERS LOCAL 4</i>                   | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|  | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|  | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|  | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|  | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                                     |                |           |         |         |                           |            |
| BACKHOE/FRONT-END LOADER<br><i>OPERATING ENGINEERS LOCAL 4</i>                                 | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|  | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|  | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|  | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|  | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                                     |                |           |         |         |                           |            |
| BARCO-TYPE JUMPING TAMPER<br><i>LABORERS - ZONE 1</i>  | 12/01/2015     | \$35.60   | \$7.45  | \$13.55 | \$0.00                    | \$56.60    |
|  | 06/01/2016     | \$36.35   | \$7.45  | \$13.55 | \$0.00                    | \$57.35    |
|  | 12/01/2016     | \$37.35   | \$7.45  | \$13.55 | \$0.00                    | \$58.35    |
| For apprentice rates see "Apprentice- LABORER"   |                |           |         |         |                           |            |
| BLOCK PAVER, RAMMER / CURB SETTER<br><i>LABORERS - ZONE 1</i>                                  | 12/01/2015     | \$36.10   | \$7.45  | \$13.55 | \$0.00                    | \$57.10    |
|  | 06/01/2016     | \$36.85   | \$7.45  | \$13.55 | \$0.00                    | \$57.85    |
|  | 12/01/2016     | \$37.85   | \$7.45  | \$13.55 | \$0.00                    | \$58.85    |
| For apprentice rates see "Apprentice- LABORER"   |                |           |         |         |                           |            |

| Classification               | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------------------------------|----------------|-----------|--------|---------|---------------------------|------------|
| BOILER MAKER                 | 01/01/2016     | \$41.62   | \$6.97 | \$16.21 | \$0.00                    | \$64.80    |
| <i>BOILERMAKERS LOCAL 29</i> | 01/01/2017     | \$42.92   | \$6.97 | \$16.21 | \$0.00                    | \$66.10    |

**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) | 02/01/2016 | \$49.86 | \$10.18 | \$19.14 | \$0.00 | \$79.18 |
| <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>                          | 08/01/2016 | \$50.76 | \$10.18 | \$19.22 | \$0.00 | \$80.16 |
|  | 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 Boston**

**Effective Date - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$24.93              | \$10.18 | \$19.14 | \$0.00                    | \$54.25    |
| 2    | 60      | \$29.92              | \$10.18 | \$19.14 | \$0.00                    | \$59.24    |
| 3    | 70      | \$34.90              | \$10.18 | \$19.14 | \$0.00                    | \$64.22    |
| 4    | 80      | \$39.89              | \$10.18 | \$19.14 | \$0.00                    | \$69.21    |
| 5    | 90      | \$44.87              | \$10.18 | \$19.14 | \$0.00                    | \$74.19    |

**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    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

|                                    |            |         |         |         |        |         |
|------------------------------------|------------|---------|---------|---------|--------|---------|
| <b>BULLDOZER/GRADER/SCRAPER</b>    | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
| <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|                                    | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|                                    | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|                                    | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| <b>CAISSON &amp; UNDERPINNING BOTTOM MAN</b> | 12/01/2015 | \$36.45 | \$7.45 | \$13.75 | \$0.00 | \$57.65 |
| <i>LABORERS - FOUNDATION AND MARINE</i>      | 06/01/2016 | \$37.20 | \$7.45 | \$13.75 | \$0.00 | \$58.40 |
|  | 12/01/2016 | \$38.20 | \$7.45 | \$13.75 | \$0.00 | \$59.40 |

For apprentice rates see "Apprentice- LABORER"

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| <b>CAISSON &amp; UNDERPINNING LABORER</b> | 12/01/2015 | \$35.30 | \$7.45 | \$13.75 | \$0.00 | \$56.50 |
| <i>LABORERS - FOUNDATION AND MARINE</i>   | 06/01/2016 | \$36.05 | \$7.45 | \$13.75 | \$0.00 | \$57.25 |
|   | 12/01/2016 | \$37.05 | \$7.45 | \$13.75 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| <b>CAISSON &amp; UNDERPINNING TOP MAN</b> | 12/01/2015 | \$35.30 | \$7.45 | \$13.75 | \$0.00 | \$56.50 |
| <i>LABORERS - FOUNDATION AND MARINE</i>   | 06/01/2016 | \$36.05 | \$7.45 | \$13.75 | \$0.00 | \$57.25 |
|   | 12/01/2016 | \$37.05 | \$7.45 | \$13.75 | \$0.00 | \$58.25 |

For apprentice rates see "Apprentice- LABORER"

|                                    |            |         |        |         |        |         |
|------------------------------------|------------|---------|--------|---------|--------|---------|
| <b>CARBIDE CORE DRILL OPERATOR</b> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
| <i>LABORERS - ZONE 1</i>           | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|                                    | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| Classification                                    | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| CARPENTER   | 03/01/2016     | \$37.10   | \$9.80 | \$16.82 | \$0.00                    | \$63.72    |
| <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    |

**Apprentice - CARPENTER - Zone 2 Eastern MA**

**Effective Date - 03/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$18.55              | \$9.80 | \$1.63  | \$0.00                    | \$29.98    |
| 2    | 60      | \$22.26              | \$9.80 | \$1.63  | \$0.00                    | \$33.69    |
| 3    | 70      | \$25.97              | \$9.80 | \$11.93 | \$0.00                    | \$47.70    |
| 4    | 75      | \$27.83              | \$9.80 | \$11.93 | \$0.00                    | \$49.56    |
| 5    | 80      | \$29.68              | \$9.80 | \$13.56 | \$0.00                    | \$53.04    |
| 6    | 80      | \$29.68              | \$9.80 | \$13.56 | \$0.00                    | \$53.04    |
| 7    | 90      | \$33.39              | \$9.80 | \$15.19 | \$0.00                    | \$58.38    |
| 8    | 90      | \$33.39              | \$9.80 | \$15.19 | \$0.00                    | \$58.38    |

**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    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

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



**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental Unemployment    Total Rate**

**Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)**

**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**

|                           |            |         |        |         |        |         |
|---------------------------|------------|---------|--------|---------|--------|---------|
| <b>CHAIN SAW OPERATOR</b> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
| <i>LABORERS - ZONE 1</i>  | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|                           | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| <b>CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES</b> | 12/01/2015 | \$44.73 | \$10.00 | \$14.90 | \$0.00 | \$69.63 |
| <i>OPERATING ENGINEERS LOCAL 4</i>                 | 06/01/2016 | \$45.48 | \$10.00 | \$14.90 | \$0.00 | \$70.38 |
|  | 12/01/2016 | \$46.73 | \$10.00 | \$14.90 | \$0.00 | \$71.63 |
|  | 06/01/2017 | \$47.73 | \$10.00 | \$14.90 | \$0.00 | \$72.63 |
|  | 12/01/2017 | \$48.73 | \$10.00 | \$14.90 | \$0.00 | \$73.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|                                    |            |         |         |         |        |         |
|------------------------------------|------------|---------|---------|---------|--------|---------|
| <b>COMPRESSOR OPERATOR</b>         | 12/01/2015 | \$30.13 | \$10.00 | \$14.90 | \$0.00 | \$55.03 |
| <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2016 | \$30.65 | \$10.00 | \$14.90 | \$0.00 | \$55.55 |
|                                    | 12/01/2016 | \$31.52 | \$10.00 | \$14.90 | \$0.00 | \$56.42 |
|                                    | 06/01/2017 | \$32.21 | \$10.00 | \$14.90 | \$0.00 | \$57.11 |
|                                    | 12/01/2017 | \$32.90 | \$10.00 | \$14.90 | \$0.00 | \$57.80 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|                                   |            |         |        |         |        |         |
|-----------------------------------|------------|---------|--------|---------|--------|---------|
| <b>DELEADER (BRIDGE)</b>          | 01/01/2016 | \$49.51 | \$7.85 | \$16.10 | \$0.00 | \$73.46 |
| <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 |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| DIRECTIONAL DRILL MACHINE OPERATOR<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015     | \$43.31   | \$10.00 | \$14.90 | \$0.00                    | \$68.21    |
|  | 06/01/2016     | \$44.06   | \$10.00 | \$14.90 | \$0.00                    | \$68.96    |
|  | 12/01/2016     | \$45.29   | \$10.00 | \$14.90 | \$0.00                    | \$70.19    |
|  | 06/01/2017     | \$46.28   | \$10.00 | \$14.90 | \$0.00                    | \$71.18    |
|  | 12/01/2017     | \$47.27   | \$10.00 | \$14.90 | \$0.00                    | \$72.17    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"               |                |           |         |         |                           |            |
| DIVER<br><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<br><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)<br><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)<br><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)<br><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<br><i>ELECTRICIANS LOCAL 103</i>                             | 03/01/2016     | \$46.17   | \$13.00 | \$16.39 | \$0.00                    | \$75.56    |

**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<br><i>ELEVATOR CONSTRUCTORS LOCAL 4</i> | 01/01/2016 | \$54.53 | \$14.43 | \$14.96 | \$0.00 | \$83.92 |
|  | 01/01/2017 | \$55.86 | \$15.28 | \$15.71 | \$0.00 | \$86.85 |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**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<br><i>ELEVATOR CONSTRUCTORS LOCAL 4</i> | 01/01/2016 | \$38.17 | \$14.43 | \$14.96 | \$0.00 | \$67.56 |
|   | 01/01/2017 | \$39.10 | \$15.28 | \$15.71 | \$0.00 | \$70.09 |

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| FENCE & GUARD RAIL ERECTOR<br><i>LABORERS - ZONE 1</i> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|  | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|  | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY<br><i>OPERATING ENGINEERS LOCAL 4</i> | 11/01/2015 | \$40.49 | \$10.00 | \$14.55 | \$0.00 | \$65.04 |
|   | 05/01/2016 | \$41.03 | \$10.00 | \$14.90 | \$0.00 | \$65.93 |
|   | 11/01/2016 | \$41.62 | \$10.00 | \$14.90 | \$0.00 | \$66.52 |
|   | 05/01/2017 | \$42.50 | \$10.00 | \$14.90 | \$0.00 | \$67.40 |
|   | 11/01/2017 | \$43.23 | \$10.00 | \$14.90 | \$0.00 | \$68.13 |
|   | 05/01/2018 | \$43.94 | \$10.00 | \$14.90 | \$0.00 | \$68.84 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY<br><i>OPERATING ENGINEERS LOCAL 4</i> | 11/01/2015 | \$41.93 | \$10.00 | \$14.55 | \$0.00 | \$66.48 |
|   | 05/01/2016 | \$42.47 | \$10.00 | \$14.90 | \$0.00 | \$67.37 |
|   | 11/01/2016 | \$43.07 | \$10.00 | \$14.90 | \$0.00 | \$67.97 |
|   | 05/01/2017 | \$43.96 | \$10.00 | \$14.90 | \$0.00 | \$68.86 |
|   | 11/01/2017 | \$44.69 | \$10.00 | \$14.90 | \$0.00 | \$69.59 |
|   | 05/01/2018 | \$45.41 | \$10.00 | \$14.90 | \$0.00 | \$70.31 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY<br><i>OPERATING ENGINEERS LOCAL 4</i>              | 11/01/2015     | \$21.71   | \$10.00 | \$14.55 | \$0.00                    | \$46.26    |
|   | 05/01/2016     | \$21.88   | \$10.00 | \$14.90 | \$0.00                    | \$46.78    |
|   | 11/01/2016     | \$22.23   | \$10.00 | \$14.90 | \$0.00                    | \$47.13    |
|   | 05/01/2017     | \$22.76   | \$10.00 | \$14.90 | \$0.00                    | \$47.66    |
|   | 11/01/2017     | \$23.18   | \$10.00 | \$14.90 | \$0.00                    | \$48.08    |
|   | 05/01/2018     | \$23.61   | \$10.00 | \$14.90 | \$0.00                    | \$48.51    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                                |                |           |         |         |                           |            |
| FIRE ALARM INSTALLER<br><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<br><i>/ COMMISSIONINGELECTRICIANS</i><br><i>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)<br><i>OPERATING ENGINEERS LOCAL 4</i>                            | 12/01/2015     | \$36.34   | \$10.00 | \$14.90 | \$0.00                    | \$61.24    |
|   | 06/01/2016     | \$36.96   | \$10.00 | \$14.90 | \$0.00                    | \$61.86    |
|   | 12/01/2016     | \$38.00   | \$10.00 | \$14.90 | \$0.00                    | \$62.90    |
|   | 06/01/2017     | \$38.84   | \$10.00 | \$14.90 | \$0.00                    | \$63.74    |
|   | 12/01/2017     | \$39.67   | \$10.00 | \$14.90 | \$0.00                    | \$64.57    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                                |                |           |         |         |                           |            |
| FLAGGER & SIGNALER<br><i>LABORERS - ZONE 1</i>  | 12/01/2015     | \$20.50   | \$7.45  | \$13.55 | \$0.00                    | \$41.50    |
|   | 06/01/2016     | \$20.50   | \$7.45  | \$13.55 | \$0.00                    | \$41.50    |
|   | 12/01/2016     | \$20.50   | \$7.45  | \$13.55 | \$0.00                    | \$41.50    |
| For apprentice rates see "Apprentice- LABORER"  |                |           |         |         |                           |            |
| FLOORCOVERER<br><i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>                                    | 03/01/2016     | \$42.13   | \$9.80  | \$17.62 | \$0.00                    | \$69.55    |

**Apprentice - FLOORCOVERER - Local 2168 Zone 1**

**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**

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| FORK LIFT/CHERRY PICKER<br><i>OPERATING ENGINEERS LOCAL 4</i>                           | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|   | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|   | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|   | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|   | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                              |                |           |         |         |                           |            |
| GENERATOR/LIGHTING PLANT/HEATERS<br><i>OPERATING ENGINEERS LOCAL 4</i>                  | 12/01/2015     | \$30.13   | \$10.00 | \$14.90 | \$0.00                    | \$55.03    |
|   | 06/01/2016     | \$30.65   | \$10.00 | \$14.90 | \$0.00                    | \$55.55    |
|   | 12/01/2016     | \$31.52   | \$10.00 | \$14.90 | \$0.00                    | \$56.42    |
|   | 06/01/2017     | \$32.21   | \$10.00 | \$14.90 | \$0.00                    | \$57.11    |
|   | 12/01/2017     | \$32.90   | \$10.00 | \$14.90 | \$0.00                    | \$57.80    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                              |                |           |         |         |                           |            |
| GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)<br><i>GLAZIERS LOCAL 35 (ZONE 2)</i> | 01/01/2016     | \$39.01   | \$7.85  | \$16.10 | \$0.00                    | \$62.96    |
|   | 07/01/2016     | \$39.96   | \$7.85  | \$16.10 | \$0.00                    | \$63.91    |
|   | 01/01/2017     | \$40.91   | \$7.85  | \$16.10 | \$0.00                    | \$64.86    |

**Apprentice - GLAZIER - Local 35 Zone 2**

**Effective Date - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$19.51              | \$7.85 | \$0.00  | \$0.00                    | \$27.36    |
| 2    | 55      | \$21.46              | \$7.85 | \$3.66  | \$0.00                    | \$32.97    |
| 3    | 60      | \$23.41              | \$7.85 | \$3.99  | \$0.00                    | \$35.25    |
| 4    | 65      | \$25.36              | \$7.85 | \$4.32  | \$0.00                    | \$37.53    |
| 5    | 70      | \$27.31              | \$7.85 | \$14.11 | \$0.00                    | \$49.27    |
| 6    | 75      | \$29.26              | \$7.85 | \$14.44 | \$0.00                    | \$51.55    |
| 7    | 80      | \$31.21              | \$7.85 | \$14.77 | \$0.00                    | \$53.83    |
| 8    | 90      | \$35.11              | \$7.85 | \$15.44 | \$0.00                    | \$58.40    |

**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    |

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| HOISTING ENGINEER/CRANES/GRADALLS<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|   | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|   | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|   | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|   | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date - 12/01/2015**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 55      | \$24.05              | \$10.00 | \$0.00  | \$0.00                    | \$34.05    |
| 2    | 60      | \$26.24              | \$10.00 | \$14.90 | \$0.00                    | \$51.14    |
| 3    | 65      | \$28.42              | \$10.00 | \$14.90 | \$0.00                    | \$53.32    |
| 4    | 70      | \$30.61              | \$10.00 | \$14.90 | \$0.00                    | \$55.51    |
| 5    | 75      | \$32.80              | \$10.00 | \$14.90 | \$0.00                    | \$57.70    |
| 6    | 80      | \$34.98              | \$10.00 | \$14.90 | \$0.00                    | \$59.88    |
| 7    | 85      | \$37.17              | \$10.00 | \$14.90 | \$0.00                    | \$62.07    |
| 8    | 90      | \$39.36              | \$10.00 | \$14.90 | \$0.00                    | \$64.26    |

**Effective Date - 06/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 55      | \$24.46              | \$10.00 | \$0.00  | \$0.00                    | \$34.46    |
| 2    | 60      | \$26.69              | \$10.00 | \$14.90 | \$0.00                    | \$51.59    |
| 3    | 65      | \$28.91              | \$10.00 | \$14.90 | \$0.00                    | \$53.81    |
| 4    | 70      | \$31.14              | \$10.00 | \$14.90 | \$0.00                    | \$56.04    |
| 5    | 75      | \$33.36              | \$10.00 | \$14.90 | \$0.00                    | \$58.26    |
| 6    | 80      | \$35.58              | \$10.00 | \$14.90 | \$0.00                    | \$60.48    |
| 7    | 85      | \$37.81              | \$10.00 | \$14.90 | \$0.00                    | \$62.71    |
| 8    | 90      | \$40.03              | \$10.00 | \$14.90 | \$0.00                    | \$64.93    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:6**

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| HVAC (DUCTWORK)<br><i>SHEETMETAL WORKERS LOCAL 17 - A</i> | 02/01/2016 | \$43.31 | \$10.70 | \$21.95 | \$2.28 | \$78.24 |
|   | 08/01/2016 | \$44.46 | \$10.70 | \$21.95 | \$2.28 | \$79.39 |
|   | 02/01/2017 | \$45.56 | \$10.70 | \$21.95 | \$2.28 | \$80.49 |
|   | 08/01/2017 | \$46.66 | \$10.70 | \$21.95 | \$2.28 | \$81.59 |
|   | 02/01/2018 | \$47.81 | \$10.70 | \$21.95 | \$2.28 | \$82.74 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

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

For apprentice rates see "Apprentice- ELECTRICIAN"

| Classification   | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| HVAC (TESTING AND BALANCING - AIR)<br><i>SHEETMETAL WORKERS LOCAL 17 - A</i>     | 02/01/2016     | \$43.31   | \$10.70 | \$21.95 | \$2.28                    | \$78.24    |
|  | 08/01/2016     | \$44.46   | \$10.70 | \$21.95 | \$2.28                    | \$79.39    |
|  | 02/01/2017     | \$45.56   | \$10.70 | \$21.95 | \$2.28                    | \$80.49    |
|  | 08/01/2017     | \$46.66   | \$10.70 | \$21.95 | \$2.28                    | \$81.59    |
|  | 02/01/2018     | \$47.81   | \$10.70 | \$21.95 | \$2.28                    | \$82.74    |
| For apprentice rates see "Apprentice- SHEET METAL WORKER"                        |                |           |         |         |                           |            |
| HVAC (TESTING AND BALANCING -WATER)<br><i>PIPEFITTERS LOCAL 537</i>              | 03/01/2016     | \$49.19   | \$9.70  | \$18.14 | \$0.00                    | \$77.03    |
|  | 09/01/2016     | \$50.19   | \$9.70  | \$18.14 | \$0.00                    | \$78.03    |
|  | 03/01/2017     | \$51.19   | \$9.70  | \$18.14 | \$0.00                    | \$79.03    |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"        |                |           |         |         |                           |            |
| HVAC MECHANIC<br><i>PIPEFITTERS LOCAL 537</i>                                    | 03/01/2016     | \$49.19   | \$9.70  | \$18.14 | \$0.00                    | \$77.03    |
|  | 09/01/2016     | \$50.19   | \$9.70  | \$18.14 | \$0.00                    | \$78.03    |
|  | 03/01/2017     | \$51.19   | \$9.70  | \$18.14 | \$0.00                    | \$79.03    |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"        |                |           |         |         |                           |            |
| HYDRAULIC DRILLS<br><i>LABORERS - ZONE 1</i>                                     | 12/01/2015     | \$36.10   | \$7.45  | \$13.55 | \$0.00                    | \$57.10    |
|  | 06/01/2016     | \$36.85   | \$7.45  | \$13.55 | \$0.00                    | \$57.85    |
|  | 12/01/2016     | \$37.85   | \$7.45  | \$13.55 | \$0.00                    | \$58.85    |
| For apprentice rates see "Apprentice- LABORER"                                   |                |           |         |         |                           |            |
| INSULATOR (PIPES & TANKS)<br><i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i> | 09/01/2015     | \$43.81   | \$11.50 | \$13.80 | \$0.00                    | \$69.11    |
|  | 09/01/2016     | \$45.81   | \$11.50 | \$13.80 | \$0.00                    | \$71.11    |
|  | 09/01/2017     | \$47.81   | \$11.50 | \$13.80 | \$0.00                    | \$73.11    |
|  | 09/01/2018     | \$50.06   | \$11.50 | \$13.80 | \$0.00                    | \$75.36    |
|  | 09/01/2019     | \$52.56   | \$11.50 | \$13.80 | \$0.00                    | \$77.86    |

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

**Effective Date - 09/01/2015**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$21.91              | \$11.50 | \$10.05 | \$0.00                    | \$43.46    |
| 2    | 60      | \$26.29              | \$11.50 | \$10.80 | \$0.00                    | \$48.59    |
| 3    | 70      | \$30.67              | \$11.50 | \$11.55 | \$0.00                    | \$53.72    |
| 4    | 80      | \$35.05              | \$11.50 | \$12.30 | \$0.00                    | \$58.85    |

**Effective Date - 09/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$22.91              | \$11.50 | \$10.05 | \$0.00                    | \$44.46    |
| 2    | 60      | \$27.49              | \$11.50 | \$10.80 | \$0.00                    | \$49.79    |
| 3    | 70      | \$32.07              | \$11.50 | \$11.55 | \$0.00                    | \$55.12    |
| 4    | 80      | \$36.65              | \$11.50 | \$12.30 | \$0.00                    | \$60.45    |

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| IRONWORKER/WELDER<br><i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i> | 03/16/2016 | \$43.40 | \$7.80 | \$20.85 | \$0.00 | \$72.05 |
|   | 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 - 03/16/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 60      | \$26.04              | \$7.80 | \$20.85 | \$0.00                    | \$54.69    |
| 2    | 70      | \$30.38              | \$7.80 | \$20.85 | \$0.00                    | \$59.03    |
| 3    | 75      | \$32.55              | \$7.80 | \$20.85 | \$0.00                    | \$61.20    |
| 4    | 80      | \$34.72              | \$7.80 | \$20.85 | \$0.00                    | \$63.37    |
| 5    | 85      | \$36.89              | \$7.80 | \$20.85 | \$0.00                    | \$65.54    |
| 6    | 90      | \$39.06              | \$7.80 | \$20.85 | \$0.00                    | \$67.71    |

**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    |

**Notes:**

\*\* Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:\*\***

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| JACKHAMMER & PAVING BREAKER OPERATOR<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|   | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|   | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |
| For apprentice rates see "Apprentice- LABORER"            |            |         |        |         |        |         |
| LABORER<br>LABORERS - ZONE 1                              | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|   | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|   | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - LABORER - Zone 1**

**Effective Date - 12/01/2015**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 60      | \$21.21              | \$7.45 | \$13.55 | \$0.00                    | \$42.21    |
| 2    | 70      | \$24.75              | \$7.45 | \$13.55 | \$0.00                    | \$45.75    |
| 3    | 80      | \$28.28              | \$7.45 | \$13.55 | \$0.00                    | \$49.28    |
| 4    | 90      | \$31.82              | \$7.45 | \$13.55 | \$0.00                    | \$52.82    |

**Effective Date - 06/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 60      | \$21.66              | \$7.45 | \$13.55 | \$0.00                    | \$42.66    |
| 2    | 70      | \$25.27              | \$7.45 | \$13.55 | \$0.00                    | \$46.27    |
| 3    | 80      | \$28.88              | \$7.45 | \$13.55 | \$0.00                    | \$49.88    |
| 4    | 90      | \$32.49              | \$7.45 | \$13.55 | \$0.00                    | \$53.49    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: CARPENTER TENDER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|  | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|  | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: CEMENT FINISHER TENDER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|  | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|  | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.50 | \$7.45 | \$13.55 | \$0.00 | \$56.50 |
|--|------------|---------|--------|---------|--------|---------|

For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: MASON TENDER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|  | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|  | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: MULTI-TRADE TENDER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|  | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|  | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LABORER: TREE REMOVER<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|  | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|  | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| LASER BEAM OPERATOR<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|  | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|  | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| MARBLE & TILE FINISHERS<br><i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i> | 02/01/2016     | \$38.08   | \$10.18 | \$17.70 | \$0.00                    | \$65.96    |
|   | 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 - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$19.04              | \$10.18 | \$17.70 | \$0.00                    | \$46.92    |
| 2    | 60      | \$22.85              | \$10.18 | \$17.70 | \$0.00                    | \$50.73    |
| 3    | 70      | \$26.66              | \$10.18 | \$17.70 | \$0.00                    | \$54.54    |
| 4    | 80      | \$30.46              | \$10.18 | \$17.70 | \$0.00                    | \$58.34    |
| 5    | 90      | \$34.27              | \$10.18 | \$17.70 | \$0.00                    | \$62.15    |

**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    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| MARBLE MASONS, TILELAYERS & TERRAZZO MECH<br><i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i> | 02/01/2016 | \$49.90 | \$10.18 | \$19.14 | \$0.00 | \$79.22 |
|   | 08/01/2016 | \$50.80 | \$10.18 | \$19.22 | \$0.00 | \$80.20 |
|   | 02/01/2017 | \$51.37 | \$10.18 | \$19.22 | \$0.00 | \$80.77 |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

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

**Effective Date - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$24.95              | \$10.18 | \$19.14 | \$0.00                    | \$54.27    |
| 2    | 60      | \$29.94              | \$10.18 | \$19.14 | \$0.00                    | \$59.26    |
| 3    | 70      | \$34.93              | \$10.18 | \$19.14 | \$0.00                    | \$64.25    |
| 4    | 80      | \$39.92              | \$10.18 | \$19.14 | \$0.00                    | \$69.24    |
| 5    | 90      | \$44.91              | \$10.18 | \$19.14 | \$0.00                    | \$74.23    |

**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    |

**Notes:**

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**Apprentice to Journeyworker Ratio:1:5**

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| MECH. SWEEPER OPERATOR (ON CONST. SITES)<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|  | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|  | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|  | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|  | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| MECHANICS MAINTENANCE<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|   | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|   | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|   | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|   | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| MILLWRIGHT (Zone 1)<br><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**

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| <b>MORTAR MIXER</b><br><i>LABORERS - ZONE 1</i> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|   | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|   | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| <b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b><br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$22.27 | \$10.00 | \$14.90 | \$0.00 | \$47.17 |
|   | 06/01/2016 | \$22.66 | \$10.00 | \$14.90 | \$0.00 | \$47.56 |
|   | 12/01/2016 | \$23.31 | \$10.00 | \$14.90 | \$0.00 | \$48.21 |
|   | 06/01/2017 | \$23.82 | \$10.00 | \$14.90 | \$0.00 | \$48.72 |
|   | 12/01/2017 | \$24.34 | \$10.00 | \$14.90 | \$0.00 | \$49.24 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| <b>OILER (TRUCK CRANES, GRADALLS)</b><br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$26.08 | \$10.00 | \$14.90 | \$0.00 | \$50.98 |
|   | 06/01/2016 | \$26.54 | \$10.00 | \$14.90 | \$0.00 | \$51.44 |
|   | 12/01/2016 | \$27.29 | \$10.00 | \$14.90 | \$0.00 | \$52.19 |
|   | 06/01/2017 | \$27.89 | \$10.00 | \$14.90 | \$0.00 | \$52.79 |
|   | 12/01/2017 | \$28.50 | \$10.00 | \$14.90 | \$0.00 | \$53.40 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| <b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b><br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|  | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|  | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|  | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|  | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| <b>PAINTER (BRIDGES/TANKS)</b><br><i>PAINTERS LOCAL 35 - ZONE 2</i> | 01/01/2016 | \$49.51 | \$7.85 | \$16.10 | \$0.00 | \$73.46 |
|   | 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 - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$24.76              | \$7.85 | \$0.00  | \$0.00                    | \$32.61    |
| 2    | 55      | \$27.23              | \$7.85 | \$3.66  | \$0.00                    | \$38.74    |
| 3    | 60      | \$29.71              | \$7.85 | \$3.99  | \$0.00                    | \$41.55    |
| 4    | 65      | \$32.18              | \$7.85 | \$4.32  | \$0.00                    | \$44.35    |
| 5    | 70      | \$34.66              | \$7.85 | \$14.11 | \$0.00                    | \$56.62    |
| 6    | 75      | \$37.13              | \$7.85 | \$14.44 | \$0.00                    | \$59.42    |
| 7    | 80      | \$39.61              | \$7.85 | \$14.77 | \$0.00                    | \$62.23    |
| 8    | 90      | \$44.56              | \$7.85 | \$15.44 | \$0.00                    | \$67.85    |

**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    |

**Notes:**  
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, NEW) *  | 01/01/2016 | \$40.41 | \$7.85 | \$16.10 | \$0.00 | \$64.36 |
| * If 30% or more of surfaces to be painted are new construction,<br>NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 07/01/2016 | \$41.36 | \$7.85 | \$16.10 | \$0.00 | \$65.31 |
|  | 01/01/2017 | \$42.31 | \$7.85 | \$16.10 | \$0.00 | \$66.26 |

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

**Effective Date - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$20.21              | \$7.85 | \$0.00  | \$0.00                    | \$28.06    |
| 2    | 55      | \$22.23              | \$7.85 | \$3.66  | \$0.00                    | \$33.74    |
| 3    | 60      | \$24.25              | \$7.85 | \$3.99  | \$0.00                    | \$36.09    |
| 4    | 65      | \$26.27              | \$7.85 | \$4.32  | \$0.00                    | \$38.44    |
| 5    | 70      | \$28.29              | \$7.85 | \$14.11 | \$0.00                    | \$50.25    |
| 6    | 75      | \$30.31              | \$7.85 | \$14.44 | \$0.00                    | \$52.60    |
| 7    | 80      | \$32.33              | \$7.85 | \$14.77 | \$0.00                    | \$54.95    |
| 8    | 90      | \$36.37              | \$7.85 | \$15.44 | \$0.00                    | \$59.66    |

**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    |

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

|                                       |            |         |        |         |        |         |
|---------------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, REPAINT) | 01/01/2016 | \$38.47 | \$7.85 | \$16.10 | \$0.00 | \$62.42 |
| PAINTERS LOCAL 35 - ZONE 2            | 07/01/2016 | \$39.42 | \$7.85 | \$16.10 | \$0.00 | \$63.37 |
|                                       | 01/01/2017 | \$40.37 | \$7.85 | \$16.10 | \$0.00 | \$64.32 |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

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

**Effective Date - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$19.24              | \$7.85 | \$0.00  | \$0.00                    | \$27.09    |
| 2    | 55      | \$21.16              | \$7.85 | \$3.66  | \$0.00                    | \$32.67    |
| 3    | 60      | \$23.08              | \$7.85 | \$3.99  | \$0.00                    | \$34.92    |
| 4    | 65      | \$25.01              | \$7.85 | \$4.32  | \$0.00                    | \$37.18    |
| 5    | 70      | \$26.93              | \$7.85 | \$14.11 | \$0.00                    | \$48.89    |
| 6    | 75      | \$28.85              | \$7.85 | \$14.44 | \$0.00                    | \$51.14    |
| 7    | 80      | \$30.78              | \$7.85 | \$14.77 | \$0.00                    | \$53.40    |
| 8    | 90      | \$34.62              | \$7.85 | \$15.44 | \$0.00                    | \$57.91    |

**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    |

**Notes:**  
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| PAINTER (TRAFFIC MARKINGS)<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.35 | \$7.45 | \$13.55 | \$0.00 | \$56.35 |
|   | 06/01/2016 | \$36.10 | \$7.45 | \$13.55 | \$0.00 | \$57.10 |
|   | 12/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |

For Apprentice rates see "Apprentice- LABORER"

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, NEW) *   | 01/01/2016 | \$39.01 | \$7.85 | \$16.10 | \$0.00 | \$62.96 |
| * If 30% or more of surfaces to be painted are new construction,<br>NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2 | 07/01/2016 | \$39.96 | \$7.85 | \$16.10 | \$0.00 | \$63.91 |
|  | 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 - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$19.51              | \$7.85 | \$0.00  | \$0.00                    | \$27.36    |
| 2    | 55      | \$21.46              | \$7.85 | \$3.66  | \$0.00                    | \$32.97    |
| 3    | 60      | \$23.41              | \$7.85 | \$3.99  | \$0.00                    | \$35.25    |
| 4    | 65      | \$25.36              | \$7.85 | \$4.32  | \$0.00                    | \$37.53    |
| 5    | 70      | \$27.31              | \$7.85 | \$14.11 | \$0.00                    | \$49.27    |
| 6    | 75      | \$29.26              | \$7.85 | \$14.44 | \$0.00                    | \$51.55    |
| 7    | 80      | \$31.21              | \$7.85 | \$14.77 | \$0.00                    | \$53.83    |
| 8    | 90      | \$35.11              | \$7.85 | \$15.44 | \$0.00                    | \$58.40    |

**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    |

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

|                                  |            |         |        |         |        |         |
|----------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, REPAINT) | 01/01/2016 | \$37.07 | \$7.85 | \$16.10 | \$0.00 | \$61.02 |
| PAINTERS LOCAL 35 - ZONE 2       | 07/01/2016 | \$38.02 | \$7.85 | \$16.10 | \$0.00 | \$61.97 |
|                                  | 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 - 01/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 50      | \$18.54              | \$7.85 | \$0.00  | \$0.00                    | \$26.39    |
| 2    | 55      | \$20.39              | \$7.85 | \$3.66  | \$0.00                    | \$31.90    |
| 3    | 60      | \$22.24              | \$7.85 | \$3.99  | \$0.00                    | \$34.08    |
| 4    | 65      | \$24.10              | \$7.85 | \$4.32  | \$0.00                    | \$36.27    |
| 5    | 70      | \$25.95              | \$7.85 | \$14.11 | \$0.00                    | \$47.91    |
| 6    | 75      | \$27.80              | \$7.85 | \$14.44 | \$0.00                    | \$50.09    |
| 7    | 80      | \$29.66              | \$7.85 | \$14.77 | \$0.00                    | \$52.28    |
| 8    | 90      | \$33.36              | \$7.85 | \$15.44 | \$0.00                    | \$56.65    |

**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    |

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

|   |            |         |         |         |        |         |
|---|------------|---------|---------|---------|--------|---------|
| PANEL & PICKUP TRUCKS DRIVER<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>  | 12/01/2015 | \$32.58 | \$10.41 | \$10.08 | \$0.00 | \$53.07 |
|   | 06/01/2016 | \$33.08 | \$10.41 | \$10.08 | \$0.00 | \$53.57 |
|   | 08/01/2016 | \$33.08 | \$10.91 | \$10.08 | \$0.00 | \$54.07 |
|   | 12/01/2016 | \$33.08 | \$10.91 | \$10.89 | \$0.00 | \$54.88 |
| PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)<br><i>PILE DRIVER LOCAL 56 (ZONE 1)</i><br>For apprentice rates see "Apprentice- PILE DRIVER" | 08/01/2015 | \$42.04 | \$9.80  | \$19.23 | \$0.00 | \$71.07 |
| PILE DRIVER<br><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<br>PIPEFITTERS LOCAL 537 | 03/01/2016 | \$49.19 | \$9.70 | \$18.14 | \$0.00 | \$77.03 |
|   | 09/01/2016 | \$50.19 | \$9.70 | \$18.14 | \$0.00 | \$78.03 |
|   | 03/01/2017 | \$51.19 | \$9.70 | \$18.14 | \$0.00 | \$79.03 |

**Apprentice - PIPEFITTER - Local 537**

**Effective Date - 03/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 40      | \$19.68              | \$9.70 | \$7.50  | \$0.00                    | \$36.88    |
| 2    | 45      | \$22.14              | \$9.70 | \$18.14 | \$0.00                    | \$49.98    |
| 3    | 60      | \$29.51              | \$9.70 | \$18.14 | \$0.00                    | \$57.35    |
| 4    | 70      | \$34.43              | \$9.70 | \$18.14 | \$0.00                    | \$62.27    |
| 5    | 80      | \$39.35              | \$9.70 | \$18.14 | \$0.00                    | \$67.19    |

**Effective Date - 09/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 40      | \$20.08              | \$9.70 | \$7.50  | \$0.00                    | \$37.28    |
| 2    | 45      | \$22.59              | \$9.70 | \$18.14 | \$0.00                    | \$50.43    |
| 3    | 60      | \$30.11              | \$9.70 | \$18.14 | \$0.00                    | \$57.95    |
| 4    | 70      | \$35.13              | \$9.70 | \$18.14 | \$0.00                    | \$62.97    |
| 5    | 80      | \$40.15              | \$9.70 | \$18.14 | \$0.00                    | \$67.99    |

**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<br>LABORERS - ZONE 1 | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|                                | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|                                | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

| Classification   | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| PLUMBERS & GASFITTERS<br><i>PLUMBERS &amp; GASFITTERS LOCAL 12</i> | 03/01/2016     | \$51.36   | \$11.07 | \$15.14 | \$0.00                    | \$77.57    |
|  | 09/01/2016     | \$52.41   | \$11.07 | \$15.14 | \$0.00                    | \$78.62    |
|  | 03/01/2017     | \$53.41   | \$11.07 | \$15.14 | \$0.00                    | \$79.62    |

**Apprentice - PLUMBER/GASFITTER - Local 12**

**Effective Date - 03/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 35      | \$17.98              | \$11.07 | \$5.63  | \$0.00                    | \$34.68    |
| 2    | 40      | \$20.54              | \$11.07 | \$6.37  | \$0.00                    | \$37.98    |
| 3    | 55      | \$28.25              | \$11.07 | \$8.56  | \$0.00                    | \$47.88    |
| 4    | 65      | \$33.38              | \$11.07 | \$10.03 | \$0.00                    | \$54.48    |
| 5    | 75      | \$38.52              | \$11.07 | \$11.48 | \$0.00                    | \$61.07    |

**Effective Date - 09/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 35      | \$18.34              | \$11.07 | \$5.63  | \$0.00                    | \$35.04    |
| 2    | 40      | \$20.96              | \$11.07 | \$6.36  | \$0.00                    | \$38.39    |
| 3    | 55      | \$28.83              | \$11.07 | \$8.55  | \$0.00                    | \$48.45    |
| 4    | 65      | \$34.07              | \$11.07 | \$10.02 | \$0.00                    | \$55.16    |
| 5    | 75      | \$39.31              | \$11.07 | \$11.48 | \$0.00                    | \$61.86    |

**Notes:**

\*\* 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr  
Step4 with lic\$57.78 Step5 with lic\$64.37

**Apprentice to Journeyworker Ratio:\*\***

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| PNEUMATIC CONTROLS (TEMP.)<br><i>PIPEFITTERS LOCAL 537</i> | 03/01/2016 | \$49.19 | \$9.70 | \$18.14 | \$0.00 | \$77.03 |
|  | 09/01/2016 | \$50.19 | \$9.70 | \$18.14 | \$0.00 | \$78.03 |
|  | 03/01/2017 | \$51.19 | \$9.70 | \$18.14 | \$0.00 | \$79.03 |

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

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| PNEUMATIC DRILL/TOOL OPERATOR<br><i>LABORERS - ZONE 1</i> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|   | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|   | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|   |            |         |        |         |        |         |
|---|------------|---------|--------|---------|--------|---------|
| POWDERMAN & BLASTER<br><i>LABORERS - ZONE 1</i> | 12/01/2015 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|   | 06/01/2016 | \$37.10 | \$7.45 | \$13.55 | \$0.00 | \$58.10 |
|   | 12/01/2016 | \$38.10 | \$7.45 | \$13.55 | \$0.00 | \$59.10 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| POWER SHOVEL/DERRICK/TRENCHING MACHINE<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.73 | \$10.00 | \$14.90 | \$0.00 | \$68.63 |
|  | 06/01/2016 | \$44.48 | \$10.00 | \$14.90 | \$0.00 | \$69.38 |
|  | 12/01/2016 | \$45.73 | \$10.00 | \$14.90 | \$0.00 | \$70.63 |
|  | 06/01/2017 | \$46.73 | \$10.00 | \$14.90 | \$0.00 | \$71.63 |
|  | 12/01/2017 | \$47.73 | \$10.00 | \$14.90 | \$0.00 | \$72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| PUMP OPERATOR (CONCRETE)<br><i>OPERATING ENGINEERS LOCAL 4</i>  | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|   | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|   | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|   | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|   | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"  |                |           |         |         |                           |            |
| PUMP OPERATOR (DEWATERING, OTHER)<br><i>OPERATING ENGINEERS LOCAL 4</i>   | 12/01/2015     | \$30.13   | \$10.00 | \$14.90 | \$0.00                    | \$55.03    |
|   | 06/01/2016     | \$30.65   | \$10.00 | \$14.90 | \$0.00                    | \$55.55    |
|   | 12/01/2016     | \$31.52   | \$10.00 | \$14.90 | \$0.00                    | \$56.42    |
|   | 06/01/2017     | \$32.21   | \$10.00 | \$14.90 | \$0.00                    | \$57.11    |
|   | 12/01/2017     | \$32.90   | \$10.00 | \$14.90 | \$0.00                    | \$57.80    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"  |                |           |         |         |                           |            |
| READY MIX CONCRETE DRIVERS after 4/30/10<br>(Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25c</i>  | 07/01/2015     | \$27.88   | \$7.98  | \$8.92  | \$0.00                    | \$44.78    |
|   | 05/01/2016     | \$28.03   | \$7.98  | \$9.31  | \$0.00                    | \$45.32    |
|   | 07/01/2016     | \$28.03   | \$8.23  | \$9.31  | \$0.00                    | \$45.57    |
|   | 05/01/2017     | \$28.18   | \$8.23  | \$9.72  | \$0.00                    | \$46.13    |
|   | 07/01/2017     | \$28.18   | \$8.48  | \$9.72  | \$0.00                    | \$46.38    |
| READY-MIX CONCRETE DRIVER<br><i>TEAMSTERS LOCAL 25c</i>   | 07/01/2015     | \$29.18   | \$7.98  | \$8.92  | \$0.00                    | \$46.08    |
|   | 05/01/2016     | \$29.33   | \$7.98  | \$9.31  | \$0.00                    | \$46.62    |
|   | 07/01/2016     | \$29.33   | \$8.23  | \$9.31  | \$0.00                    | \$46.87    |
|   | 05/01/2017     | \$29.48   | \$8.23  | \$9.72  | \$0.00                    | \$47.43    |
|   | 07/01/2017     | \$29.48   | \$8.48  | \$9.72  | \$0.00                    | \$47.68    |
| RECLAIMERS<br><i>OPERATING ENGINEERS LOCAL 4</i>  | 12/01/2015     | \$43.31   | \$10.00 | \$14.90 | \$0.00                    | \$68.21    |
|   | 06/01/2016     | \$44.06   | \$10.00 | \$14.90 | \$0.00                    | \$68.96    |
|   | 12/01/2016     | \$45.29   | \$10.00 | \$14.90 | \$0.00                    | \$70.19    |
|   | 06/01/2017     | \$46.28   | \$10.00 | \$14.90 | \$0.00                    | \$71.18    |
|   | 12/01/2017     | \$47.27   | \$10.00 | \$14.90 | \$0.00                    | \$72.17    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"  |                |           |         |         |                           |            |
| RESIDENTIAL WOOD FRAME (All Other Work)<br><i>CARPENTERS -ZONE 2 (Residential Wood)</i>   | 04/01/2011     | \$24.24   | \$8.67  | \$15.51 | \$0.00                    | \$48.42    |
| RESIDENTIAL WOOD FRAME CARPENTER **<br>** 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><br>As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate. | 05/01/2011     | \$24.24   | \$6.34  | \$6.23  | \$0.00                    | \$36.81    |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - CARPENTER (Residential Wood Frame) - Zone 2**

**Effective Date - 05/01/2011**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 60      | \$14.54              | \$6.34 | \$0.00  | \$0.00                    | \$20.88    |
| 2    | 60      | \$14.54              | \$6.34 | \$6.23  | \$0.00                    | \$27.11    |
| 3    | 65      | \$15.76              | \$6.34 | \$6.23  | \$0.00                    | \$28.33    |
| 4    | 70      | \$16.97              | \$6.34 | \$6.23  | \$0.00                    | \$29.54    |
| 5    | 75      | \$18.18              | \$6.34 | \$6.23  | \$0.00                    | \$30.75    |
| 6    | 80      | \$19.39              | \$6.34 | \$6.23  | \$0.00                    | \$31.96    |
| 7    | 85      | \$20.60              | \$6.34 | \$6.23  | \$0.00                    | \$33.17    |
| 8    | 90      | \$21.82              | \$6.34 | \$6.23  | \$0.00                    | \$34.39    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

|  |            |         |        |         |        |         |
|--|------------|---------|--------|---------|--------|---------|
| RIDE-ON MOTORIZED BUGGY OPERATOR<br><i>LABORERS - ZONE 1</i> | 12/01/2015 | \$35.60 | \$7.45 | \$13.55 | \$0.00 | \$56.60 |
|  | 06/01/2016 | \$36.35 | \$7.45 | \$13.55 | \$0.00 | \$57.35 |
|  | 12/01/2016 | \$37.35 | \$7.45 | \$13.55 | \$0.00 | \$58.35 |

For apprentice rates see "Apprentice- LABORER"

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| ROLLER/SPREADER/MULCHING MACHINE<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|  | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|  | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|  | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|  | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

|  |            |         |         |         |        |         |
|--|------------|---------|---------|---------|--------|---------|
| ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing)<br><i>ROOFERS LOCAL 33</i> | 02/01/2016 | \$40.11 | \$11.00 | \$12.90 | \$0.00 | \$64.01 |
|--|------------|---------|---------|---------|--------|---------|

**Apprentice - ROOFER - Local 33**

**Effective Date - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$20.06              | \$11.00 | \$3.39  | \$0.00                    | \$34.45    |
| 2    | 60      | \$24.07              | \$11.00 | \$12.90 | \$0.00                    | \$47.97    |
| 3    | 65      | \$26.07              | \$11.00 | \$12.90 | \$0.00                    | \$49.97    |
| 4    | 75      | \$30.08              | \$11.00 | \$12.90 | \$0.00                    | \$53.98    |
| 5    | 85      | \$34.09              | \$11.00 | \$12.90 | \$0.00                    | \$57.99    |

**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<br><i>ROOFERS LOCAL 33</i> | 02/01/2016 | \$40.36 | \$11.00 | \$12.90 | \$0.00 | \$64.26 |
|---|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- ROOFER"

| Classification                                       | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| SHEETMETAL WORKER<br>SHEETMETAL WORKERS LOCAL 17 - A | 02/01/2016     | \$43.31   | \$10.70 | \$21.95 | \$2.28                    | \$78.24    |
|  | 08/01/2016     | \$44.46   | \$10.70 | \$21.95 | \$2.28                    | \$79.39    |
|  | 02/01/2017     | \$45.56   | \$10.70 | \$21.95 | \$2.28                    | \$80.49    |
|  | 08/01/2017     | \$46.66   | \$10.70 | \$21.95 | \$2.28                    | \$81.59    |
|  | 02/01/2018     | \$47.81   | \$10.70 | \$21.95 | \$2.28                    | \$82.74    |

**Apprentice - SHEET METAL WORKER - Local 17-A**

**Effective Date - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 40      | \$17.32              | \$10.70 | \$4.90  | \$0.00                    | \$32.92    |
| 2    | 40      | \$17.32              | \$10.70 | \$4.90  | \$0.00                    | \$32.92    |
| 3    | 45      | \$19.49              | \$10.70 | \$9.79  | \$1.20                    | \$41.18    |
| 4    | 45      | \$19.49              | \$10.70 | \$9.79  | \$1.20                    | \$41.18    |
| 5    | 50      | \$21.66              | \$10.70 | \$10.65 | \$1.29                    | \$44.30    |
| 6    | 50      | \$21.66              | \$10.70 | \$10.90 | \$1.30                    | \$44.56    |
| 7    | 60      | \$25.99              | \$10.70 | \$12.37 | \$1.47                    | \$50.53    |
| 8    | 65      | \$28.15              | \$10.70 | \$13.24 | \$1.56                    | \$53.65    |
| 9    | 75      | \$32.48              | \$10.70 | \$14.97 | \$1.74                    | \$59.89    |
| 10   | 85      | \$36.81              | \$10.70 | \$16.18 | \$1.91                    | \$65.60    |

**Effective Date - 08/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 40      | \$17.78              | \$10.70 | \$4.90  | \$0.00                    | \$33.38    |
| 2    | 40      | \$17.78              | \$10.70 | \$4.90  | \$0.00                    | \$33.38    |
| 3    | 45      | \$20.01              | \$10.70 | \$9.79  | \$1.22                    | \$41.72    |
| 4    | 45      | \$20.01              | \$10.70 | \$9.79  | \$1.22                    | \$41.72    |
| 5    | 50      | \$22.23              | \$10.70 | \$10.65 | \$1.31                    | \$44.89    |
| 6    | 50      | \$22.23              | \$10.70 | \$10.90 | \$1.31                    | \$45.14    |
| 7    | 60      | \$26.68              | \$10.70 | \$12.37 | \$1.49                    | \$51.24    |
| 8    | 65      | \$28.90              | \$10.70 | \$13.24 | \$1.59                    | \$54.43    |
| 9    | 75      | \$33.35              | \$10.70 | \$14.97 | \$1.77                    | \$60.79    |
| 10   | 85      | \$37.79              | \$10.70 | \$16.18 | \$1.94                    | \$66.61    |

**Notes:**

Steps are 6 mos.

**Apprentice to Journeyworker Ratio:1:4**

|  |            |         |        |        |        |         |
|--|------------|---------|--------|--------|--------|---------|
| SIGN ERECTOR<br>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<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2015 | \$33.04 | \$10.41 | \$10.08 | \$0.00 | \$53.53 |
|  | 06/01/2016 | \$33.54 | \$10.41 | \$10.08 | \$0.00 | \$54.03 |
|  | 08/01/2016 | \$33.54 | \$10.91 | \$10.08 | \$0.00 | \$54.53 |
|  | 12/01/2016 | \$33.54 | \$10.91 | \$10.89 | \$0.00 | \$55.34 |
| SPECIALIZED EARTH MOVING EQUIP > 35 TONS<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2015 | \$33.33 | \$10.41 | \$10.08 | \$0.00 | \$53.82 |
|  | 06/01/2016 | \$33.83 | \$10.41 | \$10.08 | \$0.00 | \$54.32 |
|  | 08/01/2016 | \$33.83 | \$10.91 | \$10.08 | \$0.00 | \$54.82 |
|  | 12/01/2016 | \$33.83 | \$10.91 | \$10.89 | \$0.00 | \$55.63 |
| SPRINKLER FITTER<br><i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>              | 03/01/2016 | \$54.43 | \$8.67  | \$16.80 | \$0.00 | \$79.90 |
|  | 10/01/2016 | \$55.53 | \$8.67  | \$16.80 | \$0.00 | \$81.00 |
|  | 03/01/2017 | \$56.53 | \$8.67  | \$16.80 | \$0.00 | \$82.00 |



**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1**

**Effective Date - 03/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 35      | \$19.05              | \$8.67 | \$8.55  | \$0.00                    | \$36.27    |
| 2    | 40      | \$21.77              | \$8.67 | \$8.55  | \$0.00                    | \$38.99    |
| 3    | 45      | \$24.49              | \$8.67 | \$8.55  | \$0.00                    | \$41.71    |
| 4    | 50      | \$27.22              | \$8.67 | \$8.55  | \$0.00                    | \$44.44    |
| 5    | 55      | \$29.94              | \$8.67 | \$8.55  | \$0.00                    | \$47.16    |
| 6    | 60      | \$32.66              | \$8.67 | \$8.55  | \$0.00                    | \$49.88    |
| 7    | 65      | \$35.38              | \$8.67 | \$8.55  | \$0.00                    | \$52.60    |
| 8    | 70      | \$38.10              | \$8.67 | \$8.55  | \$0.00                    | \$55.32    |
| 9    | 75      | \$40.82              | \$8.67 | \$8.55  | \$0.00                    | \$58.04    |
| 10   | 80      | \$43.54              | \$8.67 | \$8.55  | \$0.00                    | \$60.76    |

**Effective Date - 10/01/2016**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 35      | \$19.44              | \$8.67 | \$8.55  | \$0.00                    | \$36.66    |
| 2    | 40      | \$22.21              | \$8.67 | \$8.55  | \$0.00                    | \$39.43    |
| 3    | 45      | \$24.99              | \$8.67 | \$8.55  | \$0.00                    | \$42.21    |
| 4    | 50      | \$27.77              | \$8.67 | \$8.55  | \$0.00                    | \$44.99    |
| 5    | 55      | \$30.54              | \$8.67 | \$8.55  | \$0.00                    | \$47.76    |
| 6    | 60      | \$33.32              | \$8.67 | \$8.55  | \$0.00                    | \$50.54    |
| 7    | 65      | \$36.09              | \$8.67 | \$8.55  | \$0.00                    | \$53.31    |
| 8    | 70      | \$38.87              | \$8.67 | \$8.55  | \$0.00                    | \$56.09    |
| 9    | 75      | \$41.65              | \$8.67 | \$8.55  | \$0.00                    | \$58.87    |
| 10   | 80      | \$44.42              | \$8.67 | \$8.55  | \$0.00                    | \$61.64    |

**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<br><i>OPERATING ENGINEERS LOCAL 4</i>                    | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|  | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|  | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|  | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|  | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                     |            |         |         |         |        |         |
| TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN<br><i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2015 | \$43.31 | \$10.00 | \$14.90 | \$0.00 | \$68.21 |
|  | 06/01/2016 | \$44.06 | \$10.00 | \$14.90 | \$0.00 | \$68.96 |
|  | 12/01/2016 | \$45.29 | \$10.00 | \$14.90 | \$0.00 | \$70.19 |
|  | 06/01/2017 | \$46.28 | \$10.00 | \$14.90 | \$0.00 | \$71.18 |
|  | 12/01/2017 | \$47.27 | \$10.00 | \$14.90 | \$0.00 | \$72.17 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                     |            |         |         |         |        |         |
| TELECOMMUNICATION TECHNICIAN<br><i>ELECTRICIANS LOCAL 103</i>                  | 03/01/2016 | \$34.63 | \$13.00 | \$14.55 | \$0.00 | \$62.18 |

**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                  | 02/01/2016 | \$48.80 | \$10.18 | \$19.14 | \$0.00 | \$78.12 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 08/01/2016 | \$49.70 | \$10.18 | \$19.22 | \$0.00 | \$79.10 |
|                                     | 02/01/2017 | \$50.27 | \$10.18 | \$19.22 | \$0.00 | \$79.67 |

**Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile**

**Effective Date - 02/01/2016**

| Step | percent | Apprentice Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1    | 50      | \$24.40              | \$10.18 | \$19.14 | \$0.00                    | \$53.72    |
| 2    | 60      | \$29.28              | \$10.18 | \$19.14 | \$0.00                    | \$58.60    |
| 3    | 70      | \$34.16              | \$10.18 | \$19.14 | \$0.00                    | \$63.48    |
| 4    | 80      | \$39.04              | \$10.18 | \$19.14 | \$0.00                    | \$68.36    |
| 5    | 90      | \$43.92              | \$10.18 | \$19.14 | \$0.00                    | \$73.24    |

**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    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| TEST BORING DRILLER<br><i>LABORERS - FOUNDATION AND MARINE</i>                      | 12/01/2015     | \$36.70   | \$7.45  | \$13.75 | \$0.00                    | \$57.90    |
|   | 06/01/2016     | \$37.45   | \$7.45  | \$13.75 | \$0.00                    | \$58.65    |
|   | 12/01/2016     | \$38.45   | \$7.45  | \$13.75 | \$0.00                    | \$59.65    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TEST BORING DRILLER HELPER<br><i>LABORERS - FOUNDATION AND MARINE</i>               | 12/01/2015     | \$35.42   | \$7.45  | \$13.75 | \$0.00                    | \$56.62    |
|   | 06/01/2016     | \$36.17   | \$7.45  | \$13.75 | \$0.00                    | \$57.37    |
|   | 12/01/2016     | \$37.17   | \$7.45  | \$13.75 | \$0.00                    | \$58.37    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TEST BORING LABORER<br><i>LABORERS - FOUNDATION AND MARINE</i>                      | 12/01/2015     | \$35.30   | \$7.45  | \$13.75 | \$0.00                    | \$56.50    |
|   | 06/01/2016     | \$36.05   | \$7.45  | \$13.75 | \$0.00                    | \$57.25    |
|   | 12/01/2016     | \$37.05   | \$7.45  | \$13.75 | \$0.00                    | \$58.25    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TRACTORS/PORTABLE STEAM GENERATORS<br><i>OPERATING ENGINEERS LOCAL 4</i>            | 12/01/2015     | \$43.31   | \$10.00 | \$14.90 | \$0.00                    | \$68.21    |
|   | 06/01/2016     | \$44.06   | \$10.00 | \$14.90 | \$0.00                    | \$68.96    |
|   | 12/01/2016     | \$45.29   | \$10.00 | \$14.90 | \$0.00                    | \$70.19    |
|   | 06/01/2017     | \$46.28   | \$10.00 | \$14.90 | \$0.00                    | \$71.18    |
|   | 12/01/2017     | \$47.27   | \$10.00 | \$14.90 | \$0.00                    | \$72.17    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"                          |                |           |         |         |                           |            |
| TRAILERS FOR EARTH MOVING EQUIPMENT<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2015     | \$33.62   | \$10.41 | \$10.08 | \$0.00                    | \$54.11    |
|   | 06/01/2016     | \$34.12   | \$10.41 | \$10.08 | \$0.00                    | \$54.61    |
|   | 08/01/2016     | \$34.12   | \$10.91 | \$10.08 | \$0.00                    | \$55.11    |
|   | 12/01/2016     | \$34.12   | \$10.91 | \$10.89 | \$0.00                    | \$55.92    |
| TUNNEL WORK - COMPRESSED AIR<br><i>LABORERS (COMPRESSED AIR)</i>                    | 12/01/2015     | \$47.58   | \$7.45  | \$14.15 | \$0.00                    | \$69.18    |
|   | 06/01/2016     | \$48.33   | \$7.45  | \$14.15 | \$0.00                    | \$69.93    |
|   | 12/01/2016     | \$49.33   | \$7.45  | \$14.15 | \$0.00                    | \$70.93    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)<br><i>LABORERS (COMPRESSED AIR)</i>       | 12/01/2015     | \$49.58   | \$7.45  | \$14.15 | \$0.00                    | \$71.18    |
|   | 06/01/2016     | \$50.33   | \$7.45  | \$14.15 | \$0.00                    | \$71.93    |
|   | 12/01/2016     | \$51.33   | \$7.45  | \$14.15 | \$0.00                    | \$72.93    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TUNNEL WORK - FREE AIR<br><i>LABORERS (FREE AIR TUNNEL)</i>                         | 12/01/2015     | \$39.65   | \$7.45  | \$14.15 | \$0.00                    | \$61.25    |
|   | 06/01/2016     | \$40.40   | \$7.45  | \$14.15 | \$0.00                    | \$62.00    |
|   | 12/01/2016     | \$41.40   | \$7.45  | \$14.15 | \$0.00                    | \$63.00    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| TUNNEL WORK - FREE AIR (HAZ. WASTE)<br><i>LABORERS (FREE AIR TUNNEL)</i>            | 12/01/2015     | \$41.65   | \$7.45  | \$14.15 | \$0.00                    | \$63.25    |
|   | 06/01/2016     | \$42.40   | \$7.45  | \$14.15 | \$0.00                    | \$64.00    |
|   | 12/01/2016     | \$43.40   | \$7.45  | \$14.15 | \$0.00                    | \$65.00    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |
| VAC-HAUL<br><i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>                            | 12/01/2015     | \$33.04   | \$10.41 | \$10.08 | \$0.00                    | \$53.53    |
|   | 06/01/2016     | \$33.54   | \$10.41 | \$10.08 | \$0.00                    | \$54.03    |
|   | 08/01/2016     | \$33.54   | \$10.91 | \$10.08 | \$0.00                    | \$54.53    |
|   | 12/01/2016     | \$33.54   | \$10.91 | \$10.89 | \$0.00                    | \$55.34    |
| WAGON DRILL OPERATOR<br><i>LABORERS - ZONE 1</i>                                    | 12/01/2015     | \$35.60   | \$7.45  | \$13.55 | \$0.00                    | \$56.60    |
|   | 06/01/2016     | \$36.35   | \$7.45  | \$13.55 | \$0.00                    | \$57.35    |
|   | 12/01/2016     | \$37.35   | \$7.45  | \$13.55 | \$0.00                    | \$58.35    |
| For apprentice rates see "Apprentice- LABORER"                                      |                |           |         |         |                           |            |

| Classification  | Effective Date | Base Wage | Health  | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| WASTE WATER PUMP OPERATOR<br><i>OPERATING ENGINEERS LOCAL 4</i>                                     | 12/01/2015     | \$43.73   | \$10.00 | \$14.90 | \$0.00                    | \$68.63    |
|   | 06/01/2016     | \$44.48   | \$10.00 | \$14.90 | \$0.00                    | \$69.38    |
|   | 12/01/2016     | \$45.73   | \$10.00 | \$14.90 | \$0.00                    | \$70.63    |
|   | 06/01/2017     | \$46.73   | \$10.00 | \$14.90 | \$0.00                    | \$71.63    |
|   | 12/01/2017     | \$47.73   | \$10.00 | \$14.90 | \$0.00                    | \$72.63    |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS"  |                |           |         |         |                           |            |
| WATER METER INSTALLER<br><i>PLUMBERS &amp; GASFITTERS LOCAL 12</i>                                  | 03/01/2016     | \$51.36   | \$11.07 | \$15.14 | \$0.00                    | \$77.57    |
|   | 09/01/2016     | \$52.41   | \$11.07 | \$15.14 | \$0.00                    | \$78.62    |
|   | 03/01/2017     | \$53.41   | \$11.07 | \$15.14 | \$0.00                    | \$79.62    |
| For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"                    |                |           |         |         |                           |            |
| <b>Outside Electrical - East</b>  |                |           |         |         |                           |            |
| CABLE TECHNICIAN (Power Zone)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>                 | 08/30/2015     | \$26.11   | \$7.25  | \$1.78  | \$0.00                    | \$35.14    |
|   | 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)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>         | 08/30/2015     | \$36.98   | \$7.25  | \$8.12  | \$0.00                    | \$52.35    |
|   | 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<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>                        | 08/30/2015     | \$30.46   | \$7.25  | \$8.34  | \$0.00                    | \$46.05    |
|   | 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"  |                |           |         |         |                           |            |
| DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i> | 08/30/2015     | \$23.93   | \$7.25  | \$1.72  | \$0.00                    | \$32.90    |
|   | 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)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>              | 08/30/2015     | \$36.98   | \$7.25  | \$12.29 | \$0.00                    | \$56.52    |
|   | 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)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>              | 08/30/2015     | \$32.63   | \$7.25  | \$9.05  | \$0.00                    | \$48.93    |
|   | 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<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>                                     | 08/30/2015     | \$23.93   | \$7.25  | \$1.72  | \$0.00                    | \$32.90    |
|   | 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.)<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>         | 08/30/2015     | \$19.58   | \$7.25  | \$1.59  | \$0.00                    | \$28.42    |
|   | 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<br><i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>                            | 08/30/2015     | \$43.51   | \$7.25  | \$15.06 | \$0.00                    | \$65.82    |
|   | 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    |

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - LINEMAN (Outside Electrical) - East Local 104**

**Effective Date - 08/30/2015**

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1    | 60      | \$26.11              | \$7.25 | \$3.28  | \$0.00                    | \$36.64    |
| 2    | 65      | \$28.28              | \$7.25 | \$3.35  | \$0.00                    | \$38.88    |
| 3    | 70      | \$30.46              | \$7.25 | \$3.41  | \$0.00                    | \$41.12    |
| 4    | 75      | \$32.63              | \$7.25 | \$4.98  | \$0.00                    | \$44.86    |
| 5    | 80      | \$34.81              | \$7.25 | \$5.04  | \$0.00                    | \$47.10    |
| 6    | 85      | \$36.98              | \$7.25 | \$5.11  | \$0.00                    | \$49.34    |
| 7    | 90      | \$39.16              | \$7.25 | \$7.17  | \$0.00                    | \$53.58    |

**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    |

**Notes:**

**Apprentice to Journeyworker Ratio:1:2**

TELEDATA CABLE SPLICER  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      01/01/2016      \$28.98      \$4.25      \$3.12      \$0.00      \$36.35

TELEDATA LINEMAN/EQUIPMENT OPERATOR  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      01/01/2016      \$27.31      \$4.25      \$3.07      \$0.00      \$34.63

TELEDATA WIREMAN/INSTALLER/TECHNICIAN  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      01/01/2016      \$27.31      \$4.25      \$3.07      \$0.00      \$34.63

TREE TRIMMER  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      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  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      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.



Office of the Superintendent  
Arlington High School  
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Arlington, MA 02476-0002

Telephone  
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(781) 316-3509

## CRIMINAL OFFENDER RECORD INFORMATION (CORI) ACKNOWLEDGEMENT FORM

**ARLINGTON PUBLIC SCHOOLS** is registered under the provisions of MGL c.6, §172 to receive CORI for the purpose of screening current and otherwise qualified prospective employees, subcontractors, volunteers, license applicants, current licensees, and applicants for the rental or lease of housing.

As a prospective or current employee, subcontractor, volunteer, license applicant, current licensee, or applicant for the rental or lease of housing, I understand that a CORI check will be submitted for my personal information to the DCJIS. I hereby acknowledge and provide permission to **ARLINGTON PUBLIC SCHOOLS** to submit a CORI check for my information to the DCJIS. This authorization is valid for one year from the date of my signature. I may withdraw this authorization at any time by providing **ARLINGTON PUBLIC SCHOOLS** with written notice of my intent to withdraw consent to a CORI check.

FOR EMPLOYMENT, VOLUNTEER, AND LICENSING PURPOSES ONLY: The **ARLINGTON PUBLIC SCHOOLS** may conduct subsequent CORI checks within one year of the date this form was signed by me provided, however, that **ARLINGTON PUBLIC SCHOOLS** must first provide me with written notice of this check.

By signing below, I provide my consent to a CORI check and acknowledge that the information provided on Page 2 of this Acknowledgement Form is true and accurate.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

*An Equal Opportunity School System with a High Commitment to Diversity*







Menotomy Preschool: 8:30-2:30  
 Elem School Hours: 8:10-2:30  
 OMS School Hours: 8:00-2:26  
 AHS School Hours: 8:00-2:26

Approved by School Committee June 11, 2015

**SEPTEMBER (15 days) 2015**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    | 1  | T  | T   | 4  |
| H  | EE | 9  | 10* | 11 |
| N  | EE | 16 | 17  | 18 |
| 21 | EA | N  | 24* | 25 |
| 28 | EE | 30 |     |    |

**OCTOBER (21 days) 2015**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    |    |    | 1   | 2  |
| 5  | EE | 7  | 8*  | 9  |
| H  | EE | 14 | 15  | 16 |
| 19 | EA | 21 | 22* | 23 |
| 26 | EE | 28 | 29  | 30 |

**NOVEMBER (17 days) 2015**

| M   | T  | W    | TH  | F  |
|-----|----|------|-----|----|
| PDN | EE | 4    | 5   | 6  |
| 9   | EA | H    | 12* | 13 |
| 16  | EE | 18   | 19* | 20 |
| 23  | EE | **25 | H   | N  |
| 30  |    |      |     |    |

**DECEMBER (17 days) 2015**

| M  | T   | W  | TH  | F  |
|----|-----|----|-----|----|
|    | EMS | 2  | 3   | 4  |
| 7  | EA  | 9  | 10* | 11 |
| 14 | EEC | 16 | 17* | 18 |
| 21 | EE  | 23 | H   | H  |
| V  | V   | V  | V   |    |

**JANUARY (19 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    |    |    |     | H  |
| 4  | EE | 6  | 7   | 8  |
| 11 | EA | 13 | 14* | 15 |
| H  | EE | 20 | 21  | 22 |
| 25 | EE | 27 | 28* | 29 |

**Teachers Return**  
 September 2 & 3, 2015

**First Day of School Grades 1-12**  
 Tuesday, September 8, 2015

**Kindergarten & Preschool First Day**  
 September 15, 2015

**PDN: Professional Development**  
**No School**  
 November 2, 2015

**\*\*Thanksgiving Break**  
 November 25, 2015 12 noon

**EE: Early Release Elementary 1:00**  
**(Lunch will be served)**  
 Every Tuesday

**EA: Early Release All Levels 1:00**  
**(Lunch will be served)**  
 September 22  
 October 20, AHS 12:00 dismissal  
 November 10  
 December 8, dismissal 11:15 No Lunch  
 January 12  
 March 1  
 April 5

**All Afternoon Conferences**  
**Lunch not served on days dismissal at 11:15**

Elementary December 8, dismissal 11:15  
 Elementary December 15, dismissal 11:15  
 Middle School December 1, dismissal 1:00  
 Middle School December 8, dismissal 11:15  
 High School October 20, dismissal 12:00

**All Evening Conferences**

Elementary December 10  
 Middle School November 19  
 Middle School December 9  
 High School October 20  
 High School October 29

**Arlington High School Graduation**  
 Saturday, June 4, 2016

**FEBRUARY (16 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
| 1  | EE | 3  | 4   | 5  |
| 8  | EE | 10 | 11* | 12 |
| H  | V  | V  | V   | V  |
| 22 | EE | 24 | 25* | 26 |
| 29 |    |    |     |    |

**MARCH (22 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    | EA | 2  | 3   | 4  |
| 7  | EE | 9  | 10* | 11 |
| 14 | EE | 16 | 17  | 18 |
| 21 | EE | 23 | 24* | N  |
| 28 | EE | 30 | 31  |    |

**APRIL (16 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    |    |    |     | 1  |
| 4  | EA | 6  | 7   | 8  |
| 11 | EE | 13 | 14* | 15 |
| H  | V  | V  | V   | V  |
| 25 | EE | 27 | 28* | 29 |

**MAY (21 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
| 2  | EE | 4  | 5   | 6  |
| 9  | EE | 11 | 12* | 13 |
| 16 | EE | 18 | 19  | 20 |
| 23 | EE | 25 | 26* | 27 |
| H  | EE |    |     |    |

**JUNE (16 days) 2016**

| M  | T  | W  | TH  | F  |
|----|----|----|-----|----|
|    |    | 1  | 2   | 3  |
| 6  | EE | 8  | 9*  | 10 |
| 13 | EE | 15 | 16  | 17 |
| 20 | EE | 22 | 23* | 24 |
| 27 | EE | 29 | 30  |    |

EA: Early Release All Levels  
 EE: Early Release Elem Level, every Tuesday  
 EMS: Early Release Elem & Middle  
 EEC: Early Elem Release Conferences  
 T: Teachers Only  
 PDN: Professional Development Day Teachers Only

H: Federal Holiday  
 V: Vacation  
 N: No School  
**June 22, 2016 is 180th day**  
**June 29, 2016 is 185th day**  
 (last day of school with 5 snow days)  
 \* School Committee meetings @ 6:30 p.m.  
 (\*June 23, if necessary)

## Arlington Public Schools 2015-2016 School Calendar - Holiday & Religious Observances

Arlington is enriched by the cultural and religious diversity of its community and teaching staff. The Arlington School Committee publishes this list to inform our community of days in which students and staff may be participating in observances with their families. Parents should inform teachers when observances may conflict with school activities, or if a holiday is not listed.

|                               |                                    |                             |
|-------------------------------|------------------------------------|-----------------------------|
| Monday, September 07, 2015    | Labor Day                          | National holiday            |
| Monday, September 14, 2015    | Rosh Hashana                       | Jewish holiday              |
| Wednesday, September 23, 2015 | Yom Kippur                         | Jewish holiday              |
| Thursday, September 24, 2015  | Eid al-Adha                        | Muslim                      |
| Monday, September 28, 2015    | First Day of Sukkot                | Jewish holiday              |
| Sunday, October 04, 2015      | Last Day of Sukkot                 | Jewish holiday              |
| Monday, October 05, 2015      | Shmini Atzeret                     | Jewish holiday              |
| Tuesday, October 06, 2015     | Simchat Torah                      | Jewish holiday              |
| Monday, October 12, 2015      | Columbus Day                       | Holiday                     |
| Thursday, October 15, 2015    | Muharram                           | Muslim                      |
| Saturday, October 31, 2015    | Halloween                          | Observance                  |
| Sunday, November 01, 2015     | All Saints' Day                    | Christian                   |
| Monday, November 02, 2015     | All Souls' Day                     | Christian                   |
| Wednesday, November 11, 2015  | Veterans Day                       | National holiday            |
| Wednesday, November 11, 2015  | Diwali/Deepavali                   | Observance                  |
| Thursday, November 26, 2015   | Thanksgiving Day                   | National holiday            |
| Monday, December 07, 2015     | Chanukah/Hanukkah (first day)      | Jewish holiday              |
| Tuesday, December 08, 2015    | Feast of the Immaculate Conception | Christian                   |
| Monday, December 14, 2015     | Last Day of Chanukah               | Jewish holiday              |
| Thursday, December 24, 2015   | Christmas Eve                      | Observance, Christian       |
| Friday, December 25, 2015     | Christmas Day                      | National holiday, Christian |
| Saturday, December 26, 2015   | Kwanzaa (until Jan 1)              | Observance                  |
| Thursday, December 31, 2015   | New Year's Eve                     | Observance                  |
| Friday, January 01, 2016      | New Year's Day                     | National holiday            |
| Wednesday, January 06, 2016   | Epiphany                           | Christian                   |
| Monday, January 18, 2016      | Martin Luther King Day             | National holiday            |
| Wednesday, February 10, 2016  | Ash Wednesday                      | Christian                   |
| Monday, February 15, 2016     | Presidents' Day                    | National holiday            |
| Sunday, March 20, 2016        | Palm Sunday                        | Christian                   |
| Thursday, March 24, 2016      | Holy Thursday                      | Christian                   |
| Thursday, March 24, 2016      | Purim                              | Jewish holiday              |
| Friday, March 25, 2016        | Good Friday                        | Observance, Christian       |
| Sunday, March 27, 2016        | Easter Sunday                      | Observance, Christian       |
| Monday, April 18, 2016        | Patriot's Day                      | Holiday                     |
| Saturday, April 23, 2016      | Passover (first day)               | Jewish holiday              |
| Friday, April 29, 2016        | Orthodox Good Friday               | Orthodox                    |
| Saturday, April 30, 2016      | Last Day of Passover               | Jewish holiday              |
| Sunday, May 01, 2016          | Orthodox Easter                    | Orthodox                    |
| Monday, May 30, 2016          | Memorial Day                       | National holiday            |
| Sunday, June 12, 2016         | Shavuot                            | Jewish holiday              |

\*Jewish holidays begin at sundown on the previous evening

| AUGUST 2016 |    |   |    |   |
|-------------|----|---|----|---|
| M           | T  | W | Th | F |
| 29          | 30 | T |    |   |

| SEPTEMBER (19 days) 2016 |    |    |     |    |
|--------------------------|----|----|-----|----|
| M                        | T  | W  | Th  | F  |
|                          |    |    | T   |    |
| H                        | S  | 7  | *8  | 9  |
| 12                       | EE | 14 | 15  | 16 |
| 19                       | EE | 21 | *22 | 23 |
| 26                       | EE | 28 | 29  | 30 |

| OCTOBER (18 days) 2016 |    |    |     |    |
|------------------------|----|----|-----|----|
| M                      | T  | W  | Th  | F  |
| N                      | EE | 5  | 6   | 7  |
| H                      | EE | N  | *13 | 14 |
| 17                     | EE | 19 | 20  | 21 |
| 24                     | EE | 26 | *27 | 28 |
| 31                     |    |    |     |    |

| NOVEMBER (18 days) 2016 |     |      |     |    |
|-------------------------|-----|------|-----|----|
| M                       | T   | W    | Th  | F  |
|                         | EE  | 2    | 3   | 4  |
| 7                       | PDN | 9    | *10 | H  |
| 14                      | EE  | 16   | *17 | 18 |
| 21                      | EE  | **23 | H   | N  |
| 28                      | EE  | 30   |     |    |

| DECEMBER (17 days) 2016 |    |    |     |    |
|-------------------------|----|----|-----|----|
| M                       | T  | W  | Th  | F  |
|                         |    |    | 1   | 2  |
| 5                       | EE | 7  | *8  | 9  |
| 12                      | EE | 14 | 15  | 16 |
| 19                      | EE | 21 | *22 | 23 |
| H                       | V  | V  | V   | V  |

| JANUARY (20 days) 2017 |    |    |     |    |
|------------------------|----|----|-----|----|
| M                      | T  | W  | Th  | F  |
| H                      | EE | 4  | 5   | 6  |
| 9                      | EE | 11 | *12 | 13 |
| H                      | EE | 18 | 19  | 20 |
| 23                     | EE | 25 | *26 | 27 |
| 30                     | EE |    |     |    |

**T= Teachers Return**  
 August 31 & September 1, 2016

**S = Grades 1-12 First Day of School**  
 Tuesday, September 6, 2016

**Kindergarten & Preschool Start**  
 September 12, 2016

**N= No School**

**PDN= Professional Development (No School Students) Election Day**  
 November 8, 2016

**\*\*Thanksgiving Break**  
 November 23, 2016 @12 noon

**Arlington High School Graduation**  
 Saturday, June 3, 2017

**TBD:**

**EA: Early Release Days All Levels**

**EE: Early Release Elementary**  
 Every Tuesday at 1:00 PM  
 (Lunch will be served)

**EMS: Early Release Elem & Middle School**

**Arlington High School Evening Conferences**

**EAC: Early Release All Conferences**

**Ottoson Middle School Evening Conferences**

**Ottoson Middle School Morning Conference**

**Elem Grades K-5 Evening Conferences**

**EEC: Early Release Elem Conferences**

**NOTE: Conference dates and middle and high school release days will be added and voted on in late spring.**

| FEBRUARY (15 days) 2017 |    |    |    |    |
|-------------------------|----|----|----|----|
| M                       | T  | W  | Th | F  |
|                         |    | 1  | 2  | 3  |
| 6                       | EE | 8  | *9 | 10 |
| 13                      | EE | 15 | 16 | 17 |
| H                       | V  | V  | V  | V  |
| 27                      | EE |    |    |    |

| MARCH (23 days) 2017 |    |    |     |    |
|----------------------|----|----|-----|----|
| M                    | T  | W  | Th  | F  |
|                      |    | 1  | 2   | 3  |
| 6                    | EE | 8  | *9  | 10 |
| 13                   | EE | 15 | 16  | 17 |
| 20                   | EE | 22 | *23 | 24 |
| 27                   | EE | 29 | 30  | 31 |

| APRIL (14 days) 2017 |    |    |     |    |
|----------------------|----|----|-----|----|
| M                    | T  | W  | Th  | F  |
|                      |    |    |     |    |
| 3                    | EE | 5  | 6   | 7  |
| 10                   | EE | 12 | *13 | N  |
| H                    | V  | V  | V   | V  |
| 24                   | EE | 26 | *27 | 28 |

| MAY (22 days) 2017 |    |    |     |    |
|--------------------|----|----|-----|----|
| M                  | T  | W  | Th  | F  |
| 1                  | EE | 3  | 4   | 5  |
| 8                  | EE | 10 | *11 | 12 |
| 15                 | EE | 17 | 18  | 19 |
| 22                 | EE | 24 | *25 | 26 |
| H                  | EE | 31 |     |    |

| JUNE (14 days) 2017 |    |    |     |    |
|---------------------|----|----|-----|----|
| M                   | T  | W  | Th  | F  |
|                     |    |    | 1   | 2  |
| 5                   | EE | 7  | *8  | 9  |
| 12                  | EE | 14 | 15  | 16 |
| 19                  | EE | 21 | *22 | 23 |
| 26                  | 27 | 28 | 29  | 30 |

T: Teachers Only  
 S: Students First Day of School, Grade 1-12  
 N: No School  
 PDN: Professional Development Day Teachers Only  
 H: Federal Holiday  
 V: Vacation

EE: Early Release Elem Every Tuesday @ 1:00 PM  
 EA: Early Release All Levels  
 EMS: Early Release Elem & Middle  
 EEC: Early Elem Release Conferences  
 EAC: Early Release All Levels Conferences  
 TBD: To Be Determined  
**June 20, 2017 is 180th day**  
**June 27, 2017 is 185th day w/5 snow days**  
 \* School Committee meetings @ 6:30 p.m.  
 Second and Fourth Thursday Sept - June

## Arlington Public Schools 2016-2017 School Calendar Religious Observances

Arlington is enriched by the cultural and religious diversity of its community and teaching staff.

The Arlington School Committee publishes this list to inform our community of days in which students and staff may be participating in observances with their families. Parents should inform teachers when observances may conflict with school activities, or if a holiday is not listed.

|                             |                                    |                             |
|-----------------------------|------------------------------------|-----------------------------|
| Monday, September 5, 2016   | Labor Day                          | National holiday            |
| Sunday, September 11, 2016  | Eid al-Adha                        | Muslim                      |
| Sunday, October 2, 2016     | Muharram                           | Muslim                      |
| Monday, October 3, 2016     | Rosh Hashanah                      | Jewish holiday              |
| Monday, October 10, 2016    | Columbus Day                       | National holiday            |
| Wednesday, October 12, 2016 | Yom Kippur                         | Jewish holiday              |
| Monday, October 17, 2016    | First Day of Sukkot                | Jewish holiday              |
| Monday, October 24, 2016    | Shmini Atzeret                     | Jewish holiday              |
| Tuesday, October 25, 2016   | Simchat Torah                      | Jewish holiday              |
| Sunday, October 30, 2016    | Diwali/Deepavali                   | Observance                  |
| Monday, October 31, 2016    | Halloween                          | Observance                  |
| Tuesday, November 1, 2016   | All Saints' Day                    | Christian                   |
| Wednesday, November 2, 2016 | All Souls' Day                     | Christian                   |
| Friday, November 11, 2016   | Veterans Day                       | National holiday            |
| Thursday, November 24, 2016 | Thanksgiving Day                   | National holiday            |
| Thursday, December 8, 2016  | Feast of the Immaculate Conception | Christian                   |
| Saturday, December 24, 2016 | Christmas Eve                      | Observance, Christian       |
| Sunday, December 25, 2016   | Chanukah/Hanukkah (first day)      | Jewish holiday              |
| Sunday, December 25, 2016   | Christmas Day                      | National holiday, Christian |
| Monday, December 26, 2016   | Kwanzaa (until Jan 1)              | Observance                  |
| Saturday, December 31, 2016 | New Year's Eve                     | Observance                  |
| Sunday, January 1, 2017     | New Year's Day                     | National holiday            |
| Friday, January 6, 2017     | Epiphany                           | Christian                   |
| Monday, January 16, 2017    | Martin Luther King Day             | National holiday            |
| Monday, February 20, 2017   | Presidents' Day                    | National holiday            |
| Wednesday, March 1, 2017    | Ash Wednesday                      | Christian                   |
| Sunday, March 12, 2017      | Purim                              | Jewish holiday              |
| Sunday, April 9, 2017       | Palm Sunday                        | Christian                   |
| Tuesday, April 11, 2017     | Passover (first day)               | Jewish holiday              |
| Thursday, April 13, 2017    | Holy Thursday                      | Christian                   |
| Friday, April 14, 2017      | Good Friday                        | Christian                   |
| Sunday, April 16, 2017      | Easter Sunday                      | Observance, Christian       |
| Sunday, April 16, 2017      | Orthodox Good Friday               | Orthodox                    |
| Sunday, April 16, 2017      | Orthodox Easter                    | Orthodox                    |
| Monday, April 17, 2017      | Patriot's Day                      | Observance                  |
| Tuesday, April 18, 2017     | Last Day of Passover               | Jewish holiday              |
| Monday, May 29, 2017        | Memorial Day                       | National holiday            |
| Wednesday, May 31, 2017     | Shavuot                            | Jewish holiday              |

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SECTION 01 11 00  
SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Without limitation, the Project includes following:
1. Converting a portion of the existing Arlington High School offices and toilet space into a Pre-K classroom with an accessible toilet room. The Work includes, but is not limited to, asbestos abatement, selective demolition, cutting & patching, interior partitions, interior doors and sidelights, interior finishes, and associated plumbing, HVAC, and electrical work all as indicated on Drawings and/or as specified herein the Specifications.
- B. Completeness: The Work shall be as shown on the Contract Documents and in conformance with all applicable requirements of the governing laws and codes, and be complete and functional in every respect for intended uses.
1. **All Work mentioned or indicated in the Contract Documents shall be provided as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be provided by others. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. For example, any item indicated in the Specifications which is omitted from the Drawings or vice versa shall be construed as though contained in both. Should the Drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of Work unless otherwise directed by written addendum to the Contract.**

1.2. SUBSTANTIAL COMPLETION DATE:

- A. The successful bidder, upon execution of the Contract shall commence the Work of the Contract Agreement within seven (7) calendar days after said execution of the Contract Agreement, and shall thereafter diligently and continuously carry on the Work in such manner as to substantially complete the Work of this Contract on or before **August 19, 2016**.

1.3 CONTRACTOR'S USE OF PREMISES

- A. Prior to beginning work of the Contract, the Contractor shall meet with the Owner to determine procedures regarding access to and use of site, staging, parking, and storage areas, special site conditions, hours of operations, truck routes and any other restrictions regarding the use of the site areas surrounding the construction.
- B. The Contractor shall keep all public and private access roads and walks clear of debris caused by this work during the entire term of the Contract. At no additional cost to the Owner, the Contractor shall repair all public and private streets, drives, curbs, walks, site work, interior finishes, other improvements and existing construction where disturbed by work of, or related to, construction operations under this Contract, leaving them in as good condition after completion of the work as before construction operations started.
- C. Emergency access roads, fire-lanes and means of egress on and about the work area shall be kept open and free at all times, for passage of emergency vehicles.

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- D. Contractor shall observe local applicable noise ordinances and endeavor at all times to maintain as low a level of construction noise as practicable in order not to create a disturbance in the neighborhood. Particular care shall be exercised to reduce noise when the building is in normal use.
1. All workers on the project are required to conduct themselves in a professional manner. Abusive or obscene language will not be tolerated. No obscene gestures, whistles, or 'cat-calls' will be allowed. No soliciting or harassing students, faculty, staff or visitors for any reason. All personnel associated with the Work, are expressly prohibited from speaking with or touching any student at any time; the sole exception to this shall be in cases of dire emergency where it may be necessary to guide people to safety. The Owner reserves the right to have any worker barred from the school site.
  2. Smoking, use of alcohol or non-prescription drugs on school property is strictly prohibited.
  3. Workers on site shall wear proper attire and required safety gear at all times.

1.4 **OWNER'S OCCUPANCY OR USE**

- A. If the Project or any portion thereof is occupied or used by the Owner, such occupancy or use shall be predicated upon the following conditions.
1. The Contractor will not be required to pay maintenance costs on the portion of the Project occupied under this Agreement, nor shall he be responsible for wear and tear or damage resulting from such occupancy.
  2. In case of partial occupancy or use prior to the Substantial Completion date, the Owner shall secure endorsement from the Contractor's insurance carrier and consent of the Surety permitting such occupancy or use during the remaining period of construction.
  3. In the event of partial occupancy or use after the Substantial Completion date, the Contractor shall extend all necessary insurance coverage until Final Acceptance of the Project. Owner's use and occupancy prior to Final Acceptance shall not relieve the Contractor of his responsibility to maintain the insurance coverage required by the Contract Documents.
  4. In the event of any such partial occupancy or use, the periods of guarantees called for by the Contract Documents shall not commence until Substantial Completion of all work of the Contract.
  5. The Contractor shall make all arrangements with, and coordinate all construction schedules with the Owner at all times during the course of the work.

**END OF SECTION**

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**SECTION 01 31 13  
PROJECT COORDINATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies supervisory and administrative requirements for coordination of Work, including, but not limited to:
  - 1. Coordination by contractor.
  - 2. Coordination Drawings.
  - 3. Existing utilities.
  - 4. Cutting and patching.
  - 5. Expedition of the Work to assure compliance with schedules.

**1.2 COORDINATION BY THE CONTRACTOR**

- A. The Contractor shall be responsible for the management, supervision and coordination of the work of the entire Contract and shall be responsible to identify areas where the installation of work will be restricted, congested or difficult for any reasons. Consult the various affected trades and prepare Coordination Drawings of these areas. Failure to identify "problem" areas or to prepare to work out the same shall be the responsibility of the Contractor, and all necessary re-working and/or relocation of the installed elements resulting from failure to provide sufficient spaces, clearances, etc., shall be provided without additional cost to the Owner.
- B. Coordination Drawings are for the Contractor and the various Subcontractors' use during construction and shall not be construed as replacing any Shop Drawings or Record Drawings required elsewhere in the Contract Documents.

**1.3 COORDINATION DRAWINGS**

- A. General: The Contractor shall prepare Coordination Drawings for areas where close and careful coordination of various affected trades is required. The Contractor shall be fully responsible for coordinating trades, coordinating construction sequence and schedules, and coordinating actual installed location and interface of work.
- B. Timing: Prior to fabricating materials or beginning work, the Contractor shall supervise and direct the production of one complete set of Coordination Drawings showing complete coordination and integration of work.
- C. Contractor shall carefully review field conditions and modify Coordination Drawings in cooperation with affected Subcontractors to assure conflicts are resolved before work in field is begun.

**1.4 EXISTING UTILITIES**

- A. Modifications or extensions of the existing utility service systems, where applicable, shall be done under the direct observation of the Owner's Representative. All tests in connection with this work shall be witnessed by authorized personnel of the Contractor and the Owner's Representative.
- D. When an existing utility line must be cut and plugged or capped, moved, or relocated, or has become damaged the Contractor shall notify the Owner and the Utility company involved, and assure the protection, support, or moving of utilities to adjust them to the new work. The Contractor shall be responsible for all damage caused to existing active



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utilities under the work of this Contract, including resultant damages or injuries to persons or properties.

**1.5 CUTTING AND PATCHING**

- A. The Contractor shall coordinate and perform, or assign to the appropriate trade, all cutting, fitting, or patching as specified in Division 01 Section "Cutting and Patching".
- B. The Contractor shall provide all sheeting, shoring, bracing, underpinning, reinforcement and other temporary supports as may be required to maintain the integrity of, and prevent damage to, any structure or finish to be subjected to cutting work, and shall patch to restore to sufficient final strength, and acceptable appearance.

**1.6 EXPEDITION OF THE WORK TO ASSURE COMPLIANCE WITH SCHEDULES**

- A. Coordinate appropriate schedule recovery actions may include, but not be limited to any of the following: assignment of additional labor, Subcontractors, or construction equipment; Work during other than normal working hours subject to other requirements in the Contract Documents; expediting of submittals or deliveries; or any combination of any of them. Overlapping or re-sequencing of activities shall be appropriate only if properly substantiated in the schedule recovery plan.

**END OF SECTION**

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**SECTION 01 31 19  
PROJECT MEETINGS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies administrative and procedural requirements for the Project Meetings, including but not limited to:
  - 1. Pre-Construction and Pre-Installation Conferences.
  - 2. Progress Meetings.
  - 3. Coordination Meetings.
  - 4. Special Meetings.
- B. Representatives of the Contractor, Subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The Architect or the Owner may attend meetings to ascertain that the Work is expedited consistent with Contract Documents and Construction Schedules.

**1.2 PROJECT MEETINGS, GENERAL**

- A. Meeting Notices: The Contractor shall prepare and distribute written notices of Project Meetings with a meeting agenda in advance of each meeting.
- B. The Contractor shall facilitate all Project Meetings.
- C. Minutes: The Contractor shall record minutes of Project Meetings, including significant procedures and decisions.
  - 1. Distribution of Minutes: The Contractor shall provide meeting minutes, after each meeting, to participants of meeting, and to parties affected by decisions made at meetings.
  - 2. Review and Revision of the Minutes: The Architect will review the minutes at subsequent meetings, and revise minutes as required.

**1.3 PRE-CONSTRUCTION CONFERENCE**

- A. Pre-Construction meeting will be scheduled within 7 days after date of the Agreement. The Contractor's attendance is required.
- B. Attendance:
  - 1. Owner's Representatives.
  - 2. Architect.
  - 3. Contractor's Project Manager and Superintendent.
  - 4. Others as directed by the Architect.
- C. Suggested Agenda:
  - 1. Contractor Directory.
  - 2. Contractor's projected Construction Schedule, critical work sequencing, major deliveries and priorities.
  - 3. Project Coordination and communication including designation of responsible personnel.
  - 4. Contract administration Procedures.

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5. Use of premises:
6. Construction facilities, controls, and construction aids.
7. Use of Owner's power and other utilities.
8. Safety and security procedures.
9. Housekeeping procedures.

**1.4 PRE-INSTALLATION CONFERENCE**

- A. Conduct pre-installation conference at site prior to construction activities that require coordination. Installers, manufacturer's representatives, and fabricators of materials or systems affected shall be required to attend. Advise the Owner and the Architect of scheduled meeting dates.
- B. Do not allow affected work to proceed if the conference cannot be successfully concluded. Initiate actions necessary to resolve impediments to performance of the work and reconvene the conference at the earliest feasible date.

**1.5 PROGRESS MEETINGS**

- A. Schedule regular progress meetings, at regularly scheduled day and time.
- B. Location of the meetings: Project site.
- C. Attendance: As directed by the Architect, notify the following to attend:
  1. Contractor's Project Manager and Superintendent.
  2. Owner or his Representatives.
  3. Architect or his designated representative.
  4. Others as directed by the Architect.
- D. Suggested Agenda:
  1. Review and approval of minutes of previous meeting.
  2. Review of Work progress since previous meeting.
  3. Field observations, problems, conflicts.
  4. Review Construction Schedule.
  5. Review submittal schedules; expedite as required.
  6. Maintenance of quality standards.
  7. Review proposed changes and substitutions.

**1.6 COORDINATION MEETINGS**

- A. Contractor shall conduct Coordination Meetings as necessary to properly coordinate the work of all trades. At Contractor's discretion, require representation of trades involved in coordination or planning of activities involved.

**1.7 SPECIAL MEETINGS**

- A. Conduct Special Meetings as required throughout the course of the Work. Special meeting issues may include, but are not limited to:
  1. Safety issues.
  2. Labor issues.
  3. Special schedule issues.

**END OF SECTION**

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**SECTION 01 33 00  
SUBMITTAL PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies administrative and procedural requirements for submittals required for performance of Work, including, but not limited to:
  - 1. Construction Progress Schedules.
  - 2. Schedule of Values.
  - 3. Submittal schedule.
  - 4. Shop Drawings.
  - 5. Product Data.
  - 6. Samples.
  
- B. Administrative Submittals: Refer to requirements specified in other Division 01 Specification Sections, and other Contract Documents, for administrative submittals, including, but not limited to:
  - 1. Permits.
  - 2. Applications for payment.
  - 3. Payment bonds.
  - 4. Insurance certificates.
  - 5. List of subcontractors.

**1.2 SUBMITTAL PROCEDURES**

- A. The Architect will review Product Data, Shop Drawings, Samples, and similar submittals two times: once upon original submission and a second time if a revisions or corrections are requested by the Architect. Submittals not initially approved by the Architect shall be corrected by the Contractor prior to the second submittal.
  - 1. The Contractor shall pay the Architect at \$125/hour for reviewing Product Data, Shop Drawings, Samples, or similar submittals which have to be revised and resubmitted after the second review by the Architect.
  - 2. The Contractor shall also pay the Architect at \$125/hour for evaluating deviations and substitutions proposed by the Contractor, for making revisions to the Contract Documents on account thereof, responding to requests for information and providing other services on account of such proposed deviations or substitutions, all regardless of whether such proposed deviations or substitutions are approved or rejected.
  
- B. Coordination of Submittals: Coordinate preparation and processing of submittals with related construction activities. Transmit submittals sufficiently in advance of performance of Work, including related construction activities, to avoid delays. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related pertinent activities that require sequential activity.
  - 1. The Architect may reject, or withhold action on submittals requiring coordination with other submittals until related submittals are received.
  
- C. Processing of Submittals: Allow sufficient review time to ensure installation will not be delayed because of time required to process submittals. Minimum processing times are as follows:

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1. Review by the Architect's Office Only: Allow at least ten (10) business days for review and processing.
  2. Review by the Architect and the Consultant: Allow at least ten (10) business days for review and processing of submittals by Architect, and at least an additional five (5) business days for review by each consultant.
  3. Reprocessing of Submittals: For submittals not approved initially, allow at least ten (10) business days for review and reprocessing of submittals by Architect, and at least an additional five (5) business days for review by each consultant.
  4. No extension of Contract Time will be authorized due to failure to transmit submittals sufficiently in advance of scheduled performance of Work.
- D. Contractor's Preparation of Submittals: Review and submit each submittal with a transmittal form. Place permanent label or title block on each submittal for identification. Indicate Project Name, Project Number, Specification Section number and title, date of submittal, name and address of Architect, name and Address of the Contractor, name and address of the Subcontractor and/or supplier, name and address of manufacturer, Drawing number and detail reference.
1. Contractor's Review and Action Stamp: Provide suitable space on label or title block for Contractor's review and action stamp. Stamp and sign each submittal to show the Contractor's review and approval prior to transmittal to the Architect. Submittals not signed and stamped by Contractor will be returned without action.
  2. The Architect's Review and Action Stamp: Provide minimum 4 in. x 4 in. space on label or title block for the Architect's review and action stamp. Deliver submittals to the Architect at address listed on cover of Project Manual.
  3. Modify and customize submittals as required to show interface with adjacent work and attachment to building.
- E. Transmittal of Submittals: Transmit each item with a transmittal form. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate, on transmittal form.
1. Source: Submittals received from sources other than the Contractor will be returned without action.
  2. Deviations from Contract Documents: When products, materials, or systems submitted deviate from Contract Documents, record deviations clearly on transmittal form with separate attached sheet as necessary.
- F. Comply with progress schedule for submittals related to Work progress.
- G. After Architect reviews submittal, revise and resubmit as required. Identify changes made since previous submittal. Changes not marked will be treated as having not been made, even if change is consistent with Contract Documents.
- H. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report inability to comply with provisions.

1.3 CONSTRUCTION PROGRESS SCHEDULE

- A. Timing: Present Construction Progress Schedule at the Pre-Construction Meeting for Owner and Architect's review Update the schedule monthly with Payment Applications.
- B. Preparation of Construction Progress Schedule: Prepare individual fully developed, construction schedule identify milestones on a critical path.

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- C. Distribution: Print and distribute Construction Progress Schedule to the Architect, the Owner, Subcontractors, and other parties affected. Post copies in field. Instruct recipients to report promptly to the Contractor in writing problems apparent from projections shown on schedule.
- D. Revisions: Update and reissue Construction Progress Schedule, along with baseline comparison, monthly in conjunction with Application for Payment. Submit remedial action plans to the Architect each month to eliminate conditions that may cause delay to the Project.

1.4 SHOP DRAWINGS

- A. Provide accurately prepared, large scale and detailed shop drawings prepared specifically for this Project on reproducible sheets. Show adjacent conditions and related work. Show accurate field dimensions where appropriate. Identify materials and products shown. Note special coordination required. Standard information prepared without specific reference to Project is not considered shop drawings.
- B. Shop drawings include fabrication and installation drawings, including but not limited to plans, elevations, sections, details, setting diagrams, schedules, patterns, templates, and similar drawings.
- C. Show every component of fabricated item, notes regarding manufacturing process, coatings and finishes, identifying numbers conforming to Contract Documents (i.e. stair numbers, door numbers, etc.), dimensions, and appropriate trade names. Show anchorage and fastening details, including type, size and spacing. Show material gage and thickness. Indicate welding details and joint types.
- D. Shop Drawing Sheet Size: Except for templates, patterns, and other full-size drawings, submit shop drawings on sheets at least 8-1/2 in. x 11 in., but no larger than 30 in. x 42 in.
- E. Submittal Quantities: Submit shop drawings in following quantities:
  - 1. Architectural: For shop drawings submitted for Architect's review, submit one reproducible and two black line print of each sheet.
  - 2. Consultants: For shop drawings that require Consultant's review, submit one reproducible and three black line prints of each sheet.

1.5 PRODUCT DATA

- A. Definition: Product data includes manufacturers standard published literature, such as installation instructions, catalog cuts, color charts, rough-in diagrams, wiring diagrams and Material Safety Data Sheet. When product data must be prepared specifically because standard published data is not suitable for use, submit as shop drawing.
- B. Preparation: Mark each copy of product data to show applicable choices and options. Where published product data includes information on several products and choices, mark copies to clearly indicate information applicable to this Project.
- C. Do not submit product data until compliance with requirements of Contract Documents has been confirmed.
- D. Submittal Quantities: Submit product data in following quantities:
  - 1. Architectural Work: Submit number of copies required by the Contractor, plus additional two (2) copies to be retained by the Architect.

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2. Consultant's Work: Submit number of copies required by the Contractor, plus an additional one (1) copy to be retained by the Consultant, and an additional three (3) copies to the Architect. Forward copy of transmittal to the Consultant. The Consultant's review and comments will be made on copies returned to Architect, who will forward them to Contractor.
- E. Installer Copy: Verify that installer of Work possesses a current copy of Architect-approved product data prior to installation.

**1.6 SAMPLES**

- A. Submit samples identical with materials and products to be installed. Where indicated, prepare samples to match Architect's sample. Label sample with description, source, manufacturer's name, and catalog number. Submit samples along with certifications that products comply with referenced standards.
- B. Architect Review: Architect will review samples for confirmation of visual intent, color, pattern, texture, and type. Architect will not test samples for compliance with other specified requirements, which shall remain exclusive responsibility of the Contractor.
- C. Submittal Quantities: When variation in color, pattern, or texture can be expected in finish work, submit multiple samples (minimum of three) to show approximate limits of variations. Submit samples in following quantities:
  1. Initial Selection: For initial selection of color, texture, and pattern, submit one full set of manufacturer's available samples.
  2. Verification Samples: Submit three sets of samples selected. One set will be returned to Contractor for use at Project Site for quality control comparisons.
- D. Distribution: Distribute additional sets of approved samples to subcontractors, suppliers, installers, and others required for proper performance of Work. Indicate distribution on transmittal forms.

**1.7 SCHEDULE OF VALUES**

- A. Timing: Present Schedule of Values allocated to the various portions of the Work at the Pre-Construction Meeting for Owner and Architect's review and prior to the submission of the first Payment Application.
- B. When requested by the Architect, submit substantiating data supporting the values submitted.
- C. Intent: Unless objections are stated by the Architect, the Schedule of Values will be used as the basis for the Contractor's Applications for Payment.
- D. Form and Content of Schedule of Values: Type schedule on 8-1/2 in. x 11 in. white paper. Contractor's standard forms and automated printout will be considered for approval by the Architect upon Contractor's request. Identify schedule with title of Project and location, project number, name and address of the Architect, name and address of the Contractor, Contract designation, and date of submission.
  1. Line Item Categories: Follow the Table of Contents of Project Manual for major category items. Further sub-divide the major categories into smaller portions of the work as approved by Owner and Architect.
  2. List installed value of component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- E. Sub-Values: For each major line item, list sub-values of major products or operations under the item.

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- F. Overhead and Profit: For the various portions of the Work, include a directly proportional amount of the Contractor's overhead and profit.
- G. Stored Material: For items on which progress payments will be requested for stored materials, break down the value into the following sub-values:
  - 1. The cost of material, delivered and unloaded at Project Site, with taxes paid.
  - 2. Installation cost including overhead and profit.
- H. The sum of all values listed in the schedule shall equal the total Contract Sum.'

1.8 ARCHITECTS ACTION

- A. General: Architect will review submittals, stamp and indicate action, and return to Contractor. Architect will review submittals for conformance with design intent only. Architect's review and approval of submittals shall be held to limitations stated in the Conditions of the Contract. In no case shall approval or acceptance by Architect be interpreted as release of Contractor of responsibility to fulfill requirements of Contract Documents. No acceptance or approval of submittals, nor any indication or note marked by Architect on submittals, shall constitute authorization for increase in Contract Sum.
  - 1. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Owner and the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications, and neither the Owner nor the Architect shall be expected to make an independent examination with respect to the performance of such materials, systems or equipment.
- B. Action Stamp: Architect will stamp each submittal with an action stamp. Stamp sample is indicated below:

---

|  |  |
|--|--|
| <input type="checkbox"/> Approved            | <input type="checkbox"/> Approved As Noted |
| <input type="checkbox"/> Revise and Resubmit | <input type="checkbox"/> Not Approved      |

Architects review is only for general conformance with design concept and compliance with requirements of Contract Documents. Review is based on Contractor's representation that he has checked and approved this submittal and has verified dimensions, quantities, field dimensions, relation to existing work, coordination with work to be installed later, and coordination with information in previously approved submittals. Accuracy of all such information is responsibility of the Contractor. Approval does not authorize, or relieve the Contractor of responsibility for deviations from drawings, specifications, supplementary documents furnished by the Architect, or previously approved submittals unless the Contractor has, in writing, called the Architect's attention to such deviations at the time of submittal. The Contractor is solely responsible for the accuracy of all information in the submittal and for details of fabrication and installation. Refer to Contract Documents for further submittal requirements and limitations on scope of the Architect's review.

DRUMMEY ROSANE ANDERSON, INC.

Date: \_\_\_\_\_ By: \_\_\_\_\_

- C. Stamp indicates action taken as follows:
  - 1. "APPROVED": No corrections, no marks: Resubmission not required.



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2. "APPROVED AS NOTED": Minor amount of corrections; all items may be fabricated without further corrections to original submittal; checking is complete and all corrections are deemed obvious without ambiguity. Resubmission not required.
  3. "REVISE AND RESUBMIT": Minor corrections required; items noted shall not be fabricated until further corrections of original submittal is completed and Architect-approval is obtained; checking is complete; clarify details of items noted by checker for approval; items without marks may be fabricated without further submittal. Resubmission required.
  4. \*NOT APPROVED": Submittal does not conform to Contract Documents, and requires too many corrections, or is rejected for other justifiable reasons. Architect will state reasons for rejection. Correct and resubmit. Do not fabricate.
- D. Other Action: Submittal for information or record purposes will be returned with no action marked.
- E. Required Resubmittals: Make corrections or changes to submittals required by Architect and resubmit until approved. Revise initial shop drawings or product data, and resubmit as specified for initial submittal. Indicate changes made other than those requested by Architect. Submit new samples as required for initial submittal.
- 1.9 DISTRIBUTION BY CONTRACTOR
- A. Distribution: When submittal is marked "APPROVED", or "APPROVED AS NOTED", make prints and copies and distribute to the Subcontractors, suppliers, fabricators, and other parties requiring information from submittal for proper coordination and performance of the Work. Print copies of shop drawings from approved reproducible only.

**END OF SECTION**

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**SECTION 01 41 00  
REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 DEFINITIONS**

- A. Regulations include laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, and rules, conventions and agreements within the construction industry that control performance of the Work, whether lawfully imposed by authorities having jurisdiction or not.

**1.4 REGULATIONS**

- A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable regulatory requirements have the same force and effect as if bound or copied directly into the Contract Documents. Such regulatory requirements are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with the regulatory requirements in effect as of the date of the Contract Documents unless a specific date is indicated in the Contract Documents or the governing regulations cited herein.
- C. Conflicting Requirements: Where compliance with two or more requirements is specified and the regulatory requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent and highest quality requirement. Request a decision from the Architect before proceeding on requirements that are different but apparently equal, and where it is uncertain which requirement is the most stringent.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum acceptable. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Request a clarification from the Architect regarding uncertainties before proceeding.
- D. Copies of Regulations: Each entity engaged in construction on the Project is required to be familiar with regulatory requirements applicable to its construction activity. Copies of applicable regulations are not bound with the Contract Documents.
  - 1. Where copies of regulations are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.

**1.5 GOVERNING REGULATIONS AND AUTHORITIES**

- A. Obtain copies of the latest applicable State Codes and Regulations including but not limited to the following regulations and retain at the Project Site to be available for reference by parties who have a reasonable need during submittals, planning, and progress of the Work, until Substantial Completion.
  - 1. 780 CMR - Massachusetts State Building Code.

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2. International Building Code / 2009.
3. International Existing Building Code / 2009.
4. 248 CMR 10.00 - Massachusetts Uniform State Plumbing Code.
5. 527 CMR 12.00 - Massachusetts Electrical Code / National Electric Code / NFPA 70-2014.
6. 527 CMR 1.00 - Massachusetts Comprehensive Fire Safety Code / NFPA 1-2012.
7. International Mechanical Code / 2009.
8. International Plumbing Code / 2009.
9. International Energy Conservation Code / 2009.
10. NFPA 101.
11. 521 CMR - Massachusetts Architectural Access Board Regulations.
12. United States Department of Justice, N<sup>o</sup> 28 CFR Part 36 - Americans With Disabilities Act, (Public Law 101-336).
13. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities / 2009.
14. OSHA 29 CFR Part 1910 Occupational Safety and Health Regulations/1999.
15. OSHA 29 CFR Part 1926 Occupational Safety and Health Regulations for Construction/1999.
16. Local zoning bylaws.
17. Local wetland regulations, including but not limited to applicable Order of Conditions.
18. All other applicable local, state and federal laws, codes, regulations, and ordinances.

B. Trade Union Jurisdictions: Maintain current information on jurisdictional matters, regulations, actions and pending actions; and administer/supervise performance of Work in a manner which will minimize possibility of disputes, conflicts, delays, claims or losses.

C. Wage and hour rates: refer to Division 00 Section "Massachusetts Prevailing Wage Laws".

D. For Massachusetts State Building Code and how it can be obtained see <http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html> (The Official Website of the Executive Office of Public Safety and Security).

#### 1.6 SUBMITTALS

A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents.

#### **PART 2 - PRODUCTS**

[Not Used]

#### **PART 3 - EXECUTION**

[Not Used]

**END OF SECTION**

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**SECTION 01 50 00**  
**TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. This Section specifies temporary construction facilities and controls, including, but not limited to:
  - 1 Temporary utilities.
  - 2 Temporary construction and support facilities.
  - 3 Protection facilities.
  - 4. Any other means, methods, equipment and aids Contractor may deem necessary for the execution of the Work.
  - 5. Maintaining all services to Owner-occupied areas at all times.

1.2 REFERENCES

- A. Comply with requirements of authorities having jurisdiction, codes, OSHA, and industry standards including, but not limiting to the following. Where these standard conflict with other specified requirements, the most restrictive requirements shall govern.
  - 1 American National Standards Institute (ANSI):
    - A10 Safety Requirements for Construction and Demolition.
  - 2 National Electrical Contractors Association (NECA):
    - NJG-6 Temporary Job Utilities and Services
  - 3 National Fire Protection Association (NFPA):
    - 70 National Electrical Code
    - 241 Building Construction and Demolition Operations
  - 4. NEMA and UL standards

1.3 PROJECT CONDITIONS

- A. Conditions of Use: Maintain temporary facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload temporary facilities. Do not allow hazardous, dangerous, or unsanitary conditions to develop on site.
- B. Maintain the continuity of all temporary or permanent utility services at all times unless otherwise directed by the Owner.

1.4 QUALITY ASSURANCE

- A. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits
- B. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines; ICC/ANSI A117.1; and 521 CMR - Massachusetts Architectural Access Board Regulations.
- C. Maintaining required means of egress for all Owner-occupied areas in accordance with 780 CMR - Massachusetts State Building Code.
- D. Dust- and HVAC-Control Measure: Submit plans and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time

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frame for their installation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions.
2. HVAC system isolation methods.
3. Waste handling procedures.
4. Other dust-control measures.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS, GENERAL**

- A. Temporary materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- C. Dust-Control Adhesive-Surface Walk-off Mats: min. 20" x 30" size Dirt Catcher Super Sticky Mat by 3M.

### **2.2 PROTECTION OF THE EXISTING CONSTRUCTION, FURNISHINGS AND FINISHES**

- A. Where necessary, fully cover and protect the existing construction, furnishings and finishes with heavy duty cotton drop clothes or plastic sheeting to prevent any damages or soiling resulted from performing the Work of this Contract.
  1. **Contractor shall cover the entire floor surfaces of the access routes used for construction but outside of the designated construction areas with heavyweight non-staining 46 mil Ram Board, taping the edges to maintain position. Reapply papers as required to maintain proper floor protection.**
  2. **Where staging, hoisting, and/or heavy construction equipment are used, overlay Ram Board with 1/2" thick plywood or 440 Homasote to protect existing flooring from any soiling or damage caused by the work of this Contract.**
  3. **At every interior temporary exit from the construction areas, provide a zippered plastic sheeting door and a Dust-Control Adhesive-Surface Walk-off Mat. Replace mat when no longer effective.**
- B. Clean, repair, and restore damages and soiling caused by the work of this Contract at no cost to the Owner. Immediately remove and replace the damaged existing construction, furnishings and finishes beyond repair at the Contractor's expenses.

### **2.3 TEMPORARY FIRE PROTECTION**

- A. Contractor shall take all necessary precautions for the prevention of fire during construction. Keep work area orderly and clean and remove combustible rubbish promptly off site. Combustible materials shall be stored on site in a manner and at locations acceptable to local Fire Officials. Contractor shall comply with all suggestions regarding fire protection made by the insurance company with which the Owner maintains his fire insurance.
- B. Contractor shall provide and maintain in good working order, under all conditions, readily available to all portions of the work area, suitable and adequate fire protection equipment and services. Such facilities shall include, but not be limited to, two (2) UL labeled, 2-1/2 gal. Type ABC fire extinguishers.

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2.4 TEMPORARY STAGING AND SCAFFOLDING

- A. Contractor shall furnish, erect, and maintain in safe condition all staging and scaffolding required to properly carry out and complete the work. Staging and scaffolding thus provided shall comply in all respects to the governing laws and codes.

2.5 TEMPORARY HOISTING EQUIPMENT AND MACHINERY

- A. Contractor shall furnish, install, operate, and maintain in safe condition all hoisting equipment and machinery required to properly carry out and complete the work. All hoisting equipment and machinery, and operation shall comply in all respects to the governing laws and codes.

2.6 TEMPORARY UTILITIES

- A. Contractor will be allowed to make connection and/or utilize Owner's existing HVAC, water and electricity where required for the performance of the work. Contractor shall be responsible for furnishing, installing, and maintaining temporary facilities required for use and further specified as follows:
  - 1. Owner will pay for HVAC, water and electrical energy used on the Project from the beginning of construction operations to the Date of Substantial Completion of the Work.
  - 2. The furnishing of utilities by the Owner for the convenience of the Contractor and without charge shall be conditional upon the Contractor being conservative and prudent in their use. In the event Contractor are repeatedly wasteful in the use of the utilities thus provided, the Owner reserves the right to charge Contractor at an equitable rate for the energy consumed.

2.7 TEMPORARY LIGHTING

- A. The Contractor shall be responsible to arrange for adequate indoor lighting to illuminate staging, dangerous projections, and the like as required to protect the safety of workmen and other personnel.
- B. The Contractor shall furnish all extension cords, task lights, and accessories required to adequately illuminate the work surfaces for proper execution of the work.

2.8 TEMPORARY TRASH REMOVAL

- A. Contractor shall be responsible for trash removal for all trades, and shall have the trash and construction debris hauled away, and legally disposed of off the site on daily basis. At his discretion, Contractor may provide dumpster type trash container for his own use and for the use by all subcontractors. The dumpster thus provided must be placed at a location approved by the Owner and shall be emptied at sufficient intervals to maintain the capacity and continuously ready to receive trash and debris. **Use of the Owner's dumpster shall be strictly prohibited.**
- B. Construction waste disposal must comply with the 310 CMR 19.017: Massachusetts Waste Disposal Ban Regulation.

2.9 NOISE, DUST, AND POLLUTION CONTROL

- A. All work performed under the Contract shall conform to the requirements of Massachusetts General Laws Chapter III, Sections 31C and 142D, and Rules and Regulations adopted thereto by the Massachusetts Department of Public Health, and the

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requirements of local noise, dust, and pollution control ordinances, and regulative agencies applicable to the work.

**2.10 TEMPORARY STORAGE FACILITIES**

- A. Space for storage shall be confined to within the work areas unless at other specific locations as directed and approved by the Owner in writing.
- B. Storage of material within the existing building will be permitted only provided such storage, and the handling required thereby, does not damage or overload the building structure or finishes, does not interfere with the safe and expeditious performance of the work, does not interfere with Owner's operations or block the required exit ways, and does not present or cause a fire or other hazard.

**PART 3 - EXECUTION**

**3.1 TEMPORARY WEATHER PROTECTION**

- A. **Where building envelop elements of the building providing weather protection are to be temporarily opened to the weather, they shall be fully enclosed or covered with securely attached and well draining enclosures against inclement weather, to assure absolute weather protection. Any and all damages to the existing construction, including all materials, equipment, furnishings, and finishes thereon, caused by inadequate weather protection shall be immediately made good by the Contractor without further cost to the Owner.**

**3.2 TEMPORARY SANITARY FACILITY**

- A. **Use of any existing school sanitary facility is strictly prohibited.** Contractor shall provide sufficient sanitary facility for his own use in accordance with Division 01 Section "Temporary Sanitary Facilities".

**3.3 MAINTENANCE, TERMINATION, AND REMOVAL**

- A. Enforce strict discipline in use of temporary facilities. Limit waste and abuse.
- B. Maintain temporary facilities in operating condition; repair damages immediately upon discovery. Unless otherwise requested by Owner, remove each temporary facilities when no longer useful. Clean and renovate existing work affected by the work of this contract.

**END OF SECTION**

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**SECTION 01 52 19  
TEMPORARY SANITARY FACILITIES**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Provide temporary sanitary facilities for use of construction personnel, including but not limited to, supplies, maintenance, services, cleaning, and removal.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 01 Section "Temporary Facilities and Controls": for associated requirements regarding the temporary facilities.
  - 3. Division 01 Section "Contract Closeout": for removing temporary sanitary facilities, cleaning and restoring the site.

1.4 TEMPORARY FACILITIES

- A. **Use of any existing sanitary facilities within Owner-occupied areas is strictly prohibited.**
- B. Temporary Sanitary Facilities shall comply with the requirements of the Federal, State and Local health codes and standards.
- C. **Permanent sanitary facilities shall not be used for temporary purposes.**

1.5 PERMITS

- A. Obtain permits and pay for inspections, if required by regulatory agencies having jurisdiction.

**PART 2 - PRODUCTS**

2.1 PROVIDERS

- A. Subject to compliance with the requirements specified herein, providers offering temporary construction sanitary facility services which may be utilized under this Contract include, but are not limited to, the following:
  - 1. United Site Services, Haverhill, MA.
  - 2. NSC Restrooms, Northborough, MA.
  - 3. CPR, W. Bridgewater, MA.
  - 4. Or equal.

2.2 SANITARY FACILITIES



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- A. May be new or used in "like new" conditions as may be dictated by all governing codes, adequate to serve the purpose, which will not create unsanitary conditions.
  - 1. Provide ample toilet facilities with proper enclosures for the use of workmen employed on the work. Toilet facilities shall be installed and maintained in conformity with the governing laws and building code. They shall be properly lit and ventilated, and shall be kept clean at all times.
  - 2. Provide no less than one portable toilet per 10 workers for a 40-hour work week, in accordance with ANSI Standards.
  
- B. Approximate Unit Size:
  - 1. Height: 90"
  - 2. Width: 44"
  - 3. Depth: 48"
  - 4. Door opening: 76"
  - 5. Floor area: 915 sq in.
  - 6. Standard tank vol: 70 gal.
  - 7. Seat height: 20.5"
  
- C. Enclosed portable self-contained units secluded from public view and with the following min. features:
  - 1. Water closet with seat and cover.
  - 2. Urinal.
  - 3. Hand sanitizer.
  - 4. Multi-roll toilet paper and dispenser.
  - 5. A lockable door fitted with an inset handle and a sliding lock that activates a "In Use / Open" sign. Recessed vandal proof, heavy duty door springs.
  - 6. Dual wall construction with wall vents for ventilation.
  - 7. Lighting and translucent roof for day lighting.
  
- D. Services:
  - 1. Emptying and refilling the holding tank weekly.
  - 2. Sanitizing the entire unit daily.
  - 3. Restocking all supplies when necessary.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. Review and coordinate the sanitary facility locations with Owner prior to installation.
- B. Provide facilities at time of site mobilization.
- C. Modify and extend service as work progresses.

3.2 MAINTENANCE

- A. Maintain the unit in good working order with sufficient supplies and cleaning service.

**END OF SECTION**

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**SECTION 01 60 00**  
**PRODUCT REQUIREMENTS**

**PART 1 - GENERAL**

1.1 PRODUCTS INCORPORATED INTO THE WORK

- A. Conform to applicable specifications and standards.
- B. Comply with size, make, type and quality specified, or as specifically approved in writing by the Architect.
- C. Manufactured and Fabricated Products:
  - 1. Design, fabricate and assemble in accord with the best engineering and shop practices.
  - 2. Manufacture like parts of duplicate units to standard size and gages, to be interchangeable.
  - 3. Two or more items of the same kind shall be identical, by the same manufacturer.
  - 4. Products shall be suitable for service conditions.
  - 5. Equipment capacities, sizes, and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
- D. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
- E. No asbestos containing products or lead containing products shall be permitted on this Project.
- F. All finishes and materials used in this Project shall be low V.O.C.

1.2 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.3 MANUFACTURERS' INSTRUCTIONS

- A. When work is specified to comply with manufacturers' instructions, submit copies of said instructions, as specified in Division 01 Section "Submittal Procedures", distribute copies to persons involved, and maintain one set in field office.
- B. Perform work in accordance with details of instructions and specified requirements. Should a conflict exist between Specifications and manufacturer's instructions, consult with Architect.

1.4 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.

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- B. Transport Products by methods to avoid Product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct, and products are undamaged.

1.5 STORAGE AND PROTECTION

- A. Store Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- B. After installation, provide coverings to protect Products from damage from traffic and construction operations, remove when no longer needed.

1.6 PRODUCT OPTIONS

- A. Product options:
  - 1. Products specified only by reference standard: Any Product meeting that standard.
  - 2. Products specified by naming three or more manufacturers: Products of any named manufacturer meeting Specifications.
  - 3. Products specified by naming one manufacturer and "or equal": Submit a request for substitution for any manufacturer not specifically named.

1.7 PRODUCT SUBSTITUTIONS

- A. Substitutions of products shall comply with requirements of Chapter 30, Section 39M of General Laws, and additional requirements and procedures specified herein.
- B. Where products or materials are specified by manufacturer's name, trade name or catalog reference, an item shall be considered equal to the item so named or described if in the opinion of the Architect that:
  - 1. It is at least equal in quality, durability, appearance, strength and design; including compliance with applicable specifications and compatibility with physical space allocations provided for the item;
  - 2. It performs at least equally the function imposed by the general design for the work;
  - 3. It conforms substantially, even with deviations to the detailed requirements for the item as indicated by the Contract Documents.
- C. Should the Contractor, after the award of the Contract, wish to use any products or materials other than those specified, he shall request written permission of the Architect using Substitution Request Form attached at the end of this Section. His request shall name and adequately describe (including shop drawings) the proposed substitutions, furnish any information requested by the Architect, and state what difference, if any, will be made in the Contract price, including the cost of changes in the Work, for such substitutions should they be accepted. Upon receipt of complete information from the Contractor, the Architect will consider all aspects of the proposed substitution and advise the Contractor in writing approving or disapproving the substitution. The principal reasons for approval or disapproval of the substitution will be enumerated by the

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Architect. Disapproval of the substitution shall not be cause for an increase in Contract price or a delay in schedule.

- D. Request constitutes a representation that Contractor:
1. Has investigated proposed Product and determined that it meets or exceeds, in all respects, specified Product.
  2. Will provide the same warranty for substitution as for specified Product.
  3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects at no additional cost to the Owner.
  4. Waives claims for additional costs which may subsequently become apparent.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.
- F. Architect will determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.

**END OF SECTION**

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**SECTION 01 73 00  
EXECUTION REQUIREMENTS**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  1. Examination.
  2. Preparation.
  3. Installation of the Work.
  4. Progress cleaning.
  5. Protection of installed construction.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  1. Division 01 Section "Summary of Work": for limits on use of Project site.
  2. Division 01 Section "Submittal Procedures": for submitting surveys.
  3. Division 01 Section "Cutting and Patching": for execution requirements of executing cutting and patching.
  4. Division 01 Section "Contract Closeout": for requirements of executing final cleaning.

1.4 INFORMATIONAL SUBMITTALS

- A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

**PART 2 - PRODUCTS**

[Not Used.]

**PART 3 - EXECUTION**

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

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1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, and water-service piping; underground plumbing and electrical services, and other utilities.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  2. Examine walls, floors, roofs, and other substrates for suitable conditions where products and systems are to be applied or installed.
  3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
1. Description of the Work.
  2. List of detrimental conditions, including substrates.
  3. List of unacceptable installation tolerances.
  4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Re-check measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Coordination".

### 3.3 INSTALLATION OF THE WORK

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  4. Maintain minimum headroom clearance of 96 inches in occupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing prod-

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ucts in applications indicated.

- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.

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2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
  
- D. **Installed Work:** Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
  
- E. **Concealed Spaces:** Remove debris from concealed spaces before enclosing the space.
  
- F. **Exposed Surfaces in Finished Areas:** Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
  
- G. **Waste Disposal:** Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
  
- H. **During handling and installation,** clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration until Substantial Completion.
  
- I. **Clean and provide maintenance on completed construction** as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
  
- J. **Limiting Exposures:** Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

**3.5 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Comply with manufacturer's written instructions for temperature and relative humidity.
  
- B. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration until date of Substantial Completion.
  1. Repair, restore, or replace if not repairable, any and all damaged work at no cost to the Owner.

**END OF SECTION**

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**SECTION 01 73 29**  
**CUTTING AND PATCHING**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, fitting, and patching required to complete the Work or to:
  - 1. Make 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. Provide routine penetrations of non-structural elements.
- B. Unless otherwise specifically specified in other Sections, the Contractor shall coordinate and perform, or assign to the appropriate trades, all cutting, fitting, and patching.

1.2 QUALITY ASSURANCE

- A. Permission to patch any items of work does not imply a waiver of the Owner's right to require complete removal and replacement in said areas or said items if, in the Architect's opinion, patching does not satisfactorily restore quality and appearance of work.
- B. Do not cut-and-patch structural work in anyway resulting in a reduction of load-carrying capacity or load/deflection ratio.
- C. Do not cut-and-patch operational elements and safety- related components in any way resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- D. Do not cut-and-patch work that is exposed to view in a manner resulting in reduction of visual qualities or in substantial evidence of cut-and-patch work, both as judged solely by the Architect. Remove and replace visually unsatisfactory work as directed by Architect.

1.3 SUBMITTALS

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

**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

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applicable. Comply with the requirements of the material manufacturer, 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 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 the Architect in writing; do not proceed with work until the Architect 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 the Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

**3.3 PERFORMANCE**

- A. Execute cutting and patching by methods that will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
  - 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 work.
  - 2. Prior to cutting any structural steel or concrete work, contact the Architect in writing. Do not cut any structural steel and concrete work until approval has been granted by the Architect.
- B. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- C. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.
- D. Patch with seams that are durable and as invisible as possible. Comply with specified tolerances for the work.
- E. 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.

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**END OF SECTION**  
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**SECTION 01 77 00  
CONTRACT CLOSE-OUT**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies administrative and procedural requirements during contract close-out. Including, but not limited to:
  - 1. Substantial Completion.
  - 2. Final Acceptance.
  - 3. Record document submittal.
  - 4. Maintenance data.
  - 5. Warranties.
  - 6. Final cleaning.

**1.2 SUBSTANTIAL COMPLETION**

- A. Prior to requesting inspection for certification of Substantial Completion, complete the following:
  - 1. On Application for Payment, show 100% completion for portions of work claimed as substantially complete. Submit list of incomplete items, value of incomplete work, reasons work is not complete, and scheduled or projected time of completion.
  - 2. Submission of warranties.
  - 3. Submission of maintenance data and instructions.
  - 4. Submission of final Project Record Documents.
  - 5. Final cleaning.
  - 6. Application for reduction of retainage.
  - 7. Consent of surety.
  - 8. Notification of shifting insurance coverage.
- B. Within reasonable time, Architect will inspect to determine status of completion.
- C. Should the Architect determine Work is not substantially complete, he will promptly notify Contractor in writing, giving reasons therefor. The Architect's notification will be detailed or general as he deems appropriate to the actual status of completion observed.
  - 1. Reinspection Fees: Should Architect perform reinspection due to failure of Work to comply with claims made by the Contractor, the Contractor shall compensate Architect for such additional services at \$125/hr, and deduct the amount of such compensation from final payment to the Contractor.
- D. The Contractor shall substantially complete work, and remedy any noted deficiencies, and send a second written notice of substantial Completion. Architect will reinspect the Work.
- E. When Architect determines Work is Substantially Complete, he will prepare Certificate of Substantial Completion in accordance with the Consolidated General Conditions. Specific time period shall be established by the Certificate of Substantial Completion for the Contractor to complete all work for Final Acceptance.

**1.3 FINAL ACCEPTANCE**

- A. Prior to requesting final inspection for certification of Final Acceptance and final payment, complete the following:

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1. Submission of final payment request with releases and supporting documentation.
  2. Completion of incomplete Work.
  3. Assurances that unsettled claims have been or will be settled.
  4. Submission of updated final settlement, including accounting for final additional changes to the Contract Sum. Show additional Contract Sum, additions and deduction, previous Change Orders, Total Adjusted Contract Sum, previous payments and Contract Sum due.
  5. Submission of consent of surety.
  6. Submission of evidence of final, continuing insurance coverage complying with insurance requirements.
  7. Prove that taxes, fees, and similar obligations have been paid.
  8. Remove temporary facilities and service.
  9. Remove surplus materials, rubbish and similar elements.
  10. Certify Work has been inspected for compliance with Contract Documents.
  11. Certify Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected.
  12. Certify Work is complete and ready for final inspection.
  13. Certify materials incorporated have no asbestos containing materials or lead.
  14. Acceptance of Work by the Owner.
- B. The Architect will inspect to verify status of completion with reasonable promptness.
1. Should the Architect consider Work is incomplete or defective, the Contractor will promptly notify Contractor in writing, listing incomplete or defective work.
  2. The Contractor shall take immediate steps to remedy deficiencies and send a second written certification that Work is complete, and Architect will reinspect the work.
  3. When the Architect finds Work is acceptable, he will consider closeout submittals.
  4. Reinspection Fees: Should Architect perform reinspection due to failure of Work to comply with claims made by the Contractor, The Contractor shall compensate Architect for such additional services at \$125/hr, and deduct the amount of such compensation from final payment to the Contractor.
- C. Application for Final Payment: Submit Application for Final Payment in accordance with procedures and requirements of the Consolidated General Conditions.

#### 1.4 RECORD DOCUMENTS

- A. General: Maintain a complete set of record Documents. Do not use Record Documents for construction purposes. Provide access to Record Documents for Architect's and Owner's reference. General, without limitation, Record Documents shall include the following:
1. Record Drawings: Maintain a clean set of mylars of Contract Drawings and shop drawings, updated to show actual installation. Give particular attention to concealed items.
  2. Record Project Manual: Maintain a clean Project manual, including Addenda, Change Orders, Architect Field Orders, and other modifications, updated to show changes in actual work performed. Give particular attention to substitutions, selection of options, and similar information.
  3. Record Product Data: Maintain one copy of each approved Product Data submittal, updated to show changes from products delivered, work performed, and from manufacturer's recommended installation instructions.
  4. Record Samples: Maintain one copy of each approved Sample submitted.

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- B. Maintenance of Documents and Samples: Store documents and samples in Contractor's office apart from documents used for construction. File documents and samples in accordance with CSI format. Maintain documents in clean, dry, legible conditions and in good order.
- C. Recording: Label each document "PROJECT RECORD" in neat large printed letters. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- D. Drawings: Legibly update all Drawings to record actual construction, including the following:
  - 1. Field changes of dimension and detail.
  - 2. Changes made by Change Order.
  - 3. Details not in original Contract Documents.
- E. Specifications and Addenda: Legibly mark each Section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  - 2. Changes made by Change Order.
- F. Submittal: At Contract Close-out, deliver Record Documents to Architect. Accompany submittal with transmittal letter in duplicate, indicating the date, project title and number, Contractor's name and address, title and number of Record Document, and signature of Contractor or his authorized representative.

1.5 MAINTENANCE DATA

- A. Prepare and submit Maintenance Data as specified in this Section and referenced in other pertinent Sections of Specifications. Organize Maintenance Data into suitable sets, bound and indexed. Mark appropriate identification on front and spine of each binder. Including the following types of information;
  - 1. Emergency instructions.
  - 2. Copies of warranties.
  - 3. Inspection procedures.
- B. Provide sufficient instruction to Owner's personnel in maintenance of products.
- C. Format of Data: Prepare data in form of instruction manual for use by the Owner's personnel. Format shall be 8-1/2 in. x 11 in., in 20 pound, white, typed pages. Text shall be manufacturer's printed data or neatly typewritten. Drawings shall be bound with text, with reinforced punched binder tabs/ fold larger drawings to sizes of text pages. Provide fly-leaf for each separate product or each piece of operating equipment. Provide indexed tabs.
  - 1. Binders: Provide commercial quality three-ring binders with durable and cleanable plastic covers, with maximum ring size of 1 inch. When multiple binders are used, correlate the data into related consistent groupings.
  - 2. Binder Cover: Identify each volume with typed or printed title "Maintenance Instructions". List the title of Project, identity of separate structure as applicable, and identity of general subject matter covered in the manual.
- D. Content of Manual: Neatly typewritten table of contents for each volume, arranged in systematic order, indicating the Contractor's name and address, and a list of each product, indexed to content of the volume. Provide a separate list with each product, name, address, and telephone number of subcontractor or installer, and local source of supplies for parts and replacement.

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1. Provide in each volume a copy of each warranty, bond, and service contract issued.

**1.6 INSTRUCTION OF OWNER'S PERSONNEL**

- A. Prior to final inspection or acceptance, provide adequate instructions to Owner's designated operating and maintenance personnel in the maintenance of all products.
- B. Maintenance manual shall constitute the basis of instruction.

**1.7 WARRANTIES**

- A. General: assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.
- B. Information required: provide information on the proper procedures in case of failure. Indicate instances which might affect the validity of warranty. Indicate Contractor, name of responsible principal, address, and telephone number.
- C. Form of Submittal: Prepare duplicate packets of 8-1/2 X 11 in., punched sheets for installation in standard three-ring binder. Fold larger sheets to fit into binders.
  1. Cover of Packet: Identify each packet with typed or printed title 'WARRANTIES'. List the project title and number, and name of Contractor.
  2. Binders: Bind into commercial quality, three-ring, with durable and cleanable plastic covers.

**PART 2 - PRODUCTS**

**2.1 CLEANING MATERIALS**

- A. Provide cleaning materials that will not create hazards to health nor property, and will not damage surfaces or finishes. Use only cleaning materials and methods recommended by cleaning material manufacturer.

**PART 3 - EXECUTION**

**3.1 FINAL CLEANING**

- A. Employ experienced workers or professional cleaners for Final Cleaning. Clean each surface to the condition expected in a normal building cleaning and maintenance program. Comply with manufacturer's instructions and recommendation.
- B. Clean and restore general work areas and adjoining surfaces soiled or damaged by the work of this Contract. Where performance of subsequent work could result in damage to completed work, provide protective covering to prevent potential damage.
- C. Complete the following cleaning operations prior to requesting inspection for Certification of Substantial Completion:
  1. All advertising matter and temporary instructional material shall be removed from exposed surfaces throughout. Remove labels that are not permanent.
  2. Clean work area of rubbish, litter and other foreign substances. Follow the product manufacturer's instructions; clean entire work area to a dust-free condition. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed surfaces.

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**END OF SECTION**

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**CONTRACT CLOSE-OUT**

**01 77 00 - 5**

DRA 16006.00 / 160427



# AHERA 3 Year Reinspection Report

For

Arlington High School  
869 Massachusetts Avenue  
Arlington, MA 02474

December, 2015

Prepared for

Town of Arlington  
730 Massachusetts Ave  
Arlington, MA 02476

Prepared by

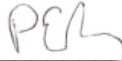
Enviro-Safe Engineering  
203 Prospect Street  
Brockton, MA 02301

# AHERA 3 Year Reinspection Report

For

Arlington High School  
869 Massachusetts Avenue  
Arlington, MA 02474

Prepared by:



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Patricia E. Riley  
Massachusetts licensed Asbestos Inspector AI60295  
Management Planner AP60296

Prepared for

Town of Arlington  
730 Massachusetts Ave  
Arlington, MA 02476

Prepared by

Enviro-Safe Engineering  
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Brockton, MA 02301

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## 1.0 INTRODUCTION

As required by the US Environmental Protection Agency's AHERA regulations, Enviro-Safe Engineering has completed a survey and reassessment of asbestos containing materials in the Arlington Public School District. This report summarizes the locations and conditions of materials remaining in the schools and reviews the ongoing responsibilities of the Local Education Agency (LEA). The inspection was completed on December 14, 2015.

This latest survey report should be incorporated into the files that the LEA maintains, pertaining to response actions, operations & maintenance activities, six-month reinspection, training, air sampling and major asbestos activities.

## 2.0 SUMMARY OF INITIAL INSPECTION

During the initial inspection of the Arlington School District, Enviro Med Services, Inc. identified homogeneous areas of Asbestos Containing Building Materials (ACBM) and assessed their conditions as indicated in the original Management Plan. The Enviro-Safe Engineering inspector identified the same homogeneous areas of ACBM as were identified in the initial inspection reports.

## 3.0 EPA REQUIRED ASSESSMENT CODES

- #1 Damaged or significantly damaged thermal systems insulation ACBM.
- #2 Damaged friable surfacing ACBM.
- #3 Significantly damaged friable miscellaneous ACBM.
- #4 Damaged or significantly damaged friable miscellaneous ACBM.
- #5 ACBM with potential for damage.
- #6 ACBM with potential for significant damage.
- #7 Any remaining friable Asbestos Containing Building Materials (ACBM) or friable suspected ACBM.
- \* EPA - Non-Asbestos (NA).

## 4.0 Summary of response actions required under AHERA

### 4.1 EPA Assessment Code #1

If damaged or significant damage thermal insulation ACBM is present, (EPA Code #1), the LEA must:

Repair the damaged or remove the damaged material if not feasible to repair.

Maintain all undamaged thermal system insulation.

#### 4.2 EPA Assessment Codes #2 and #4

If damaged friable surfacing ACBM or damaged friable miscellaneous ACBM, (EPA Codes #2 and #4), the LEA must:

Remove.

Enclose.

Encapsulate or repair the material in question.

#### 4.3 EPA Assessment Codes #3 and #4

If significant damage friable surfacing ACBM or friable miscellaneous ACBM is present, (EPA Codes #3 and #4), the LEA must:

Immediately isolate and restrict access, unless isolation is not necessary.

Remove the ACBM from the functional space, unless encapsulation or enclosure is sufficient.

#### 4.4 EPA Assessment Code #5

If ACBM has potential for damage (EPA Code #5), the LEA must:

Institute an O&M program.

#### 4.5 EPA Assessment codes #6 and #7

If any ACBM has potential for significant damage (EPA Codes #6 and #7), the LEA must either:

Implement an O&M program and institute preventative measures to eliminate likelihood that the ACBM or its cover will become significantly damaged.

Remove the material expeditiously, if preventative measures are not possible, isolate and restrict access if necessary to prevent an imminent and substantial endangerment.

### 5.0 ADDITIONAL AHERA REQUIREMENTS

In addition to the above actions, AHERA regulations require the LEA to take the following actions:

Ensure that all inspection and reinspection are carried out by accredited personal.

Ensure that all custodial and maintenance personal are properly trained in asbestos hazards.

Notify workers, building occupants and parents of students of AHERA activities.

Notify outside contractors of asbestos in the buildings that where any work may be done.

Post Asbestos warning labels in routine maintenance areas.

Notify building occupants that inspection reports and management plans are available for inspection.

Designate a person to ensure AHERA requirements are implemented and provide for adequate training to that person.

## 6.0 MASSACHUSETTS ASBESTOS REGULATIONS

Stringent laws govern asbestos abatement activities in the state of Massachusetts. The laws include the following:

Massachusetts State Law (453 CMR 6.00) requires certification of all persons involved in asbestos abatement activities.

Any employee whose work may require the disturbance of ACBM (i.e. plumbers, maintenance workers, etc.) should receive proper training in asbestos work techniques. Massachusetts State Law requires two-day mandatory training for affected individuals.

## 7.0 CURRENT FINDINGS

During the required 3 year reinspection by this Office, the inspector visually examined all accessible areas of the school. Complete inspection found that asbestos-containing materials are located in the following areas.

### 7.1 Building F Boiler Room

Material: Approximately 220 sq.ft. thermal system insulation (boiler lagging).  
Condition: Good EPA Code #5

Material: Approximately 160 sq.ft. thermal system insulation (breeching insulation).  
Condition: Good EPA Code #5

Material: Approximately 50 sq.ft. thermal system insulation (gasket material).

Condition: Good EPA Code #5

## 7.2 Building B Boiler Room

Material: Approximately 330 sq.ft. thermal system insulation (boiler lagging). The encapsulation on the bottom of on one of the boilers are damaged and falling off.

Condition: Damaged EPA Code #1

Material: Approximately 160 sq.ft. thermal system insulation (breeching insulation).

Condition: Good EPA Code #5

Material: Approximately 80 sq.ft. thermal system insulation (tank insulation).

Condition: Good EPA Code #5

## 7.3 Throughout buildings A, B, F

Material: Approximately 79 lf. thermal system insulation (joint insulation).

Condition: Damaged EPA Code #1

## 7.4 Throughout the school

Material: Approximately 202,600 sq.ft. vinyl floor tile.

Condition: Good EPA Code #5 in classrooms

Material: Vinyl floor tile.

Condition: Damaged EPA Code #4

Damaged in all hallways and stairwells, Rooms 506, A220, 336, 119.

Material: Thermal system insulation (pipe insulation)

Condition: Damaged in room 232. EPA Code #1

Material: Plaster assumed to contain asbestos

Condition: Good EPA Code #5

Material: Plaster assumed to contain asbestos

Condition: Damaged in rooms 226, 229, 433 EPA Code #1

## 7.5 Gym

Material: 3' x 6' ceiling tile assumed to contain asbestos

Condition: Damaged EPA Code #4

## 7.6 Room 204

Material: Transite bench

Condition: Good EPA Code #5

## 7.7 Science classrooms

Material: Fire blankets assumed to contain asbestos.

Condition: Assumed Good EPA Code #5, the metal outer containers were intact and not opened.

## 8.0 CHANGES IN MATERIALS SINCE INITIAL INSPECTION

There have been significant changes in the materials condition since originally inspected. The LEA must assure that all areas noted in CURRENT FINDINGS be addressed per the recommended EPA Code noted for each location.

## 9.0 RECOMMENDED RESPONSES

After having conducted the three-year reinspection at the Arlington High School, Enviro-Safe Engineering has the following recommendations for on-going asbestos management in the school.

### 9.1 Training

In the event that the LEA's Designated Person changes, or new maintenance personnel are hired, the LEA must have 2 hour Asbestos Awareness Training provided for these individuals.

### 9.2 Recordkeeping

Continue to update files pertaining to:

Training/Licensing of school personnel.

Notifications.

Response Actions.

Reinspection.

### 9.3 Labeling

All friable asbestos containing materials must be maintained with identifying labels. The labels, as displayed below, can help to prevent the entry of untrained and unprotected personnel into areas which may have been contaminated and can help to protect the material from unintentional damage. All boiler room doors have placards.



Example: CAUTION  
ASBESTOS. HAZARDOUS.  
DO NOT DISTURB  
WITHOUT PROPER  
TRAINING AND EQUIPMENT

#### 9.4 Cleaning

In the case that friable materials become damaged, the materials should be repaired and debris cleaned by qualified, trained personnel with proper cleaning equipment and protective clothing.

#### 9.5 Notification

The LEA must ensure that all workers and building occupants, or their legal guardians are notified at least once each school year about inspections, response actions, and post-response action activities. Additionally the same parties must be notified that the school's management plan is on file in the school and available for review.

#### 9.6 Reinspection and Periodic Surveillance

At least every six months the LEA shall conduct periodic surveillance of each building that it uses as a school building that contains, or is assumed to contain ACBM. Each person performing periodic surveillance shall:

Visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM.

Record the date of surveillance, his or her name and any changes in the condition of the material.

Submit a copy of such record to the Designated Person for inclusion in the Management Plan.

At least every three years the LEA shall have an accredited inspector conduct a reinspection of all friable and nonfriable known or assumed ACBM in each in building that they use as a school building.

#### 9.7 Worker Protection

The LEA shall ensure that all maintenance and custodial employees are properly trained and participate in medical monitoring programs as required by all applicable regulations, including OSHA, EPA and MA DLI asbestos regulations if the worker disturbs ACBM.

## 9.8 Recommended Response Actions - General

The damaged friable asbestos material outlined in "Current Findings" should, at a minimum, be repaired by qualified personnel as soon as possible. Repair work may involve O&M cleaning of any debris resulting from the damage and/or repair work. Full removal of the damaged area may be required if the material can not be restored to its original condition or if the location of the material indicates that damage will continue to increase even if repairs are made.

All work beyond the capabilities of a trained and licensed in house O&M maintenance person must be performed by a licensed and qualified asbestos removal contractor. All abatement projects outside of O&M must be designed by a licensed Project Designer.

Where damage has occurred to asbestos-containing floor tile, (VAT), three observations should be made to determine the proper response action:

- The extent of damage.
- The integrity of the tile or tiles.
- The potential for further damage.

In cases where only minor damage has occurred, such as cracking or chipping of the tile, minimal action is required. If the tile or tiles are still adhered to the underlayment, tile chips should be removed and remaining tile encapsulated. Maintaining a sufficient coating of wax over the tile will diminish the risk of a fiber release from the damaged edges. In the event that the tile or tiles become loose or dislodged, it is necessary to replace the damaged material with a non-asbestos containing floor tile. When dealing with a large homogenous area of tile, where more than 10% of the tiles are significantly damaged, removal of the entire area should be considered. When assessing the potential for further damage, the following items should be considered:

- The amount of tile.
- Traffic volumes.
- The locations of tile, such as hallway intersections, abutting doorway entrances, or areas where damaged tiles are a chronic problem.

In areas where tiles are missing, non-asbestos containing tile should be installed. This will help minimize further damage to the surrounding tile.

## 9.9 Recommended Response Actions - Specific

### THROUGHOUT SCHOOL:

Damaged thermal system insulation should be repaired or removed before the next periodic surveillance in boiler room B. Both boiler rooms B and F have had extensive repairs and should be inspected frequently to ensure additional damage gets repaired promptly.

Damaged floor tile should be repaired or removed before the next periodic surveillance.

Continue periodic surveillance.

**TIME FRAME:**

The materials in the boiler room should be addressed as soon as possible. The pipe may cause asbestos fibers to be transported through the school.

The floor tiles should be addressed before the next periodic surveillance.

**RESOURCES**

This project should be performed by a licensed asbestos abatement company experienced with AHERA regulated projects.

The cost for repairs in the boiler room would be approximately \$2,500.

The cost for floor tile removal in all hallways and stairwells would be approximately \$300,000.

The cost of periodic surveillance would be approximately \$250 every six months.



# **Enviro-Safe Engineering**

**203 Prospect Street  
Brockton, MA 02301**

**(617)623-6678**

March 28, 2016

Town of Arlington  
730 Massachusetts Ave  
Arlington, MA 02476

RE: Asbestos bulk test results, Arlington High School, Room 109

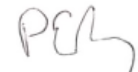
On March 22, 2016, Enviro-Safe Engineering collected bulk samples of the wall and ceiling at the above address and transferred it to TRC Environmental Associates, Woburn, MA for analysis.

The samples were analyzed by the EPA endorsed Polarized Light Microscopy with Dispersion Staining (PLM/DS) method. The PLM/DS method is a qualitative and quantitative form of analysis that yields type and percentage of asbestos in a sample, if any.

All bulk samples were negative for the presence of asbestos.

If you should require more information on this matter, please do not hesitate to contact me at (617)623-6678. See enclosed lab report.

Sincerely,



Patricia E. Riley  
President



**ARLINGTON HIGH SCHOOL  
PRE-K CLASSROOM CONVERSION  
ARLINGTON, MA**

**SECTION 02 26 24  
ASBESTOS ABATEMENT**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish all labor, materials, tools and equipment, and perform all operations, testing, sampling, monitoring and inspections necessary for the abatement of asbestos-containing floor tile and mastic adhesive in the following areas:
  - 1. Office B144.
  - 2. Office B148.
  - 3. Office B149.
  - 4. Toilet B146.(The combination of the above four rooms is also known as "Room or Suite 109).
- B. This Section outlines the scope and procedures to be used for removing asbestos-containing floor tile and associated mastic at the above referenced room areas (approximately 700 sf).
- C. Related work: The following items are not included in this Section and are specified under the designated Sections:
  - 1. Division 02 Section "Selective Demolition".
  - 2. Division 09 Section "Vinyl Composition Tile Flooring".
- D. Notify non-abatement personnel when and where abatement work is occurring and assure that they are at all times excluded from asbestos work areas until the completion of the abatement work.

1.3 REGULATORY OVERVIEW

- A. Contractor must comply at all times with applicable regulations relative to asbestos abatement. These include but are not limited to compliance with EPA regulation 40 CFR Part 61, OSHA regulation 29 CFR 1926.1101, Massachusetts Department of Labor Standards (MA DLS) regulation 453 CMR 6.00, and Massachusetts Department of Environmental of Protection (MA DEP) 310 CMR 7.09 (3) and (4) Dust, Odor, Construction, Demolition and local fire and health departments.
- B. Submit notifications with appropriate fees to all applicable regulatory agencies including but not necessarily limited to the MA DEP, MA DLS and local agencies. All notifications and project permits must be posted at the job site for the duration of the project.

1.4 OWNER RESPONSIBILITIES

- A. Owner will provide access to water for Contractor's use in wetting ACM and decontamination purposes. The Owner will also provide electrical power to be sourced from outside the work areas. The Contractor shall supply ground-fault circuit interrupters (GFCIs) for all electrical connections.

1.5 INSPECTION AND AIR MONITORING

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- A. The Contractor shall employ a licensed Industrial Hygienist to monitor the abatement work activities. Before starting abatement the Industrial Hygienist shall inspect the work area(s) preparation to determine that engineering controls are in place and properly functioning. The Industrial Hygienist shall inspect abatement work practices and collect area air samples adjacent to the work area(s) to be sure no elevated airborne fiber releases are occurring from possible containment breaches or engineering control deficiencies. Industrial Hygienist's area air sampling does not relieve the Contractor of his responsibility for conducting personnel exposure monitoring for the purposes of complying with OSHA respiratory protection requirements. In addition, it is the explicit responsibility of the Contractor to comply with all regulatory guidelines and work practices throughout the remediation process. At the completion of the abatement, Industrial Hygienist shall conduct post-abatement visual inspections for any remaining suspect debris and collect aggressive clearance air samples.
- A. Prior to abatement activity, Industrial Hygienist shall inspect the work area preparation to determine that all engineering controls are in place and properly functioning. Industrial Hygienist shall conduct visual inspections and perform area air monitoring during work activities. Area air samples shall be collected in locations adjacent to the work area(s) during abatement activities. The samples shall be analyzed on-site by phase contrast microscopy using NIOSH Method 7400 A Counting Rule.
- B. The Contractor shall be required to collect personal exposure samples, as well, to assure compliance with OSHA standards. Samples must be collected daily.
- C. Once the Contractor notifies Industrial Hygienist that they have completed abatement activities, Industrial Hygienist shall conduct post-abatement visual inspections of each work area. The work area(s) will be inspected for any visible debris that may remain. If visible debris is detected, additional cleaning will be required. Once the visual inspection is complete, the Contractor shall be authorized to apply lock-down encapsulant to seal any nonvisible residue that may remain.
- D. After an adequate drying period, Industrial Hygienist shall collect aggressive clearance air samples including agitating surfaces within the work area using a leaf-blower and 20 inch fans.
1. Where the abatement includes greater than 160 sf or 260 lf of ACBM, air monitoring via Transmission Electron Microscopy (TEM) will be conducted. A set of 5 interior TEM air samples will be collected and submitted to a qualified laboratory to be analyzed. For the work to be deemed complete. TEM results must average less than 70 asbestos structures per millimeter squared (s/mm<sup>2</sup>). The TEM air samples will be analyzed within 48 hours following submittal to the laboratory. Once acceptable clearance air results have been obtained, Industrial Hygienist will authorize the Contractor to break dismantle the containment.
  2. If less than 160 sf or 260 lf of ACM are removed the post-abatement clearance air samples will be conducted using phase contrast microscopy (PCM). PCM air test results must indicate that fiber concentrations are equal to or below 0.01 fibers per cubic centimeter of air (f/cc) via NIOSH 7400, A Counting Rule. Once satisfactory air test results are realized the Contractor shall be permitted to break down the containment.
- E. At the completion of the project, Industrial Hygienist shall prepare a report that documents the results of all monitoring conducted at the site.
- F. If at any time appropriate procedures are not used or if air monitoring by the Industrial Hygienist indicates fiber concentrations are elevated above 0.01 fibers/cc, Industrial Hygienist shall immediately stop work. Corrective actions must be initiated in a timely manner. Consult with the Industrial Hygienist to determine the cause of elevated



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concentrations. Use more effective methods, as feasible, to wet ACM and potentially contaminated materials, to assure that fiber release does not occur again.

**1.6 SUBMITTALS**

- A. Before beginning work, the Asbestos Abatement Contractor shall submit to the Architect the following documentation: (a) proof of licensing as an asbestos abatement contractor, (b) proof of certification of all personnel as asbestos workers and/or supervisors, as applicable, (c) copy of notifications and project permits to regulatory agencies, a plan detailing area set-up and methods of abating the damp proofing, proposed licensed hauler, (d) proof that proposed disposal site is permitted to accept asbestos wastes, (e) proposed licensed Industrial Hygienist.
- B. Abatement Contractor shall submit personal air monitoring documentation to Architect and within 48 hours of sample collection.
- C. At the completion of the project, Contractor shall submit to the Architect completed Waste Shipment Records (WSR's) relative to the proper disposal of all asbestos wastes generated on the site. Each WSR must be returned to the owner signed by the landfill within 30 days of removal from the site.

**PART 2 – MATERIALS**

[Not Used]

**PART 3 - EXECUTION**

**3.1 WORK AREA PREPARATION**

- A. All work impacting asbestos-containing materials shall be completed using appropriate engineering controls and work practices.
  - 1. Asbestos warning signs shall be posted at all entrances and egresses to the work area(s). The warning sign shall include the following language:

DANGER  
ASBESTOS  
CANCER AND LUNG DISEASE HAZARD  
AUTHORIZED PERSONNEL ONLY  
RESPIRATORS AND PROTECTIVE  
CLOTHING ARE REQUIRED IN THIS AREA

- B. All asbestos-containing materials shall be removed under full-containment conditions including but not limited to; sealing all critical barriers and floors with two layers of 6-mil fire-retardant polyethylene sheeting and all walls and ceilings with two where applicable. A three-chamber decontamination facility (decon) with appropriate air-locks, shall be erected contiguous to the work area(s) for worker decontamination purposes. The decon shall consist of equipment room, air lock, shower room, air lock, and change room separated by interlocking full polyethylene flaps. Negative pressure shall be established in the work area relative to adjacent spaces utilizing air filtration devices (AFD's) equipped with high efficiency particulate air (HEPA) filters. Abatement Contractor shall utilize AFD's capable of creating four air changes in the work area per hour.
- C. Do not start abatement work until Industrial Hygienist has arrived on-site to approve work area preparation and reviewed scope of work.

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3.2 WORKER PROTECTION

- A. All workers must don full-body coveralls, including foot coverings (Tyvek or equal) and use appropriate respiratory protection. Air-purifying respirators equipped with High Efficiency Particulate Air (HEPA) filters, at a minimum, shall be employed at all times while inside the work or exclusion zone areas. Prior to exiting the work area or exclusion zone, all personnel shall pass through decon, remove disposable clothing in the equipment room, enter decontaminate room and fully decontaminate inclusive of cleaning respirator. Personnel shall change back into street clothes in clean room of decon.
- B. Prior to beginning work, site supervisor shall conduct mandatory safety meeting inclusive of all OSHA safety requirements, detailing work assignments, and providing all required safety equipment.

3.3 REMOVAL PROCEDURES

- A. All asbestos-containing materials shall be removed using wet methods including amended water and or chemical solutions that assist with breaking the bond between the asbestos materials and associated substrate. Where mastic is removed, mechanical surface abatement is required to obtain a minimum ICRI concrete surface profile of 3 (CSP 3). This substrate preparation must be by mechanical means, such as shot blasting. **No chemical mastic removal products shall be utilized.** All ACM shall be placed into 6-mil disposal bags with asbestos warning labels or similar leak-tight container.
- B. If at any time appropriate procedures are not used or if air monitoring by the Industrial Hygienist indicates fiber concentrations are elevated above 0.01 fibers/cc, Contractor shall immediately stop work. Corrective actions must be initiated in a timely manner. Consult with the Industrial Hygienist to determine the cause of elevated concentrations. Use more effective methods, as feasible, to wet ACM and potentially contaminated materials, to assure that fiber release does not occur again.

3.4 DISPOSAL

- A. Contractor shall dispose of asbestos-containing waste in accordance with all regulatory requirements. All packaged waste materials must include warning labels and waste generator labels with all information required by EPA, OSHA, and DOT as follows:
- B. On outermost layer of container, apply four labels with text as follows:

- 1. First Label:

CAUTION  
CONTAINS ASBESTOS FIBERS  
AVOID OPENING OR BREAKING CONTAINER  
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH
- 2. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG DISEASE HAZARD  
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR  
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH
- 3. Third Label: Provide in accordance with U.S. Department of Transportation regulation on hazardous waste marking. 49 CFR Parts 171, 172. Hazardous

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Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS  
SUBSTANCE,  
SOLID, NOS,  
ORM-E, NA 9188  
(ASBESTOS)

4. Fourth Label: Waste generator label shall include the following:

**Arlington High School**  
869 Massachusetts Ave.  
Arlington, MA 02476

- C. Labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.
- D. A Department of Transportation licensed hauler shall transport and dispose of waste at a landfill permitted to accept asbestos waste. With each shipment of waste, complete a waste shipment record (WSR) with all information required by 40 CFR Part 61.

**END OF SECTION**

\*\*\*



## EXPLANATION OF RENOVATION REPAIR AND PAINTING (RRP)

Renovation is different from deleading activities. The purpose of **renovation work** is to update a property and the purpose of **repair work** is to fix or maintain the property. The purpose of **deleading work** is to remove or cover lead hazards. While some of the activities for renovation may be the same as deleading, like window replacement and vinyl siding, the purpose and intent of the work for deleading as well as the rules about how the work is done and who can do the work is different. Confusing RRP rules with deleading requirements will jeopardize a property owner's ability to get a compliance document, protection from liability, and a \$1,500.00 state income tax credit.

It is up to an owner along with the owner's contractor (Certified Firm) to inform the inspector which surfaces will be disturbed by the planned Renovation, Repair or Painting work and therefore need to be tested. The RRP Assessment Report forms are designed to accommodate two situations:

- The first 25-30 components listed in the left hand box provide a "snapshot" of a room or an exterior/outbuilding. In those instances where an entire room (or exterior area) will be renovated, this "snapshot" will guide testing to find the most likely leaded components. If a component does not require testing because it will not be disturbed or the component does not exist in the area being tested, then the inspector will cross off the box. Once the inspector has completed the "snapshot," a decision can be made as to whether further testing is needed. If any of these components were found to contain a **dangerous level of lead** (see definitions below), then it can be safely assumed that components of the same type in the work area also contain lead and therefore the RRP rules must be followed.
- If the "snapshot" of the area does not identify a dangerous level of lead, then the only way to rule out RRP requirements is to test all of the individual components that will be disturbed in the work area until either a dangerous level of lead is found or all of the components are tested and found to be below the definition of a dangerous level of lead. This additional testing will be recorded in the blank spaces below the first 25-30 components as well as in the right hand box. For large rooms/exteriors that do not contain many leaded surfaces, additional RRP pages may need to be added.

|                             |   |
|-----------------------------|---|
| <b>LOCATION</b>             | Refers to the room, common area, or exterior location of the surface being assessed. See the diagram on the cover page.   |
| <b>SIDE</b>                 | Refers to A, B, C, or D side of the building or room. See the diagram on the cover sheet. The "A" side of the building or room is the side facing the street that gives the property its address (usually, it is the front of the building). Keeping your back to this street, from the "A" side move clockwise to the "B" side on your left, the "C" side opposite you, and the "D" side to the right. |
| <b>SURFACE</b>              | Refers to the building component(s) being tested. Some surfaces may be made up of more than one part. For example, "Baseboard" may refer to four separate pieces of wood (one on each wall), but is still considered one surface. It is up to the owner along with the contractor to let the inspector know which surfaces will be disturbed by the planned renovation work.                            |
| <b>LEAD</b>                 | The test results either from sodium sulfide or an X-ray fluorescence instrument (XRF).  |
| <b>DANGEROUS LEAD LEVEL</b> | An XRF reading equal to or greater than 1.0 mg/cm <sup>2</sup> or a positive reaction with sodium sulfide indicates a dangerous level of lead. When the "Y" is circled then the RRP Rules will apply if the work will disturb more than 6 ft <sup>2</sup> per room interior or 20 ft <sup>2</sup> per exterior, or the planned work includes window replacement or surface demolition.                  |
| <b>DUST TAKEN</b>           | An owner, along with a Certified contractor (or rental property with a licensing waiver) may choose to have dust wipes taken to ensure that the area is clean. <b>If wipes are taken, then deleading clearance levels must be achieved. These levels are as follows: Floor &lt; 40 ug/ft<sup>2</sup>; Window Sill &lt; 250 ug/ft<sup>2</sup>; Window Well &lt; than 400 ug/ft<sup>2</sup>.</b>          |

### Some other quick information for RRP Rules VS Deleading:

|                                 | RRP Rule   | Deleading Rules   |
|---------------------------------|--|---|
| Inspection Requirements         | Assume Lead; Lead Check; or RRP Assessment by lic. inspector   | Comprehensive Initial Inspection by lic. inspector  |
| Training/Licensing Requirements | Contractor and Rental Property Owners must be Certified Firm, with employees as Certified Individuals or Trained Workers   | Licensed Deleader, Licensed Lead-Safe Renovator with additional 4-hr training, Authorized Owner or Agent (moderate risk, low risk, encapsulation, or combination)   |
| Notification Requirements       | EPA Renovate Right Brochure with Signatures owners/occupants   | 10-Day Deleading Notification   |
| Occupancy Restrictions          | Out of the Work Area (generally room (s) where work is occurring)  | High or moderate risk work including window replacement requires occupants to be relocated until passing reinspection   |
| Reinspections                   | Cleaning Verification procedure with option of Reinspection and Dust Wipes   | Reinspection and dust wipes are mandatory   |
| Documentation                   | Certified Firm responsible for maintaining variety of documents showing protocol followed, including notification, training, and clean up. Owner responsible for transfer of all lead related documentation upon sale of property. | Lic. Inspector responsible for collecting invoices and issuing reports and compliance documentation to the owner. Tax credit of \$1,500 per unit. Owner responsible for transfer of all lead related documentation upon sale of property. |

Renovation Repair and Painting Assessment Form (Interior)

John MacIsaac

IR-2378

Inspector (print)

Lic #

Signature

Date

Page 3 of 3

Address of Property:

869 Massachusetts Ave Apt. # offices

City: Arlington

Room # 1

| SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | COMMENTS | DUST TAKEN | SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | COMMENTS | DUST TAKEN |
|------|---------|------|----------------------|----------|------------|------|---------|------|----------------------|----------|------------|
| A    | Up wall | 0.1  | Y                    |          |            |      |         |      | Y                    |          |            |
| B    | Up wall | -0.0 | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |

Work Area was visually clean on \_\_\_/\_\_\_/\_\_\_ for RRP Visual Reinspection

Dust wipe in adjacent work area taken on floor in Room \_\_\_\_\_. Start Date of RRP work \_\_\_/\_\_\_/\_\_\_ End Date \_\_\_/\_\_\_/\_\_\_

Name of Certified Lead Safe Renovator on Site

Cert #

Brief Description of the Renovation, Repair, or Painting Work that Took Place in the Work Area

Room # 2

| SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | COMMENTS | DUST TAKEN | SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | COMMENTS | DUST TAKEN |
|------|---------|------|----------------------|----------|------------|------|---------|------|----------------------|----------|------------|
| A    | UP WALL | 0.0  | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |
|      |         |      | Y                    |          |            |      |         |      | Y                    |          |            |

Work Area was visually clean on \_\_\_/\_\_\_/\_\_\_ for RRP Visual Reinspection

Dust wipe in adjacent work area taken on floor in Room \_\_\_\_\_. Start Date of RRP work \_\_\_/\_\_\_/\_\_\_ End Date \_\_\_/\_\_\_/\_\_\_

Name of Certified Lead Safe Renovator on Site

Cert #

Brief Description of the Renovation, Repair, or Painting Work that Took Place in the Work Area

Room # 3

| SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | MMMENTS | DUST TAKEN | SIDE | SURFACE | LEAD | DANGEROUS LEAD LEVEL | MMMENTS | DUST TAKEN |
|------|---------|------|----------------------|---------|------------|------|---------|------|----------------------|---------|------------|
| CO   | UP WALL | -0.3 | Y                    |         |            |      |         |      | Y                    |         |            |
|      |         |      | Y                    |         |            |      |         |      | Y                    |         |            |
|      |         |      | Y                    |         |            |      |         |      | Y                    |         |            |
|      |         |      | Y                    |         |            |      |         |      | Y                    |         |            |
|      |         |      | Y                    |         |            |      |         |      | Y                    |         |            |
|      |         |      | Y                    |         |            |      |         |      | Y                    |         |            |

Work Area was visually clean on \_\_\_/\_\_\_/\_\_\_ for RRP Visual Reinspection

Dust wipe in adjacent work area taken on floor in Room \_\_\_\_\_. Start Date of RRP work \_\_\_/\_\_\_/\_\_\_ End Date \_\_\_/\_\_\_/\_\_\_

Name of Certified Lead Safe Renovator on Site

Cert #

Brief Description of the Renovation, Repair, or Painting Work that Took Place in the Work Area

**ARLINGTON HIGH SCHOOL  
PRE-K CLASSROOM CONVERSION  
ARLINGTON, MA**

**SECTION 02 41 94  
SELECTIVE DEMOLITION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Examine all Drawings, all other Sections of the Specifications and cross-reference with verified existing field conditions for requirements therein affecting the work of this Section. The work of this Section consists of all selective demolition, removal, and cleaning work in and on the existing building to be renovated as required to accommodate and/or to receive the new construction and finishes, thorough cleaning of interior areas of the existing building in which work of this Contract is to be carried out, generally as indicated on the Drawings and/or as specified herein, including, but not limited to, the following:
1. All selective demolition work required within, on, or relative to, the existing building as specifically called for on the Drawings or as required to accommodate the new or renovation work, or to allow access for other trades to perform work specified under other sections, except specific selective demolition and removal work specified under other sections to be carried out by various trades.
  2. Cutting of all grooves, chases, openings, holes, etc., required for all trades through or into existing construction, except as otherwise provided under any of the various trades.
  3. Removal from site and legal disposal of all disconnected or removed devices, equipment, materials, trash, and debris dismantled and/or removed by selective demolition operations, except any items specifically indicated on the Drawings to be reused on the project or to be stored for Owner's future use.
  4. Careful removal of items designated on Drawings to be reused on the project, and safe storage of same, fully protected from theft and damage, until time for re-installation. Partial removal and re-installation of items designated on Drawings to remain may be required to allow access for other trades to perform their work specified under sections.
  5. Careful removal of items designated on Drawings to be salvaged for Owner's future use, including moving to designated storage area(s) in the existing building.
  6. General cleaning of all interior work areas of the building followed by thorough cleaning of all interior surfaces to be exposed in the finished work, and all interior surfaces to receive new finishes, including painting, in the finished work.

**1.2 RELATED WORK UNDER OTHER SECTIONS**

- A. The following items of related work are specified and included in other Sections of the Specifications or as indicated on Drawings:
1. Work area barriers, limit of work barriers, dust barriers and curtaining, and miscellaneous protective barriers.
  2. Removal of existing fixtures, devices, or equipment to be relocated/reinstalled.
  3. Patching and repairing of existing drywall work to remain.
  4. Patching, leveling, smoothing, and final cleaning of existing concrete floor to receive new finish flooring materials.

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5. Disconnecting, cutting and capping, and temporary rerouting, by-passing, etc., of existing mechanical and electrical lines as specified in Mechanical and Electrical Sections.
6. Specific mechanical and electrical demolition and removal work specified in Mechanical and Electrical Sections.

**1.3 EXAMINATION OF PREMISES**

- A. The Contractor shall be held to have examined the premises before submitting his Bid for the work and to have satisfied himself as to the existing conditions under which he will be obliged to operate and that will in any way affect the work, including also the amount of existing materials and debris to be removed and the amount of cleaning to be done. No allowance will be made in this regard for error or negligence of the Contractor.
- B. Existing conditions shown on the Drawings which are concealed by existing construction are assumed in good faith, based on best information available. All such conditions are subject to Contractor's verification in the field. The selective demolition and removal work may be modified to take into account unknown conditions and conditions incorrectly assumed, in accordance with instructions of the Architect.

**PART 2 - PRODUCTS**  
[Not Used.]

**PART 3 - EXECUTION**

**3.1 TIMING**

- A. All work under this Section shall be coordinated and scheduled in accordance with the construction sequence and Construction Schedule to accommodate and/or receive the new construction and finishes.

**3.2 MANNER OF CONDUCTING THE WORK**

- A. The work shall be conducted with prime consideration given to the following:
  1. Compliance with the governing laws and building codes.
  2. Safety, protection, and convenience of public and workmen.
  3. Protection of existing building structure against settlement and collapse, and prevention of damaging vibration and shock to existing structure.
  4. Protection of the existing building structure, materials, and finishes to remain from damage caused by work of this Contract.
  5. Minimization of dirt and dust proliferation.
  6. Neat and accurate cutting and trimming of elements to be partially removed, subject to Architect's approval.
- B. Laws and Codes: All work shall be done in accordance with the governing laws and building code, and all necessary permits required for the selective demolition work shall be procured by the Contractor. Provide unobstructed legal exits at all times.
- C. The Contractor shall be responsible to provide complete and adequate bracing, shoring, and underpinning, throughout, commencing with the beginning of the selective demolition work and continuing until the structures are safe and secure, as required to prevent settlement, displacement and/or collapse of the existing building and structures.



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- D. Provide neat cutting and trimming of elements to remain wherever cutting or drilling is required, to provide straight, true, and sharp cutlines and edges. Do not overcut or overdrill, nor break, puncture, tear down, or otherwise damage existing construction beyond the limits shown, needed for proper preparation of openings, or for proper passage of penetrating elements. Wherever cutting of concrete or masonry is required, use abrasive wheels or saws.
- E. Where existing finishes are indicated to be removed, remove down to bare subsurfaces without causing damage to the sub-surfaces. Patch sub-surfaces to match existing to remain where necessary
- F. Repair any damage done to elements of building to remain, except repairs specified to be provided under other Sections. Repairs shall be done in such manner as to closely match-construction, appearance, and quality of original work.
- G. Do no work in affected areas until the various dust and protective barriers, as required, have been installed and return air systems have been blocked or effectively filtered.
- H. Items to be Reused: All existing items specified, designated on Drawings or identified by the Owner in writing to be reused on the work shall be carefully removed in manner to assure that least possible damage results. After removal, the items shall be stored in protected storage areas within the work areas of the building for later distribution to the various trades responsible for the refurbishing and/or re-installation of same. Items designated to be reused which, in the opinion of the Architect, become too damaged to be satisfactorily reused shall be replaced with equivalent new items by the Contractor without additional cost to Owner.
  - 1. In areas where existing elements in the existing work are to be affected by selective demolition and removal work and such work is to be patched and repaired by other trades, sufficient quantities of components of the existing elements to complete the patch and repair work shall be carefully removed and retained in protective interior storage areas for subsequent use for this purpose.
- I. Salvage of Items for Owner: All existing items specified, designated on Drawings, or identified by the Owner in writing to be removed for Owner's future use shall be carefully removed and moved to designated storage areas within the existing building, and neatly stacked.
- J. Debris shall not be allowed to accumulate and shall be sprinkled during handling and loading to reduce dust. All debris shall be either stored outside of building temporarily in dumpster type containers or shall be removed from the site daily. Debris shall be carried out in containers or dropped in fully enclosed chutes and not passed through, or thrown from, windows or other wall openings, in no case being permitted to drop free from windows or other wall openings.
- K. Disposal: All materials removed under the selective demolition work and not called for on Drawings to be reused on the project or salvaged for Owner's use shall be disposed of legally, off-the-site, by the Contractor, who will, upon removal from the site, have the rights of salvage of the materials.

### 3.3 PREPARATION OF SPECIFIC SURFACES

- A. All preparatory work of existing interior surfaces to remain exposed and/or receive new finishes shall be done as work of this Section. This work does not include final preparation of surfaces to receive paint or transparent finishes. The Contractor may schedule all such work as he sees fit and to determine his own sequence of operation. It is suggested that the specific preparation work to be done before wet cleaning is

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commenced should be (1) all the preparatory work which would cause the creation of large amounts of dust and (2) all that which if not done would prevent the thorough cleaning of the surfaces being prepared. Include, but do not limit to:

1. Removal of all existing appliques, posters, stickers, tape, signs, etc., including removal of adhesives, nails, tacks, etc. Each material shall be removed in the most appropriate manner pertinent to that particular product, and may include scraping, power sanding, hand or power chipping, solvent applications, etc. The method chosen in each case shall be such as to cause the least damaging effect on the subsurface, to minimize patching and repairing work by other trades.
2. Removal of burrs, nail protrusions, screw protrusions, irregular edges at demolition work, miscellaneous appurtenances not required in the finished work (such as picture hangers; clips; brackets; cleats; hooks; hangers; temporary patches, irregular, extraneous and otherwise obviously defective carpentry and millwork items; disconnected mechanical and electrical appurtenances and equipment; etc.), and other items obviously to be removed as being inconsistent with the intent of the Contract. In each case the most appropriate means shall be chosen to carry out the work, subject to Architect's approval.

**3.4 CLEANING**

- A. General: Upon completion of selective demolition work, thoroughly clean all exposed interior surfaces throughout which are to be left exposed in the finished work and all interior surfaces to receive new finishes, including painting, in the finished work.
- B. General Interior Cleaning:
  1. All interior surfaces to be cleaned shall be gone over prior to wet cleaning and spot brushed with scrapers, wire brushes, stiff bristle brushes, etc, to remove all loose paint, loose and other defective finishes. The intent is to secure firm, sound surfaces, prior to the beginning of wet cleaning work. Exercise care and judgment during this work to assure that doors, frames, metal work, woodwork, glass and other finishes which are to remain are not damaged during this work.
  2. After scraping, brushing, etc. followed by complete sweeping, and vacuuming of the entire interiors of the individual work areas, all surfaces except items subject to water damage shall then be thoroughly scrubbed down with fiber brushes and a solution of strong caustic detergent, such as caustic tri-sodium phosphate detergent and water, observing manufacturer's health and safety precautions. Include scrubbing of all overhead ceiling and soffit surfaces.
- D. The intent of general cleaning work is to provide (1) surfaces which are to remain exposed in the finished work and (2) surfaces which are to receive the work or finishes of other trades, cleaned free of all traces of dirt, grime, grease, and other stains and defacements.

**END OF SECTION**

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**SECTION 06 10 53  
MISCELLANEOUS CARPENTRY**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install:
1. Various wood blockings, edgings, nailers, curbs, cants, grounds, furring, sheathing, rough framing as required for supporting various finishes, surfacing, furnishing, or equipment for the Project whether or not specifically specified in other Sections.
  2. Solid wood trims.
  3. Bi-fold hollow core wood doors with mounting and operating hardware.
- B. Coordinate work of this Section with the work of the various trades responsible for applying finish materials and other items to rough carpentry work. Furnish and install furring, blocking, and shims, and other usual items of normal rough carpentry work as required by the various trades for the proper completion of the project.
- C. No attempt is made in this Section to list all elements of rough carpentry required on this project or to describe how each element will be installed. It is the responsibility of the Contractor to determine for itself the scope and nature of the work required for a complete installation from the information provided herein and in the Drawings.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Division 08 – Openings: for rough openings requiring blocking, shims, nailer and trim.
  2. Division 09 Section “Non-Structural Metal Framing”: for metal stud framing supporting wood blocking.
  3. Division 09 Section “Gypsum Boards”: for abutting drywall construction.
  4. Division 09 Section “Interior Painting”: Applied primer and finish coatings to carpentry work.
  5. Misc. blockings, nailers, shims, and grounds required by any other Sections of the Specifications for anchoring or mounting support.

**1.4 REFERENCES**

- A. Standards: Comply with the following unless otherwise specified or indicated on the Drawings:
1. Lumber: American Softwood Lumber Standard PS 20 by the U.S. Department of Commerce. Comply with applicable provisions for each indicated use.
  2. Plywood: Product Standard PS 1 for Softwood Plywood, Construction and Industrial by the U.S. Department of Commerce.
  3. Plywood Installation: APA Design/Construction Guide, Residential & Commercial by the American Plywood Association (APA).

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1.5 QUALITY ASSURANCE

- A. Mill and Producers Mark: Each piece of lumber and plywood shall be gradestamped indicating type, grade, mill, and grading agency certified by the Board of Review of the American Lumber Standards Committee. Mark shall appear on unfinished surface, or ends of pieces with finished surfaces.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Keep materials dry during delivery. Store materials 6 inches minimum above ground surface. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation between stacks.
- B. Cover stored materials until ready for use for protection from moisture. Place and anchor covering in a manner which will assure good ventilation under the covering.

1.7 SEQUENCING AND SCHEDULING

- A. Coordinate work of this Section with the work of the various trades responsible for applying finish materials and other items to rough carpentry work, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
- B. Correlate location of supporting members to allow proper attachment of other Work.

**PART 2 - PRODUCTS**

2.1 LUMBER, GENERAL

- A. General: Furnish seasoned dimension lumber dressed to nominal sizes indicated with 19 percent maximum moisture content at time of dressing, marked "S-DRY". Comply with dry size requirements of PS 20.
  - 1. Dress: Surfaced 4 sides (S4S) unless otherwise indicated.

2.2 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including but not limited to the following:
  - 1. Blocking.
  - 2. Nailers.
  - 3. Furring.
  - 4. Grounds.
  - 5. Shims.
- B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber with 15 percent maximum moisture content of any species.
- C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- D. Plywood: DOC PS 1 unless otherwise indicated.
  - 1. APA rated panels, mark grade and type on back of panels.
  - 2. Thickness: 5/8" (for closet standard backing), 3/4" (for closet shelving), or otherwise as indicated on drawings.
  - 3. Type: Interior.
  - 4. Grade: A-C unless otherwise indicated or accepted by the Architect.

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2.3 SOLID WOOD TRIMS

- A. Interior Standing and Running Trim: AWS Custom Grade; plain sawn, Grade II lumber.
  - 1. Painted Finish: Closed-grain hardwood, any species.

2.4 HOLLOW CORE BI-FOLD DOORS

- A. 1-3/8" thick x 80"H, woodgrain hollow core, flush unfinished hardwood interior closet bi-fold doors as manufactured by Jeld-Wen, or equal as approved by Architect.
  - 1. Sizes: to fit the openings indicated on Drawings.
  - 2. Hardware: provide frames, tracks, and all other necessary mounting and operating hardware.
  - 3. Manufacturer's warranty: 5 years.
  - 4. Doors shall be painted (opaque, semi-gloss) all sides in field under Division 09 Section "Interior Painting".

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where rough carpentry is exposed to weather, in ground contact, pressure preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
  - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
  - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

2.6 ACCESSORIES

- A. Underlayment Patching Compound: Hardsetting, quicksetting type with latex or polyvinyl acetate binder.
- B. Adhesives for Gluing Furring to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
- C. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

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1. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Verification of Conditions: Examine substrate and supporting structure on which rough carpentry is to be installed for defects that will adversely affect the execution and quality of the Work. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. All materials shall be inspected before use, with all checked, split and otherwise deficient stock rejected, or used only for miscellaneous blocking, furring or other incidental use. The Contractor shall be responsible for replacing all lumber which, due to warpage, twist, splitting, or checking, results in unsatisfactory work. Such replacement shall be required at any time, whether before or after application of finish material under other Sections.

#### **3.2 INSTALLATION - GENERAL**

- A. Closely coordinate the installation of the rough carpentry work with the work of other trades responsible for the installation of interfacing or overlaying materials, so as not to delay the work of the related trades.
- B. Erect all carpentry work plumb, level, and true with tight, close fitting joints, securely attached and braced to surrounding construction. Counterbore for bolt heads, nuts, and washers where required to avoid interference with other materials.
- C. Use as long lengths as practicable for wood nailers, blockings, and curbs, to minimize number of joints, and attach the members with the types, and spacing, of fasteners specified herein.
- D. Install blocking, shims, grounds and furring, as required for proper attachment of the work of other trades, in accordance with the requirements provided by the respective related trades.
- E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- F. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- G. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.
- H. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  1. NES NER-272 for power-driven fasteners.
  2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
  3. Table R602.3(1), "Fastener Schedule for Structural Members".

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**END OF SECTION**  
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**SECTION 07 84 00  
FIRESTOPPING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install firestopping with pertinent accessories for fire-rated construction, including but not limited to all openings in floor and wall assemblies, both blank (empty) and those accommodating penetrating cable, conduits, pipes, ducts, and sleeves.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 09 Section "Gypsum Boards": for penetrations occurring in drywall construction requiring firestopping.
  - 2. Division 09 Section "Non-Structural Metal Framing": for top of metal framing abutting metal decking requiring firestopping.
  - 3. Division 22 - Plumbing: for various plumbing penetrations requiring firestopping.
  - 4. Division 23 - HVAC: for various HVAC penetrations requiring firestopping.
  - 5. Division 26 - Electrical: for various electrical penetrations requiring firestopping.

1.4 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: manufacturer's technical specifications for each product used.
  - 2. Shop drawings: Show typical installation details for methods of installation.
  - 3. Samples: submit samples of each type firestopping used for the Project.

1.5 QUALITY ASSURANCE

- A. Firestopping materials shall conform to Flame (F) and Temperature (T) ratings as required by applicable building codes and tested by nationally accepted test agencies per ASTM E 814 or UL 1479 fire tests for through penetrations, and ASTM E 1966 or UL 2079 for construction joints, and UL 2307 for perimeter edge joints.
- B. Firestopping material shall be free of asbestos, PCBs, ethylene glycol, and lead.
- C. Do not use any product containing solvents or that requires hazardous waste disposal.
- D. Equipment used shall be in accordance with firestop manufacturer's written installation instructions.
- E. Firestop manufacture will provide written documentation from Underwriters Laboratories that firestop material has passed UL accelerated aging and environmental exposure test for UL 1479/ASTM E 814 test standards for firestopping material.



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- F. Firestop materials must have a minimum shelf life of 2 years from production and visible expiration or packaging date.
- G. Firestop systems for Smoke Barriers (Section 709) must have L- rating of < 5cfm/lf(cf).
- H. Firestop material must have manufacturer published application temperature range of 35°F to 120°F, and material to still be useable after being frozen and thawed.

**1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Deliver material in the manufacturer's original, unopened containers or packages with manufacturers' name, product identification, lot numbers, UL-labels, and mixing and installation instructions, as applicable.
- B. Store materials in the original, unopened containers or packages, and under conditions recommended by manufacturers.
- C. All firestop materials shall be installed prior to material expiration date.

**1.7 PROJECT CONDITIONS**

- A. Conform to Manufacturer's printed instructions for installation and when applicable, curing in accordance with temperature and humidity. Conform to ventilation and safety requirements.

**1.8 WARRANTY**

- A. Firestop manufacturer must provide a written warranty statement that firestop material will perform as tested in properly installed firestop systems for the sustainable life of the building, a no time limit warranty.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. Bio Fireshield, Houston, TX.
  - 2. 3M Company, Saint Paul, MN.
  - 3. Specified Technologies, Inc., Somerville NJ.
  - 4. Or equal as approved by Architect.
- B. Basis of Design: Bio Fireshield, Houston, TX.

**2.2 FIRESTOPPING MATERIALS**

- A. Firestop Sealants and Caulks:
  - 1. Bio Fireshield™ Biostop™ 500+
- B. Firestop Putty:
  - 1. Bio Fireshield™ BIOSTOP™ Moldable Putty & Putty Pads
- C. Firestop Mortars:
  - 1. K-10+™ Firestop Mortar

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- D. Firestop Collars:
  - 1. BIOSTOP® Plastic Pipe Collar
- E. Intumescent Fire Retardant Firestop Mastic - Spray, Brush, or Trowel applied:
  - 1. Bio Fireshield™ 700 Firestop Mastic
- F. Non-Intumescent Firestop Spray Sealant:
  - 1. BIOSTOP® 750 Firestop Spray
- G. Wrap Strips:
  - 1. Bio Fireshield™ BIOSTOP™ Intumescent Wrap Strips
- H. Firestop Pillows:
  - 1. BIOSTOP® Firestop PILLOWS
- I. Wall Opening Protective Materials:
  - 1. LECTRA-STOP™ Fire Rated Electrical Box Inserts, by BIO FIRESHIELD™
  - 2. BIOSTOP® Fire Rated Putty Pads
- J. Fire Rated Joint Backing Material:
  - 1. BIOSTOP® Joint Strips
- K. Composite Sheet Materials:
  - 1. BIOSTOP® Composite Sheet
- L. Firestop Cast in Place Sleeves:
  - 1. BIOSTOP® Cast-in-Place Devices
- M. Cable Transit Devices:
  - 1. Bio Fireshield™ Firestop Pass-Thru Device

## 2.3 ACCESSORIES

- A. Accessories; as specified by the tested assembly and:
  - 1. Forming/Damming Materials: Mineral fiberboard or other type recommended by Manufacturer's tested system.
  - 2. Primer, Sealant and Solvent Cleaner: As recommended by manufacturer's tested system.
  - 3. Fasteners, universal restricting collars, etc: As recommended by the manufacturer's tested system.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Examine the areas and conditions where firestop is to be installed and notify the architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the architect.
- B. Verify that environmental conditions are safe and suitable for installation of firestop product(s).

### 3.2 CONDITIONS REQUIRING FIRESTOPPING

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- A. Provide firestopping for conditions specified whether or not firestopping is indicated, and, if indicated, whether such material is designated as insulation, safeing, or otherwise.
- B. Penetrations:
  - 1. Penetrations include conduit, cable, wire, pipe, duct, or other elements which pass through one or both sides of a fire rated floor, wall, or partition. Except for floors on grade, where a penetration occurs through a structural floor or roof and a space would otherwise remain open between the surfaces of the penetration and the edge of the adjoining structural floor or roof, provide firestopping to fill such spaces in accordance with ASTM E 814 and UL 1479.
  - 2. Where penetrations occur at fire-rated walls or partitions of solid-type construction, provide fire-stopping to completely fill spaces around the penetration, in accordance with ASTM E 814 and UL 1479. Where penetrations occur at fire-rated walls or partitions of hollow-type construction, provide firestopping to completely fill spaces around the penetration, on each side of the wall or partition, in accordance with ASTM E 814 and UL 1479.
  - 3. These requirements for penetrations shall apply whether or not sleeves have been provided, and whether or not penetrations are to be equipped with escutcheons or other trim. If penetrations are sleeved, firestop annular space - if any - between sleeve and wall of opening.

### 3.3 INSTALLATION

- A. Coordinate with plumbing, mechanical, electrical and other trades to assure that all pipe, conduit, cable, and other items which penetrate fire rated construction have been permanently installed prior to installation of firestop, schedule and sequence work to assure that partitions and other construction, which would conceal penetrations, are not erected prior to the installation of firestop.
- B. Field Quality Control: Prepare and install firestopping systems in accordance with manufacturer's printed instructions and recommendations.
  - 1. Follow safety procedures recommended in the Material Safety Data Sheets.
  - 2. Finish surfaces of firestopping which is to remain exposed in the completed Work to a uniform and level condition.
  - 3. All areas of Work must be accessible until inspection by the applicable Code authorities.
  - 4. Correct unacceptable firestop and provide additional inspection to verify compliance with this specification at no additional cost.

### 3.4 CLEANING

- A. Remove spilled and excesses materials adjacent to firestopping without damaging adjacent surfaces.
- B. Leave finished Work in neat, clean condition with no evidence of spillovers or damage to adjacent surfaces.

**END OF SECTION**

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**SECTION 07 92 00  
JOINT SEALANTS**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install joint sealants, caulking, and associated pertinent accessories as indicated on Drawings and/or as specified in this Section.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 06 Section "Misc. Rough Carpentry": for sealing and caulking perimeter of the rough carpentry work abutting dissimilar materials.
  - 2. Division 08 – Openings: for sealants required for perimeters of opening frames.
  - 3. Division 09 Section "Gypsum Boards": for providing concealed acoustical sealant used in conjunction with gypsum board work.
  - 4. Division 09 Section "Interior Painting": for applying paint finish on paintable sealants and caulking.
  - 5. Divisions 22, 23, and 26 Sections for sealants and caulking required for plumbing, HVAC, and electrical systems.

**1.4 REFERENCES**

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
  - C509-06 Elastomeric Cellular Preformed Gasket and Sealing Material.
  - C717-10 Standard Terminology of Building Seals and Sealants.
  - C834-10 Latex Sealants.
  - C919-08. Use of Sealants in Acoustical Applications.
  - C920-10 Elastomeric Joint Sealants.
  - C1021-08 Laboratories Engaged in Testing of Building Sealants.
  - C1193-09 Standard Guide for Use of Joint Sealants.
  - C1330-02 (R2007) Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
  - D1056-07 Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
  - E84-09 Surface Burning Characteristics of Building Materials.
- C. Sealant, Waterproofing and Restoration Institute (SWRI).  
The Professionals' Guide

**1.5 SUBMITTALS**

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- A. Submit in accordance with Division 01 Section "Submittal Procedures".
  - 1. Product data: manufacturer's technical specifications and test information on each type sealant, caulking, and associated accessories.
  - 2. Shop drawings: identifying sealant and caulking types, accessories, and application schedule.
  - 3. Sample: Cured samples of exposed sealants for each color where required to match adjacent material.

**1.6 QUALITY CONTROL**

- A. Installer Qualifications: An experienced installer whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. VOC: Acrylic latex and Silicon sealants shall have less than 50g/l VOC content.

**1.7 PROJECT CONDITIONS**

- A. Environmental Limitations:
  - 1. Do not proceed with installation of joint sealants under following conditions:
    - a. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 °F.
    - b. When joint substrates are wet.
- B. Joint-Width Conditions:
  - 1. Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions:
  - 1. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

**1.8 DELIVERY, HANDLING, AND STORAGE**

- A. Deliver materials in manufacturers' original unopened containers, with brand names, date of manufacture, shelf life, and material designation clearly marked thereon.
- B. Carefully handle and store to prevent inclusion of foreign materials.
- C. Do not subject to sustained temperatures exceeding 90° F or less than 40° F.

**1.9 WARRANTY**

- A. Warranty against adhesion, and cohesive failure, and subject to terms of the Contract, shall be no less than two years commencing from the date of Substantial Completion.

**PART 2 - PRODUCTS**

**2.1 SEALANT TYPES**

- A. **S-1:**
  - 1. ASTM C920 silicone.
  - 2. Type S.
  - 3. Class 25.
  - 4. Grade NS.
  - 5. Shore A hardness of 25-30.

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6. Non-yellowing, mildew resistant.

2.2 CAULKING TYPES

- A. **C-1:** ASTM C834, acrylic latex.
- B. **C-2:** One component acoustical caulking, non-drying, non-hardening, synthetic rubber.

2.3 COLOR

- A. Unless otherwise directed by Architect, sealants used for other locations shall be light gray or aluminum.
- B. Unless otherwise directed by Architect, caulking shall be light gray or white.

2.4 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
  - 1. Type C: Closed-cell material with a surface skin.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 32° C (minus 26° F). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.5 FILLER

- A. Mineral fiber board: ASTM C612, Class 1.
- B. Thickness same as joint width.
- C. Depth to fill void completely behind back-up rod.

2.6 PRIMER

- A. As recommended by manufacturer of caulking or sealant material and compatible with applicable substrates.
- B. Stain free type.

2.7 CLEANERS-NON POUROUS SURFACES

- A. Chemical cleaners acceptable to manufacturer of sealants and sealant backing material, free of oily residues and other substances capable of staining or harming joint substrates

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and adjacent non-porous surfaces and formulated to promote adhesion of sealant and substrates.

### **PART 3 - EXECUTION**

#### **3.1 INSPECTION**

- A. Inspect substrate surface for bond breaker contamination and unsound materials at adherent faces of sealant.
- B. Coordinate for repair and resolution of unsound substrate materials.
- C. Inspect for uniform joint widths and that dimensions are within tolerance established by sealant manufacturer.

#### **3.2 PREPARATIONS**

- A. Prepare joints in accordance with manufacturer's instructions and SWRI.
- B. Clean surfaces of joint to receive caulking or sealants leaving joint dry to the touch, free from frost, moisture, grease, oil, wax, lacquer paint, or other foreign matter that would tend to destroy or impair adhesion.
  - 1. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants.
  - 2. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- C. Do not cut or damage joint edges.
- D. Apply masking tape to face of surfaces adjacent to joints before applying primers, caulking, or sealing compounds.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- E. Apply primer to sides of joints wherever required by compound manufacturer's printed instructions.
  - 1. Apply primer prior to installation of back-up rod or bond breaker tape.
  - 2. Use brush or other approved means that will reach all parts of joints.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

#### **3.3 BACKING INSTALLATION**

- A. Install back-up material, to form joints enclosed on three sides as required for specified depth of sealant.

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- B. Where deep joints occur, install filler to fill space behind the back-up rod and position the rod at proper depth.
- C. Cut fillers installed by others to proper depth for installation of back-up rod and sealants.
- D. Install back-up rod, without puncturing the material, to a uniform depth, within plus or minus 3 mm (1/8 inch) for sealant depths specified.
- E. Where space for back-up rod does not exist, install bond breaker tape strip at bottom (or back) of joint so sealant bonds only to two opposing surfaces.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

### 3.4 SEALANT DEPTHS AND GEOMETRY

- A. At widths up to 1/4 inch, sealant depth equal to width.
- B. At widths over 1/4 inch, sealant depth 1/2 of width up to 1/2 inch maximum depth at center of joint with sealant thickness at center of joint approximately 1/2 of depth at adhesion surface.

### 3.5 INSTALLATION

- A. General:
  - 1. Apply sealants and caulking only when ambient temperature is between 40° and 100° F.
  - 2. Do not use polysulfide base sealants where sealant may be exposed to fumes from bituminous materials, or where water vapor in continuous contact with cementitious materials may be present.
  - 3. Do not use sealant type listed by manufacture as not suitable for use in locations specified.
  - 4. Apply caulking and sealing compound in accordance with manufacturer's instructions.
  - 5. Avoid dropping or smearing compound on adjacent surfaces.
  - 6. Fill joints solidly with compound and finish compound smooth.
  - 7. Tool joints to concave surface unless shown or specified otherwise.
  - 8. Finish paving or floor joints flush unless joint is otherwise detailed.
  - 9. Apply compounds with nozzle size to fit joint width.
  - 10. Test sealants for compatibility with each other and substrate. Use only compatible sealant.
- B. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise.
- C. Where gypsum board partitions are of sound rated, fire rated, or smoke barrier construction, follow requirements of ASTM C919 only to seal all cut-outs and intersections with the adjoining construction unless specified otherwise.
  - 1. Apply a 6 mm (1/4 inch) minimum bead of sealant each side of runners (tracks), including those used at partition intersections with dissimilar wall construction.
  - 2. Coordinate with application of gypsum board to install sealant immediately prior to application of gypsum board.
  - 3. Partition intersections: Seal edges of face layer of gypsum board abutting intersecting partitions, before taping and finishing or application of veneer plaster-joint reinforcing.



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4. Openings: Apply a 6 mm (1/4 inch) bead of sealant around all cut-outs to seal openings of electrical boxes, ducts, pipes and similar penetrations. To seal electrical boxes, seal sides and backs.

**3.6 CLEANING**

- A. Fresh compound accidentally smeared on adjoining surfaces: Scrape off immediately and rub clean with a solvent as recommended by the caulking or sealant manufacturer.
- B. After filling and finishing joints, remove masking tape.
- C. Leave adjacent surfaces in a clean and unstained condition.

**3.7 APPLICATION SCHEDULE**

- A. Sanitary Joints:
  1. Walls to Plumbing Fixtures: Type S-1
  2. Counter Tops to Walls: Type S-1
  3. Pipe Penetrations: Type S-1
- B. Interior Caulking:
  1. Typical Narrow Joint 1/4 inch or less at Walls and Adjacent Components: Types C-1 and C-2.
  2. Perimeter of Doors, Windows, Access Panels which Adjoin Concrete or Masonry Surfaces: Types C-1 and C-2.
  3. Concealed Acoustic Sealant Types C-1 and C-2.

**END OF SECTION**

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**SECTION 08 11 13  
HOLLOW METAL FRAMES**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install hollow metal doors frames and sidelight with all pertinent accessories as indicated on Drawings and/or as specified in this Section.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 06 Section "Misc. Carpentry": for misc. nailers, grounds, blocking and shims.
  - 2. Division 08 Section "Flush Wood Doors": for wood doors occurring in hollow metal frames.
  - 3. Division 08 Section "Glass Glazing" for glass glazing of fixed hollow metal frames.
  - 4. Division 08 Section "Door Hardware": for door finish hardware.
  - 5. Division 09 Section "Non-Structural Metal Framing": for metal studs anchoring HM frames.
  - 6. Division 09 Sections "Interior Painting": for field painting hollow metal doors and frames.

**1.4 REFERENCES**

- A. Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
  - 2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
  - 3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
  - 4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
  - 5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
  - 6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
  - 7. ANSI/BHMA A156.15 - Hardware Preparation in Steel Doors and Frames.
  - 8. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.

**1.5 SUBMITTALS**

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".

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1. Product data: Manufacturer's technical specification for each product used.
  - a. Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel frame supplier in order to prepare the frames to receive the finish hardware.
2. Shop drawings: Include elevations, frame details, locations of reinforcement and preparations for hardware, and details of anchorages, joints, field splices, and connections.
3. Samples: Samples are only required by request of the architect and for manufactures that are not current members of the Steel Door Institute.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.
- B. Quality Standard: In addition to requirements specified, comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.
  1. Provide minimum 1/4-inch space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.9 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.10 WARRANTY

- A. Manufacturer's Warranty: warranty period shall be no less than one year commencing from the date of Substantial Completion.
  1. Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
  2. Warranty shall include installation and finishing that may be required due to repair or replacement of defective doors.

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**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with requirements, provide products by one of the following:
  - 1. CECO Door Products, Milan, TN.
  - 2. Curries Company, Mason City, IA.
  - 3. Steelcraft, Cincinnati, OH.
  - 4. Or equal as approved by Architect.

**2.2 MATERIALS**

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

**2.3 STANDARD HOLLOW METAL FRAMES**

- A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
- B. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.
  - 1. Fabricate frames with mitered or coped corners.
  - 2. Fabricate frames of slip-on drywall types, finished smooth with no visible seam.
  - 3. Frames for Doors: Minimum 16 gauge thick steel sheet.]
  - 4. Frames for Borrowed Lights: Minimum 16 gauge thick steel sheet.
  - 5. Basis of Design:
    - a. CECO Door Products BQ/BU/DQ/DU/BR/DR Series (Drywall Profile).
    - b. Curries Company C/CM/CG Series (Drywall Profile).
- C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

**2.4 FRAME ANCHORS**

- A. Jamb Anchors:
  - 1. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
  - 2. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.
- B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
- C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

**2.6 LIGHT OPENINGS AND GLAZING**

- A. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator's shop. Fixed and removable stops to allow multiple glazed lites each to be removed

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independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.

- B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames
- C. Glass glazing to be provided by Division 08 Section "Glass Glazing".

## 2.7 ACCESSORIES

- A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

## 2.8 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.
- C. Hollow Metal Frames:
  - 1. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
  - 2. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
  - 3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
  - 4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
  - 5. Jamb Anchors: Provide number and spacing of anchors as follows:
    - a. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
      - 1). Four anchors per jamb from 60 to 90 inches high.
      - 2). Five anchors per jamb from 90 to 96 inches high.
  - 6. Door Silencers: drill stops to receive door silencers supplied by Division 08 Section "Door Hardware".
- D. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the door hardware templates furnished as specified in Division 08 Section "Door Hardware".
  - 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
  - 2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
  - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.

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2.9 FINISH

- A. Shop-Primed Finish: frames shall be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the frame exposed to view to receive a factory applied coat of rust inhibiting fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria shop primer compatible with substrate and field-applied coatings.

**PART 3 - EXECUTION**

3.1 EXAMINATION

- A. Examine substrate conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness.
- C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."
- D. Drill and tap frames to receive non-template, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.
  - 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.
  - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
- C. Field Glazing: Comply with installation requirements in Division 08 Section "Glass Glazing" and with hollow metal manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

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- A. Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
  
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer.

**END OF SECTION**

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**SECTION 08 14 16  
FLUSH WOOD DOORS**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install factory finished Interior 5-ply flush bonded solid-core wood veneer doors with all pertinent accessories as indicated on Drawings and/or as specified in this Section.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 08 Section "Hollow Metal Frames": for steel frames receiving flush wood veneer doors.
  - 2. Division 08 Section "Door Hardware":
    - a. Furnishing door hardware installation templates to door manufacturer for fabricating hardware cut-outs and reinforcing.
    - b. Furnishing door hinges to door installer for hanging doors.
    - c. Furnishing and installing the rest door hardware after doors are properly hung and adjusted.

**1.4 REFERENCES**

- A. Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Division 01 Section "References".
  - 1. ANSI A208.1 – Particleboard.
  - 2. ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
  - 3. ASTM E 413 – Classification for Rating Sound Insulation.
  - 4. AWS, 1<sup>st</sup> edition, Section 9 –Doors.
  - 5. WDMA Finish System TR-6, Catalyzed Polyurethane.
  - 6. WDMA I.S.1-A – Architectural Wood Flush Doors.

**1.5 SUBMITTALS**

- A. Comply with Division 01 Section "Submittal Procedures".
  - 1. Product data: manufacturer's product data, including door construction description and WDMA I.S.1-A and AWS 1<sup>st</sup> edition classifications.
    - a. Provide manufacturer's published warranties, clearly defining all terms, conditions, and time periods for the coverage.
  - 2. Schedules: Including door dimensions, cutouts, species, finish, and hardware.
  - 3. Samples: Door finish samples, showing range of color variation.

**1.6 QUALITY ASSURANCE**



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- A. Tolerances for Warp, Telegraphing, Squareness, and Prefitting Dimensions: WDMA I.S.1-A.
- B. Identifying Label: Each door shall bear identifying label indicating:
  - 1. Door manufacturer.
  - 2. Order number.
  - 3. Door number.

**1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery:
  - 1. Deliver doors to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
  - 2. Package doors individually in polybags.
- B. Storage:
  - 1. Store doors in accordance with manufacturer's instructions.
  - 2. Store doors in clean, dry area indoors, protected from damage and direct sunlight.
  - 3. Store doors flat on level surface.
  - 4. Do not store doors directly on concrete.
  - 5. Keep doors completely covered. Use covering which allows air circulation and does not permit light to penetrate.
  - 6. Store doors between 50 and 90 degrees F (10 and 32 degrees C) and 30 to 50 percent relative humidity.
- C. Handling:
  - 1. Handle doors in accordance with manufacturer's instructions.
  - 2. Protect doors and finish during handling and installation to prevent damage.
  - 3. Handle doors with clean hands or clean gloves.
  - 4. Lift and carry doors. Do not drag doors across other doors or surfaces.

**1.8 ENVIRONMENTAL REQUIREMENTS**

- A. Do not subject doors to extreme conditions or changes in temperature or relative humidity in accordance with WDMA I.S.1-A.

**1.9 WARRANTY**

- A. Warrant solid core, interior doors for life of installation against warpage, delamination, and defects in materials and workmanship commencing from the date of Substantial Completion.
- B. Defects noted during warranty period shall be corrected at no cost to Owner. Corrective work shall include labor and material for repair, replacement, refinishing, and rehangng as required.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with requirements, provide products by one of the following specified manufacturers:
  - 1. VT Industries, Inc., Holstein, IA.
  - 2. Algoma Hardwoods, Inc., Algoma, WI.
  - 3. Weyerhaeuser Company, Architectural Door Division, Marshfield, WI.

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4. Or equal as approved by Architect.
- B. Basis of Design: To establish quality standards and desired design and function, the design is based on products as manufactured by VT Industries.

2.2 5-PLY FLUSH BONDED SOLID-CORE WOOD DOORS

A. 5-Ply Flush Bonded Solid-Core Doors:

1. Compliance: WDMA I.S.1-A and AWS.
  - a. Quality Grade: Premium grade, extra heavy duty.
  - b. Type: AWS PC-5.
2. Door Thickness: 1-3/4 inches.
3. Stiles:
  - a. Inner Stiles: 1-3/8 inches wide, before prefitting.
  - b. Outer Stile: Apply after beveling and before face application.
4. Rails: Minimum Width Before Prefitting: 1-3/8 inches.
5. Core:
  - a. Material: Particleboard.
  - b. Average Density: 32 pcf.
  - c. Compliance: ANSI A208.1, Grade 1-LD-2.
6. Door Assembly:
  - a. Glue stiles and rails to core.
  - b. Sand entire assembly flat as a unit to ensure minimal telegraphing of core components through face veneers.
7. Composite Crossbands:
  - a. Apply to core before application of matching hardware stiles.
  - b. Exposed Crossbanding: Not allowed along stile edges.
8. Veneers:
  - a. Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.
  - b. 5-ply construction.
9. Face Veneers:
  - a. Veneer Species: White Maple, AWS Grade A.
  - b. Veneer Cut: Rift Cut.
  - c. Veneer Match and Assembly: Slip, center balanced, and book matched.
  - d. Minimum Thickness Before Sanding: 1/42 inch.

2.3 FABRICATION

- A. Prefit Doors:
  1. Prefit and bevel doors at factory to fit openings.
  2. Prefit Tolerances: WDMA I.S.1-A and AWS Section 9.
- B. Factory-machine doors for mortised hardware, including pilot holes for hinge screws and lock fronts.
- C. Edge Type: AWS "D", solid wood band.
- D. Hardware Blocking: AWS HB-8 with full width top blocking.

2.4 FINISHES

- A. Doors shall receive factory finishing.
- B. Factory Finishing: AWS System 11, catalyzed polyurethane, premium grade.
  1. Sealer: 3 coats.

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- 2. Sanding: 320-grit sandpaper.
  - 3. Topcoat: 2 coats.
- C. Top and Bottom Rails: Factory sealed with wood sealer.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine locations to receive doors. Notify General Contractor of conditions that would adversely affect installation or subsequent use. Do not begin installation until unacceptable conditions are corrected.
- B. Ensure frames are solidly anchored, allowing no deflection when doors are installed.
- C. Ensure frames are plumb, level, square, and within tolerance.

**3.2 PREPARATION**

- A. Allow doors to become acclimated to building temperature and relative humidity for a minimum of 24 hours before installation.

**3.3 INSTALLATION**

- A. Install doors utilizing hinges furnished by Division 08 Section "Door Hardware" and hang doors accurately into frame openings with uniform tight clearances around jambs and head. Doors shall swing freely without binding or scraping and shall remain motionless at any location when released.
- B. Install doors in accordance with manufacturer's instructions and AWS installation rules.
- C. Install doors plumb, level, square, true to line, without warp or rack.
- D. Seal exposed surfaces with a minimum of 2 coats of polyurethane within 4 days of fitting each door.

**3.4 ADJUSTING**

- A. Adjust doors to swing freely, without binding in frame.
- B. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- C. Remove and replace damaged doors that cannot be successfully repaired, as determined by Architect.

**3.5 CLEANING**

- A. Clean doors promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that could damage finish.

**END OF SECTION**

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**SECTION 08 71 00  
DOOR HARDWARE**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Furnish and install commercial door hardware with all pertinent accessories as indicated on Drawings and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 08 Section "Hollow Metal Frames": for coordination of hardware preparation.
  - 2. Division 08 Section "Flush Wood Doors": for coordination of hardware preparation.

1.4 REFERENCES

- A. Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ICC/IBC - International Building Code.
  - 2. NFPA 70 - National Electrical Code.
  - 3. NFPA 101 - Life Safety Code.
  - 4. 521 CMR – Massachusetts Architectural Access Board Regulations.
  - 5. State Building Codes, Local Amendments.
- B. Standards: All hardware specified herein shall comply with the following industry standards:
  - 1. ANSI/BHMA Certified Product Standards - A156 Series
  - 2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.5 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes; warranty information.
  - 2. Door Hardware Schedule: Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
    - a. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
  - 3. Samples: Upon request by Architect.

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1.6 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment and that have a proven record of successful in-service performance.
- B. Installer Qualifications: Installers with a minimum 3 years documented experience installing standard builders hardware and whose work has resulted in construction with a record of successful in-service performance.
- C. Source Limitations: Obtain each type and variety of Door Hardware specified in this Section from a single source, qualified supplier unless otherwise indicated.
- D. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- B. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.8 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Related Division 08 Sections doors and corresponding frames are to be prepared, reinforced to receive the installation of the specified hardware without additional in-field modifications.

1.9 WARRANTY

- A. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
  - 1. Structural failures including excessive deflection, cracking, or breakage.
  - 2. Faulty operation of the hardware.
  - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- B. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- C. Special Warranty Periods:
  - 1. Ten years for mortise locks and latches.
  - 2. Seven years for heavy duty cylindrical (bored) locks and latches.
  - 3. Twenty five years for manual surface door closers.

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**PART 2 - PRODUCTS**

**2.1 SCHEDULED DOOR HARDWARE**

- A. Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
1. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets.
- B. The hardware sets represent the design intent and direction of the Owner and Architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items shall be brought to the attention of the Architect with corrections made prior to the bidding process. Omitted items not included in a hardware set shall be scheduled with the appropriate additional hardware required for proper application and functionality without additional cost to the Owner.

**Hardware set #1 - Classroom Door**

|   |    |                  |            |          |
|---|----|------------------|------------|----------|
| 3 | ea | Hinge            | CB179      | Stanley  |
| 1 | ea | Intruder Lockset | 93K-7IN    | Best     |
| 1 | ea | Closer           | D-4551 EDA | Stanley  |
| 1 | ea | Stop             | 409/442    | Rockwood |
| 3 | ea | Silencer         | 608        | Rockwood |

**Hardware set #2 - Toilet Room Door**

|    |    |                      |                   |                |
|----|----|----------------------|-------------------|----------------|
| 3  | ea | Hinge                | CB179             | Stanley        |
| 1  | ea | Passage Lever Locket | 7KC30N Grade 2    | Best           |
| 1  | ea | Closer               | D-4551 EDA        | Stanley        |
| 1  | ea | Kickplate            | K1050 12" 4BE CSK | Rockwood       |
| 1  | ea | Stop                 | 409/442           | Rockwood       |
| 3  | ea | Silencer             | 608               | Rockwood       |
| 1. | ea | Finger Guard Set     | MK1A/MK1B 84"     | fingersafe.com |

**2.2 FABRICATION**

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

**2.3 FINISHES**

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

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- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify General Contractor of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

**3.2 PREPARATION**

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

**3.3 INSTALLATION**

- A. Install each item of mechanical hardware and equipment to comply with manufacturer's written instructions and according to specifications.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
  - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

**3.4 ADJUSTING**

- A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

**3.5 CLEANING AND PROTECTION**

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish and provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Owner occupancy.

**END OF SECTION**

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**SECTION 08 81 00  
GLASS GLAZING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install glass glazing with all pertinent accessories as indicated on Drawings and/or as specified in this Section, including but not limited to:
  - 1. Glaze fixed interior hollow metal frames with safety glass.
  - 2. Replace existing Observation Window glass with transparent mirror glass.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
  - 1. Division 08 Section "Hollow Metal Frames": for steel doors and fixed hollow metal framed openings receiving glass and glazing.

1.4 REFERENCES

- A. Comply with applicable requirements of the following standards.
  - 1. ASTM C 1036 - Flat Glass.
  - 2. ASTM C 1048 - Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.
  - 3. ANSI Z97.1 - Safety Performance Specifications and Methods of Test for Safety Glazing Used in Buildings.
  - 4. Federal Safety Standards for Architectural Glazing Materials 16CFR1201.
- B. The following reference materials are hereby made a part of this Section by reference thereto:
  - 1. FGMA - Glazing Manual, and Sealant Manual.
  - 2. Consumer Product Safety Commission-Safety Standard for Architectural Glazing Materials.

1.5 SUBMITTALS

- A. Submit the following under provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's technical specifications for each product used.
    - a. Manufacturer's warranty information.

1.6 QUALITY ASSURANCE:

- A. Installer: A firm with a minimum of three years experience in type of work required by this Section and which is acceptable to manufacturers of primary materials.
- B. Perform work in accordance with FGMA Glazing Manual Sealant Manual.



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**1.7 PROJECT CONDITIONS**

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
  - 1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 50 deg F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

**1.8 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials and products in unopened, factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations and FGMA Manual.
  - 1. Protect materials from moisture, sunlight, excess heat, sparks and flame.
  - 2. Sequence deliveries to avoid delays, but minimize on-site storage.

**1.9 WARRANTIES**

- A. Manufacturer's Warranty: Provide manufacturer's warranty against defects in manufacturing materials and workmanship for a period no less than 5 years commencing from the date of Substantial Completion.

**PART 2 PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to Architect's review for conformance with Contract Documents and the requirements specified herein, provide products from one of the following listed manufacturers:
  - 1. Viracon, Owatonna, MN.
  - 2. Pilkington, NSG Group, Toledo, OH.
  - 3. PPG Industries Inc, Glass Group, Pittsburgh, PA.
  - 4. Or equal as approved by Architect.

**2.2 GLASS - GENERAL**

- A. General requirements for glass: Conforming to the referenced standards and with the additional requirements specified herein; factory labeled on each pane stating the strength, type, thickness and quality; with all labels remaining on glass until final cleaning.
- B. Fabricate glass as required to openings with edge clearances and bite on glass as recommended by the manufacturer with clean-cut edges where concealed, and smooth-ground, polished and seamed edges where exposed to view. Do not cut, seam, nip or abrade glass after heat-tempering.
  - 1. For non-tempered to be cut at site, provide glass larger than required so as to obtain clean cut edges without seaming or nipping.

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- C. Glass thickness shown and heat treatment specified are minimum requirements. Provide glass thickness and heat treatment as required to meet specified performance criteria, State and local codes and ordinances.

### 2.3 GLASS TYPES

- A. Laminated Safety Glass: ASTM C1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
1. Total Thickness: 5/16 inch and consists of:
    - a. 1/8" ASTM C1048 clear heat-strengthened glass (HS).
    - b. 0.030" clear pvb interlayer.
    - c. 1/8" ASTM C1048 clear heat-strengthened glass (HS).
  2. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- B. Transparent Mirror Glass: shall be an online coated glass developed for use as a one-way mirror where clear vision is required and specific lighting conditions can be achieved. It shall offer an effective means of providing undetected surveillance and high quality one-way vision to achieve complete privacy when the ratio of illumination levels between public and private side, or observed and observing side is 5:1.
1. Basis of Design: "One-Way Transparent Mirror" as manufactured by Viracon, Owatonna, MN.
  2. Thickness: 1/4 inch ASTM C1048 clear heat-strengthened glass (HS).
  3. Tint: Grey.

### 2.4 GLAZING MATERIALS

- A. Glazing Material: Silicone Rubber Glazing Sealant; silicone rubber one-part elastomeric sealant; FS TT-S-001543, Class A; acid-type for non-porous channel surfaces, and non-acid type where any of the channel surfaces are porous.
1. Manufacturers and Products:
    - a. "999-A" by Dow Corning.
    - b. "Silglaze N2500" by General Electric.
    - c. "Rhodorsil 3B" by Rhone-Poulenc.
    - d. Or equal accepted by glass manufacturer.
  - B. Preformed Butyl Rubber Glazing Sealant; tape or ribbon (coiled on release paper) of polymerized butyl, or mixture of butyl and polyisobutylene, compounded with inert fillers and pigments, solvent-based with minimum 95 percent solids, thread or fabric reinforcement, tack-free within 24 hours, paintable, non-staining.
  - C. Colors: For exposed materials provide color as indicated or, if not indicated, as selected by the Architect from the manufacturer's standard colors. For concealed materials, provide any of the manufacturer's standard colors.
  - D. Setting Blocks: Neoprene, 70-90 durometer hardness, with proven compatibility with sealants used.
  - E. Spacers: Neoprene, 40-50 durometer hardness, with proven compatibility with glazing materials used.

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- F. Compressible Filler Rod: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with glazing materials used, flexible and resilient, with 5-10 psi compression strength for 25 percent deflection.
- G. Cleaners, Primers and Sealers: Type recommended by glazing material manufacturer.

**PART 3 - EXECUTION**

**3.1 EXAMINATION AND PREPARATION**

- A. Inspect receiving surfaces and ensure that are dry and free from dust, or other foreign materials before glazing. Clean all surfaces with cloth saturated with mineral spirits of high-flash naphtha as recommended by glazing tape manufacturer, before glazing.
- B. Check all openings, prior to glazing, to make certain that the opening is square, plumb and secure in order that uniform face and edge clearances are maintained.
- C. Determine the actual sizes required by measuring the receiving openings. Size glass and mirrors to permit required clearance and bite around full perimeter of glass, as set forth in the referenced FGMA standards, or as recommended by the glass manufacturer. Do not nip edges, to remove flares or to reduce oversize dimensions, under any circumstance.
- D. Perform glazing work in accordance with FGMA Glazing Manual SIGMA and LSGA standards for glazing and installations methods.

**3.2 INSTALLATION**

- A. Install glass in accordance with the standards detailed in the "Glazing Manual" of the Glass Association of North America and the "Sealant Manual" of the Flat Glass Marketing Association except as shown and specified otherwise, and except as specifically recommended otherwise by the manufacturers of the glass and glazing materials.
- B. Unify appearance of each series of lights by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, draw and bow oriented in the same direction as other pieces.
- C. Install glazing materials in accordance with the manufacturer's printed instructions.

**3.3 CURE, PROTECTION AND CLEANING**

- A. Cure glazing materials in accordance with manufacturer's printed instructions and recommendations, to obtain high early bond strength, internal cohesive strength, and surface durability.
- B. Mark glazed openings immediately upon installation of glass by attaching crossed streamers to framing. Do not apply markers of any type to surfaces of glass.
- C. Replace glass included in the work which is broken, or otherwise damaged, from the time Work is started at the site until the date of physical completion.
- D. Maintain glass in a reasonably clean condition during construction to protect from build-up of harmful construction contaminants..
  - 1. Clean and trim excess glazing material from the glass and stops or frames promptly after installation.
- E. When directed, just before Substantial Completion, remove dirt and other foreign material and wash and polish glass included in the work on both sides.

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**END OF SECTION**

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**SECTION 09 22 16  
NON-STRUCTURAL METAL FRAMING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install non-load-bearing steel framing systems for interior gypsum board assemblies with all pertinent accessories, as indicated on Drawings and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 06 Section "Misc. Rough Carpentry": for wood blocking, nailers.
  - 2. Division 09 Section "Building Insulation": for thermal and acoustical batt insulation fit in-between metal framing.
  - 3. Division 08 Section "Hollow Metal Frames": for hollow metal frames occurring in metal stud framed partitions.
  - 4. Division 09 Section "Gypsum Boards": for gypsum boards applied over metal stud framing provided under this Section.
  - 5. Division 09 Section "Metal Acoustical Ceiling Suspension System": for abutting suspended acoustical tile ceiling, including metal suspension system.
  - 6. Division 23 - HVAC: Supply and return air registers.
  - 7. Division 26 - Electrical: Independent hangers for suspended lighting fixtures.

1.4 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's product technical specifications, performance data, physical properties for each item furnished hereunder.
  - 2. Shop drawings: showing relationship to abutting construction and anchoring details.
  - 3. Samples: for each product specified.

1.5 QUALITY ASSURANCE

- A. Contractor shall provide effective quality control over fabrication and erection complying with applicable codes and regulations of government agencies having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received prior to installation.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

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- C. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling as required by AISI's "Code of Standard Practice".

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
1. ClarkDietrich Builsing Systems, Pittsburgh, PA.
  2. MBA Metal Framing, Libertyville, IL.
  3. Marino Industries Corp., South Plainfield, NJ.
  4. Or equal as approved by Architect.

### **2.2 PERFORMANCE REQUIREMENTS**

- A. **STC-Rated Assemblies:** For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- B. **Design loads:** 5 PSF minimum as required by the International Building Code.

### **2.3 FRAMING SYSTEMS**

- A. **Framing Members, General:** Comply with ASTM C 754 for conditions indicated.
1. **Steel Sheet Components:** Comply with ASTM C 645 requirements for metal unless otherwise indicated.
  2. **Protective Coating:** ASTM A 653/A 653M, G40 ,hot-dip galvanized unless otherwise indicated.
- B. **Studs and Runners:** ASTM C 645.
1. **Non-Structural Studs:** Cold-formed galvanized steel C-studs as per ASTM C 645 for conditions indicated below:
    - a. **Basis-of-Design Product:** Subject to compliance with requirements, provide ClarkDietrich Building Systems, ProSTUD products named below, or a comparable product from one of the members of the SFIA.
    - b. **Flange Size:** 1 1/4 inch.
    - c. **Web Depth:** 3-5/8 inches.
    - d. **Member Description:** ProSTUD 25 (25 gauge EQ) 50 ksi.
      - 1). **Minimum Thickness:** 0.0150 inches.
      - 2). **Minimum Design Thickness:** 0.0158 inches.
    - e. **Spacing:** 16 inches on center.
  2. **Non-Structural Track:** Cold-formed galvanized steel runner tracks, drywall track, in conformance with ASTM C 645 for conditions indicated below:
    - a. **Basis-of-Design Product:** Subject to compliance with requirements, provide ClarkDietrich Building Systems; ProTRAK, or a comparable from one of the members of the SFIA.
    - b. **Flange Size:** 1-1/4 inch.
    - c. **Web Depth:** Track web to match stud web size.
    - d. **Minimum Material Thickness:** Track thickness to match wall stud thickness.

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- C. Slip-Type Head Joints: Where indicated, provide one of the following:
1. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch- deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
  2. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch-deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
  3. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
    - a. Products: Subject to compliance with requirements, provide one of the following
      - 1) Dietrich Metal Framing; SLP-TRK Slotted Deflection Track.
      - 2) Superior Metal Trim; Superior Flex Track System (SFT).
      - 3) Telling Industries; Vertical Slip Track.
- D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
- E. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch- wide flanges.
1. Depth: As indicated on Drawings .
  2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.
- F. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical or hat shaped.

## 2.5 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.

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1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

### 3.3 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
  1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
  2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
    - a. Install two studs at each jamb unless otherwise indicated.
    - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
    - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
  3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
  4. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- E. Direct Furring:
  1. Screw to existing construction.
  2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

**END OF SECTION**

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**SECTION 09 29 00  
GYPSUM BOARDS**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Finish and install gypsum boards and all pertinent accessories as indicated on Drawngs and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Division 06 Section "Misc. Carpentry": for supplemental wood framing and blocking supporting gypsum board where required.
  2. Division 08 Section "Hollow Metal Frames": for steel door and sidelight frames occurring in drywall construction.
  3. Division 09 Section "Non-Structural Metal Framing": for non-load bearing partition and ceiling framing; metal furring, backing plates.
  4. Division 09 Sektion "Acoustical Blanket Insulation": for abutting fireglass insulation.
  5. Division 09 Section "Metal Acoustical Ceiling Suspension System": for abutting suspended acoustical tile ceilings.
  6. Division 09 Section "Interior Painting": for finish coatings applied to gypsum boards.
  7. Division 23 - HVAC: for supply and return air registers occurring in drywall construction.
  8. Division 26 - Electrical: for electrical devices and fixtures occurring in drywall construction.

1.4 SUBMITTALS

- A. Submit under the provisions of Division 01 Section "Submittal Procedures".
1. Product data: Manufacturer's data sheets on each product to be used.
  2. Shop drawings: Details of any special conditions associated with fireproofing.
  3. Samples: sample of each products specified.

1.5 SYSTEM REQUIREMENTS

- A. Performance Requirements: Coordinante with Diviosn 09 Section "Non-Structural Metal Framing", fabricate and install systems as indicated but not less than that required to comply with ASTM C754 under the following conditions:
1. Gypsum board partitions:
    - a. Standard systems: Maximum deflection of 1/240 of partition height.
    - b. Systems to receive water resistant gypsum board or backer board: Maximum deflection of 1/360 of partition height.

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2. Interior suspended ceilings and soffits: Maximum deflection of  $l/360$  of distance between supports.

- B. Acoustical Ratings: Where sound ratings are indicated, provide materials and application procedures identical to those tested by manufacturer to achieve Sound Transmission Class (STC) scheduled or indicated in accordance with ASTM E90.

## 1.6 QUALITY ASSURANCE

- A. Reference Standards:

1. Applicable requirements of ASTM C754 for installation of steel framing.
2. Install gypsum board in accordance with applicable requirements and recommendations of Gypsum Association GA 216, "Recommended Specifications for the Application and Finishing of Gypsum Board" except for more stringent requirements of manufacturer.
3. Apply acoustical sealant in accordance with applicable requirements of ASTM C919.

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery:

1. Deliver material to site promptly without undue exposure to weather.
2. Deliver in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade.

- B. Storage:

1. Store above ground in dry, ventilated space.
2. Protect materials from soiling, rusting and damage.
3. Store board to be directly applied to masonry walls at 70°F for 24 hours prior to installation.

## 1.8 PROJECT CONDITIONS

- A. Environmental Requirements:

1. Do not install gypsum board when ambient temperature is below 40°F.
2. For adhesive attachment of gypsum board, and for finishing of gypsum board, maintain ambient temperature above 55°F from one week prior to attachment or joint treatment, and until joint treatment is complete and dry.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Subject to conformance with Contract Documents and the requirements specified herein, provide products from one of the following listed manufacturers:

1. United States Gypsum Company (USG), Chicago, IL.
2. National Gypsum Company, Gold Bond Products Division, Charlotte NC.
3. Georgia Pacific Corporation, Gypsum Division, Atlanta, GA.
4. Or equal as approved by Architect.

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- B. Basis of Design: Listed Gypsum Board and Accessory products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL.

2.2 GYPSUM BOARD MATERIALS

A. Standard Gypsum Boards:

1. Regular Gypsum Board: Gypsum core panel solid set core enclosed in paper. Complying with ASTM C1396.
  - a. Product: SheetRock Brand UltraLight Panels Firecode 30 by USG.
  - b. Thickness: 5/8" unless indicated otherwise.
  - c. Width: 48 inches.
  - d. Length: Use longest length available to avoid joints.
  - e. Edges: Tapered.

2.3 ACCESSORIES

A. Paper-Faced Metal Bead and Trim for Gypsum Board

1. Conform to profile and dimensions indicated.
2. Material for interior work: Comply with ASTM C1047.
3. Outside corners: Paper Faced Metal Bead and Trim B1W series by USG.
4. Inside corners: Paper Faced Metal Bead and Trim B2 by USG.
5. Trims:
  - a. L shape: B4 Series by USG.
  - b. J shape: B9 Series by USG.

B. Adhesives and Joint Treatment Materials:

1. Conform to requirements of ASTM C475.
2. Joint compounds:
  - a. Drying-type (ready-mixed): Equivalent to SheetRock brand ready mixed all purpose joint compound by USG.
  - b. Laminating adhesive for multiple layers: Special adhesive or joint compound specifically recommended for laminating gypsum boards.
  - c. Laminating adhesive for direct application: Special adhesive or joint compound specifically recommended for laminating gypsum boards and for adhering gypsum boards to solid substrates.
  - d. Reinforcing joint tape: Equivalent to SheetRock brand drywall joint tape by USG.
    - 1). ASTM C475, 2 inch nominal width.
    - 2). For tile backer board, provide fiberglass tape as recommended by board manufacturer and where applicable, shall be acceptable to manufacturer of ceramic tile setting materials. For other boards, use paper tape acceptable to gypsum board manufacturer.

C. Gypsum Board Screws: Self-drilling, self-tapping steel screws.

1. For steel framing less than 0.03 inch thick: Comply with ASTM C1002.
2. For steel framing from 0.033 inch thick to 0.112 inch thick: Comply with ASTM C954.
3. Provide Type S or Type S-12 screws.

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- D. Backer Board Accessories: Provide accessories and corrosion-resistant-coated steel screws as recommended by backer board manufacturer and required for complete installation.
- E. Acoustical Sealant: shall be highly elastic, water-based caulking for sound-rated partition and ceiling systems and sealing exterior walls to reduce infiltration. Non-bleeding and non-staining, pumpable and easily applied in beads. Provides excellent adherence to most surfaces, permanent flexibility and lasting seal. Meets ASTM C919 and ASTM C834.
  - 1. Product: SHEETROCK acoustical sealant by USG; or equal as approved by Architect.
- F. Miscellaneous Accessories: Provide as required for complete installations.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine substrates and adjoining construction and conditions under which work is to be installed. Do not proceed with work until unsatisfactory conditions are corrected.

**3.2 GENERAL INSTALLATION REQUIREMENTS**

- A. Install in accordance with reference standards and manufacturer's instructions and as required to comply with seismic requirements.
- B. Tolerances:
  - 1. Do not exceed 1/8 inch in 8'-0" variation from plumb or level in exposed lines of surface, except at joints between gypsum board units.
  - 2. Do not exceed 1/16 inch variation between planes of abutting edges or ends.
  - 3. Shim as required to comply with specified tolerances.

**3.3 BOARD INSTALLATION**

- A. Single Layer Gypsum Board on Metal Studs:
  - 1. Loosely butt gypsum board joints together and neatly fit.
  - 2. Do not place butt ends against tapered edges.
  - 3. Maximum allowable gap at end joints: 1/8 inch.
  - 4. Stagger joints on opposite sides of partitions.
  - 5. Apply ceiling boards first where gypsum board ceilings and wall occur.
  - 6. Cut openings in gypsum board to fit electrical outlets, plumbing, light fixtures and piping snugly and small enough to be covered by plates and escutcheons. Cut both face and back paper.
  - 7. Screw board in place securely with screws spaced according to manufacturer's recommendations.]
- B. Single Layer Gypsum Board on Furring:
  - 1. Apply gypsum board with long dimension at right angles to furring channel.
  - 2. Center end joints over channel web; stagger end joints from those in adjacent rows of board.
  - 3. Fasten boards to furring channels with screws spaced according to manufacturer's recommendations.]

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3.4 ACOUSTICAL TREATMENT

A. Acoustical Sealant:

1. At partition walls, provide continuous beads of acoustic sealant at juncture of both faces of runners with floor and ceiling construction, and wherever gypsum board abuts dissimilar materials, prior to installation of gypsum board.
2. At ceilings, provide continuous beads of sealant wherever gypsum board abuts dissimilar materials.
3. Provide continuous bead of sealant behind faces of control joints prior to installation of control joint accessories.
4. After installation of gypsum board base layers, cut face layer sheets ½ inch less than floor-to-ceiling height and position with 1/4 inch open space between gypsum board and floor, ceiling and dissimilar vertical construction. Fill 1/4 inch open space with continuous sealant beads after installation of face layer.
5. At openings and cutouts, fill open spaces between gypsum board and fixtures, cabinets, ducts and other flush or penetrating items, with continuous bead of sealant.
6. Seal sides and backs of electrical boxes to completely close off openings and joints.

3.5 ACCESSORY INSTALLATION

A. Trim:

1. Use same fasteners to anchor trim accessory flanges as required to fasten gypsum board to supports, unless otherwise recommended by trim manufacturer.
2. Install metal corner beads at external corners.
3. Install metal casing bead trim whenever edge of gypsum board would otherwise be exposed or semi-exposed.

3.6 FINISHING

A. Provide levels of gypsum board finish for locations as follows, in accordance with Gypsum Association GA 214-2015, "Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels".

1. Level 3: All Joints and Interior angles shall have tape embedded in joint compound and shall be immediately wiped with a Joint knife leaving a thin coating of Joint compound over all Joints and interior angles. One (1) separate coat of Joint compound shall be applied over all Joints and interior angles. Fastener heads and accessories shall be covered with two (2) separate coats of Joint compound. The surface shall be smooth and free of tool marks and ridges. Jobsite mock-up(s) shall be used to determine acceptance of the finish within the building.

B. Trim:

1. Use same fasteners to anchor trim accessory flanges as required to fasten gypsum board to supports, unless otherwise recommended by trim manufacturer.
2. Install metal corner beads at external corners.

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3. Install metal casing bead trim whenever edge of gypsum base would otherwise be exposed or semi-exposed, and where gypsum base terminates against dissimilar material.

**3.7 ADJUSTING**

- A. Correct damage and defects which may telegraph through finish work.
- B. Leave work smooth and uniform.

**3.8 CLEANING**

- A. Daily clean work areas by sweeping and disposing of debris, scraps, and deposits of compound and gypsum fill.
- B. After completion of the work of this Section, remove equipment, and clean all wall, partition, and floor areas free from deposits of plaster, gypsum fill, and other materials installed under this Section.

**END OF SECTION**

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**SECTION 09 29 16**  
**ACOUSTICAL BLANKET INSULATION**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install fiberglass blanket (batt) acoustical insulation and pertinent accessories as indicated on Drawings and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 09 Section "Non-Structural Metal Framing": for metal stud framed and furred walls and partitions receiving acoustical blanket insulation.
  - 2. Division 09 Section "Gypsum Boards": for abutting drywall finish.

1.4 REFERENCES

- A. Materials shall meet the property requirements of one or more of the following specifications as applicable to the specific product or end use:
  - 1. American Society for Testing of Materials (ASTM):
    - a. ASTM C423 Test Method for Sound Absorption Coefficient by the Reverberation Room Method.
    - b. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials.
    - c. ASTM E119 Test Methods for Fire Tests of Building Construction and Materials.
  - 2. ANSI S12.60-2002, "Acoustical Performance Criteria, Design Requirements and Guidelines for Schools"

1.5 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Submit data on product characteristics, performance criteria, and limitations, including installation instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original packaging.
- B. Store and protect products in accordance with manufacturer's instructions. Store in a dry indoors location. Protect insulation materials from moisture and soiling.
- C. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

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- D. Do not install insulation that has been damaged or wet. Remove it from jobsite.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Subject to compliance with requirements, provide products by one of the following:

1. Owens Corning Insulating Systems, LLC, Toledo OH.
2. CertainTeed Corporation, Valley Forge PA.
3. Johns Manville Corp., Building Insulation Division, Denver CO.
4. Or equal as approved by Architect.

- B. Basis of Design: "EcoTouch PINK FIBERGLAS" by Owens Corning, Toledo, OH.

### **2.2 ACOUSTIC BLANKET INSULATION (QUIET ZONE ACOUSTIC BATTS), NON-FIRE-RATED**

- A. Type: Unfaced glass fiber acoustical insulation, complying with ASTM C 665, Type I.

1. Surface Burning (flame spread /smoke developed): 25/50 (ASTM E84)
2. Dimensional Stability: Linear Shrinkage: < 0.1% (ASTM C167)
3. Critical radiant flux: > 0.12 (ASTM E970)
4. Fungi resistance: Pass (ASTM C1338)
5. Oder emission: Pass. (ASTM C1304)
6. Water vapor sorption (by weight): < 5% (ASTM C1104)

### **2.3 ACOUSTICAL PERFORMANCE REQUIREMENTS**

- A. Sound Transmission Class: ASTM C423 and ANSI S12.60-2002.

1. STC-45 if the adjacent space is a corridor, staircase, office or conference room.
2. STC-50 if the adjacent space is another core learning space, speech clinic, health care room or outdoors.
3. STC-53 if the adjacent space is a restroom.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this section will be installed. Verify that adjacent materials are dry and ready to receive insulation.
- B. Provide written report listing conditions detrimental to performance of work in this section. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION**

- A. Comply with manufacturer's installation instructions.
- B. Friction-fit blanket insulation in place, until the interior finish is applied. Install batts to fill entire stud cavity, with no gaps, voids, or areas of compression. If stud cavity is less than 8 feet in height, cut lengths to friction fit against floor and ceiling tracks. Walls with penetrations require that insulation be carefully cut to fit around outlets, junction boxes, and other irregularities.



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- C. Where walls are not finished on both sides or where insulation does not fill the cavity depth, install supplementary support to hold product in place.
- D. Where insulation must extend higher than 8 feet, provide temporary support to hold product in place, until finish material is applied.
- E. Trim insulation neatly to fit spaces. Fill miscellaneous gaps and voids with insulation. Fit insulation tight in spaces.
- F. Secure insulation in place using one of the following methods: Friction fit; staple or nail facing flanges in place as needed, tape in place, retain in place with spindle fasteners, retain in place with wire mesh secured to framing members.

**END OF SECTION**

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**SECTION 09 51 13  
ACOUSTICAL CEILING PANELS**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install fire-rated and non-rated ceiling panels and all pertinent accessories at locations indicated on Drawings and/or as specified in this Section.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 09 Section "Metal Acoustical Ceiling Suspension System": for suspension ceiling grid receiving acoustical ceiling panels.
  - 2. Division 23 -Heating, Ventilating, and Air Conditioning": for ceiling mounted HVAC devices, air diffusers, grilles, or registers.
  - 3. Division 26 - Electrical: for ceiling mounted electrical devices, fixtures, lights, alarms, or outlets.

**1.4 REFERENCES**

- A. ASTM:
  - 1. ASTM C423 - Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
  - 2. ASTM D3273-00 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
  - 3. ASTM D3274 - Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation
  - 4. ASTM D5116-06 - Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products
  - 5. ASTM E84 - Surface Burning Characteristics of Building Materials
  - 6. ASTM E1264 - Classification for Acoustical Ceiling Products
- B. CISCA:
  - 1. CISCA Ceiling Systems Installation Handbook.
  - 2. CISCA (Ceilings and Interior Systems Contractors Association) - Acoustical Ceilings: Use and Practice.
- C. COEHHA - The California Office of Environmental Health Hazard Assessment established exposure limits of chemicals.

**1.5 SUBMITTALS**

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".

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1. Product data: Manufacturer's technical specifications, performance data, physical properties for each item furnished hereunder.
2. Samples:
  - a 6" x 6" (min.) samples of each tile type, pattern, and color required.

**1.6 DELIVERY AND STORAGE OF MATERIALS**

- A. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.
- B. Storage: Storage time of materials at the job site should be as short as possible, and environmental conditions should be as near as possible to those specified for occupancy (see no. 1.05 below). Excess humidity during storage can cause expansion of material and possible warp, sag, or poor fit after installation. Chemical changes in the mat and/or coatings can be aggravated by excess humidity and cause discoloration during storage, even in unopened cartons. Cartons should be removed from pallets and stringers to prevent distortion of material. Long-term (6- 12 months) storage under uncontrolled environmental conditions should be avoided.
- C. Handling: Handle in such manner to ensure against racking, distortion, or physical damage of any kind.
- D. Damaged or deteriorated materials should be removed from the premises. Immediately before installation, to stabilize tile and panels, store them at a location where temperature and humidity conditions duplicate those ambient during installation and anticipated for occupancy.

**1.7 ENVIRONMENTAL CONDITIONS**

- A. Installation of acoustical panels shall not begin until building is enclosed, permanent heating and cooling equipment is in operation, and residual moisture from plaster, concrete, or terrazzo work has dissipated.
- B. Do not use ceiling panels in extreme or continuous high humidity, or areas exposed directly to weather or water. Ceiling panels are sized and designed for use within the standard occupancy range of temperature and humidity, 65-85 °F (18-29 °C), no more than 70% RH (relative humidity).
- C. Allow time for dimensional changes in ceiling panels stored at temperature/humidity conditions well outside of those recommended for service. With increases in temperature/humidity, these products expand (up to 1/64 in./ft. (4.3 mm/m) at 85 °F (29 °C)/90% RH) and may not fit into a fixed grid. Conversely, with decreases, these products will be undersize, but expand to normal when standard ambient conditions return.
- D. For some pattern edge details, if perimeter panels must be cut smaller, the cut edge must be field-rabbited, or the wall angle must be lowered by (1/4") (3/8") (Reveal Depth).
- E. Formaldehyde & VOC Classification, as tested per ASTM D5116 and according to standards established by the Collaborative for High-Performance Schools (MA-CHPS).

**1.8 QUALITY ASSURANCE**

- A. Single Source Responsibility: To obtain combined warranty for the Donn Brand suspension system and the acoustical panel, color match or ceiling panel and suspension system compatibility, all acoustical panel and suspension system components shall be produced and supplied by one manufacturer.

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- B. Installer qualifications: Installer shall have successful experience in the installation of suspended ceiling systems.
- C. Requirements of regulatory agencies: Codes and regulations of authorities having jurisdiction.

**1.9 PROJECT CONDITIONS**

- A. Climatic Condition Range for panels used on this project are as follows:
  - 1. Standard Commercial Ceilings: 60-85°F (16-29°C) with a max 70% RH.
- B. Coordination with other work:
  - 1. General: Coordinate with other work supported by or penetrating through the ceiling, including mechanical and electrical work and partition systems.
  - 2. Mechanical work: Ductwork above ceiling shall be complete, and permanent heating and cooling systems operating to climate conditions prior to installation of ceiling components.
  - 3. Electrical work: Installation of conduit above ceiling shall be complete before installation of ceiling components.

**1.10 WARRANTY**

- A. Provide manufacturer's panel warranty against manufacturing and material defects for a period no less than ten (10) years commencing from date of Substantial Completion.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. USG Interiors Inc., Ceiling Division, Chicago IL.
  - 2. Armstrong World Industries, Inc., Lancaster PA.
  - 3. The Celotex Corporation, Building Products Division, Tampa FL.
  - 4. Or equal as approved by Architect.

**2.2 ACOUSTICAL CEILING PANELS**

- A. Non-Fire Rated Acoustical Ceiling Panel: To match existing school standard acoustical ceiling tile.
  - 1. Water Felted, Mineral-Base with painted finish Acoustical Panels for acoustical ceiling panel.
    - a. Basis of Design: USG Corporation "Radar ClimaPlus Panels".
  - 2. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
    - a. Type III, Form 2, Pattern CD.
    - b. Surface Burning Characteristics: Class A, Flame Spread 25, Smoke Developed 50.
  - 3. Color Finish: White Standard
  - 4. Recycled Content: Not Less Than 24
  - 5. NRC Rating: Not Less Than 0.55
  - 6. CAC Rating: Not Less Than 33

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7. LR Rating: Not Less Than 0.84
8. Edge Detail: Square Edge
9. Panel Size: 2 ft x 2 ft x 5/8 in.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine metal suspension system to receive ceiling panels for conditions that will adversely affect installation. Provide written report of discrepancies.
- B. Do not start work until unsatisfactory conditions are corrected.
- C. Work to be concealed: Verify work above ceiling is complete and installed in manner that will not affect layout and installation of ceiling panels.
- D. Beginning of installation shall signify acceptance of conditions in areas to receive ceiling panels.

**3.2 PREPARATION**

- A. Permit acoustical ceiling panel to reach room temperature and stabilized moisture content prior to installation.
- B. Clean metal suspensions system where necessary.

**3.3 INSTALLATION**

- A. Install ceiling panels in exposed grid systems, supported on all edges.
- B. Install ceiling panels in accordance with approved suspension grid shop drawings and manufacturer's instructions.
- C. Install accessories as necessary to meet project requirements.
- D. Install acoustical tiles in coordination with suspension system.
  1. Fit adjoining tile to form flush, tight joints. Scribe and cut tile for accurate fit at borders and around penetrations through tile.
  2. Remove and replace any damaged tiles.

**3.4 CLEANING**

- A. Remove panel material and perform any necessary cleaning maintenance with non-solvent based commercial cleaner.
- B. Touch up all minor scratches and spots, as acceptable, or replace damaged sections when touch-up is not permitted.
- C. Removal of debris: Remove all debris resulting from work of this section.

**END OF SECTION**

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**SECTION 09 53 23**  
**METAL ACOUSTICAL CEILING SUSPENSION SYSTEM**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install metal acoustical ceiling suspension system with all pertinent accessories for lay-in acoustical panel ceiling as indicated on Drawings and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Division 09 Section "Gypsum Boards" for abutting gypsum walls and partitions; for metal studs supporting the edge trims and moldings.
  2. Division 09 Section "Acoustical Ceiling Panels": for acoustical ceiling panels to be installed within metal ceiling suspension system.
  3. Division 23 - Heating, Ventilating, and Air Conditioning: for ceiling mounted HVAC devices, fixtures, equipment, access doors and panels.
  4. Division 26 - Electrical: for ceiling mounted electrical devices, fixtures, lights, equipment, access doors and panels.

1.4 REFERENCES

- A. American Society for Testing and Materials (ASTM)
1. C635 - Standard Specification for the manufacture, performance, and testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
  2. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
  3. E-580 - Standard for Ceiling Suspension Systems Requiring Seismic Restraint.
- B. CISCA Ceilings Systems Handbook.
- C. NFPA 70 - 2008 National Electrical Code (NEC) Section 410-36.
- D. 780 CMR - Massachusetts State Building Code.

1.5 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
1. Product data: manufacturer's technical specifications for each product used.
  2. Shop drawings: Reflected ceiling plans, drawn to scale, shown and coordinated with each other, based on input from installers of the items involved:
    - a. Ceiling suspension system members.
    - b. Method of attaching hangers to building structure.

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- c. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
- 3. Samples: Set of 12-inch-long samples of type, finish, and color for each Exposed Suspension System Members, Moldings, and Trim.

**1.6 PROJECT CONDITIONS**

- A. Environmental Requirements:
  - 1. Verify weather tightness of area receiving suspension system prior to installation.
  - 2. Wet trades work to be thoroughly dry and complete prior to installation.
  - 3. Installation to begin only when temperature and humidity conditions closely approximate interior conditions which will exist when area is complete and occupied.
  - 4. Heating and air conditioning systems to be operating prior to, during, and after installation.

**1.7 WARRANTY**

- A. Manufacturer's Warranty: suspension systems shall be free from manufacturing defects and that the suspension systems shall be free from the occurrence of 50% red rust as defined by ASTM D610 test procedures for 30 years.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. USG Interiors Inc., Chicago IL.
  - 2. Armstrong World Industries, Inc., Lancaster PA.
  - 3. Certainteed, Valley Forge PA.
  - 4. Or equal as approved by Architect.
- B. Basis of Design Product: "Donn DX" as manufactured by USG Interiors Inc., Chicago IL, for non-fire-rated applications.

**2.2 METAL SUSPENSION SYSTEM, GENERAL**

- A. Metal Suspension System Standard: Provide manufacturer's standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635.
- B. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products".
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- D. Wire Hangers, Braces, and Ties: shall be Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
- E. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical tiles in-place.

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**2.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING**

- A. Factory-finished main and cross runners roll formed from and capped with cold-rolled steel sheet, hot-dip galvanized according to ASTM A 653, G30 coating designation.
1. Main Tee: 15/16".
    - a. Height: 1.64"
    - b. Length: 12'
  2. Cross Tee:
    - a. Height: 1"
    - b. Length: 2'
  3. Structural Classification: Intermediate-duty system.
  4. Fire: Class: A.
  5. Seismic Design Category: IBC A – C.
  6. ICC-ES Evaluated Installation: 7/8" Molding ACM7 Clip
  7. Rated Load: 12 lbs./LF (4' Hanger Spacing) will not deflect more than L/360 per ASTM C635
  8. Finish:
    - a. Coated with factory applied standard baked-on enamel paint finish.
    - b. Color: "Flat White".
  9. Access: with initial access openings located throughout ceiling within each module formed by main and cross runners, with additional access available by progressively removing remaining acoustical tiles.

**2.4 METAL EDGE MOLDINGS AND TRIM**

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile shall be suspension system manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of runners.
1. Dimensions: 15/16-inch by 1-9/16-inches by 3/4-inch.
  2. Provide manufacturer's standard edge moldings that fit acoustical tile edge details and suspension systems indicated and that match width and configuration of exposed runners, unless otherwise indicated.
  3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine areas receiving suspension system to identify conditions which will adversely affect installation. Provide written report of discrepancies.
- B. Do not begin installation until adverse conditions have been remedied.
- C. Work to be concealed: Verify work above ceiling is complete and installed in manner that will not affect layout and installation of ceiling panels.
- D. Beginning of installation shall signify acceptance of conditions in areas to receive ceiling suspension system.

**3.2 PREPARATION**



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- A. Installer must verify actual field dimensions prior to installation. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders, and comply with layout shown on reflected ceiling plans.
- B. Coordinate and schedule installation of suspension system with work of other trades affected by this installation, with particular attention given to mechanical and electrical work required to be installed and operating before ceiling work can begin.

### 3.3 INSTALLATION

- A. Suspend ceiling hangers from building's structural members and as follows
  - 1. Install hangers plumb and free from contact with other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
  - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
  - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
  - 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  - 5. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
  - 6. Do not attach hangers to steel deck tabs.
  - 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  - 8. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
  - 9. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- B. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members where necessary for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- C. Install edge moldings and trim of type indicated at perimeter of acoustical tile ceiling area and where necessary to conceal edges of acoustical tiles.
  - 1. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
  - 2. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Lighting Fixtures:
  - 1. All light fixtures shall be mechanically attached to the suspension system per NEC 410-16 (two per fixture unless the fixture is independently supported).
  - 2. Support of rigid lay-in (Type G) or can light fixtures:

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- a. Each fixture less than 10 lbs. shall have a single wire (wire may be slack) attached from the fixture to structure.
  - b. Each fixture that weighs between 10 and 56 lbs. shall have two wires (wires may be slack) attached at diagonal corners of the fixture to structure.
  - c. Each fixture greater than 56 lbs. shall be directly supported to structure by approved hangers.
- F. Air Terminals:
- 1. Air terminals less than 20 lbs. shall be positively attached to the suspension system
  - 2. Air terminals that weigh between 20 and 56 lbs. shall be mechanically attached to the suspension system. Two slack wires shall be attached from the housing to structure.
  - 3. Air terminals in excess of 56 lbs. shall be directly supported to structure by approved hangers.
- G. Deflection on installed system: Maximum deflection shall not exceed 1/360 of the span.
- 1. Additional Hanger Wires: Wrapped tightly 3 full turns to structure and components at locations where imposed loads could cause deflection exceeding  $\frac{1}{360}$  span.
- 3.4 CLEANING, REPAIR AND ADJUSTMENT
- A. Remove damaged components, replace with undamaged components.
  - B. Prior to panel installation, perform any necessary cleaning maintenance with non-solvent based non-abrasive commercial cleaning solution.
  - C. Immediately remove any corrosive substances or chemicals that would attack painted finishes (i.e. wallpaper adhesives)
  - D. Touch up all minor scratches and spots, as acceptable, or replace damaged sections when touch-up is not permitted
  - E. Removal of debris: Remove all debris resulting from work of this section.

**END OF SECTION**

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**SECTION 09 65 13  
VINYL WALL BASE**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install finish vinyl wall base and all pertinent accessories as indicated on Drawings and/or as specified herein in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 09 Section "Gypsum Boards": for gypsum board wall construction receiving resilient wall base finish.
  - 2. Division 09 - Finishes: for various finish flooring abutting wall base.

1.4 REFERENCES

- A. ASTM International:
  - 1. F 1861 Standard Specification for Resilient Wall base
  - 2. E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
  - 3. E 662 Test Method for Specific Density of Smoke Generated by Solid Materials.
  - 4. F 925 Standard Test Method for Resistance to Chemicals of Resilient Flooring.
  - 5. F 137 Standard Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus
- B. Other Referenced Documents
  - 1. National Fire Protection Association (NFPA): NFPA 255, Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source
  - 2. National Fire Protection Association (NFPA) 258 Test Method for Specific Density of Smoke Generated by Solid Materials.

1.5 SUBMITTALS

- A. Submit in accordance with Division 01 Section "Submittal Procedures".
  - 1. Product data: manufacturer's technical product specifications for each type of product indicated; installation instructions; warranties.
  - 2. Product schedule: Use same designations indicated on Drawings.
  - 3. Samples: For each type of product indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

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- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by Johnsonite, but not less than 55 deg F (13 deg C) or more than 85 deg F (29 deg C).

**1.7 PROJECT CONDITIONS**

- A. Install resilient products after other finishing operations, including painting, have been completed.
- B. Maintain ambient temperatures within range recommended by Johnsonite, but not less than 65 deg F (18 deg C) or more than 85 deg F (29 deg C) in spaces to receive resilient products during the following time periods:
  - 1. 48 hours before installation.
  - 2. During installation.
  - 3. 48 hours after installation.
- C. Maintain the ambient relative humidity between 40% and 60% during installation.
- D. Until Substantial Completion, maintain ambient temperatures within range recommended by Johnsonite, but not less than 55 deg F (13 deg C) or more than 85 deg F (29 deg C).

**1.9 WARRANTY**

- A. Manufacturer's Warranty: Submit manufacturer's standard warranty document commencing on Date of Substantial. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
  - 1. Product Warranty: 1 year warranty against manufacturing defects.
  - 2. Wear Warranty: 3 year limited wear warranty.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, provide products by the following listed manufacturer:
  - 1. Johnsonite, Inc. Chagrin Falls, OH.
  - 2. Roppe Corporation, Fostoria, OH.
  - 3. Mercer Products Company, Orlando FL.
  - 4. Or equal as approved by Architect.
- B. Basis of Design: "Traditional Vinyl Wall Base" as manufactured by Johnsonite, Inc., Chagrin Falls, OH.

**2.2 VINYL WALL BASE**

- A. Provide vinyl wall base with the following physical characteristics (Designated on drawings as VB):
  - 1. Manufactured from a homogeneous composition of polyvinyl chloride (PVC).
  - 2. Meets performance requirements for ASTM F 1861 Standard Specification for Resilient Wall Base, Type TV, Group 1.
  - 3. ASTM E 648, Standard Test Method for Critical Radiant Flux of 0.45 watts/cm<sup>2</sup> or greater, Class I.

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4. ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials, Class B, Smoke <450.
  5. Flexibility: Does not crack, break, or show any signs of fatigue when bent around a 1 1/4" diameter cylinder when tested according to ASTM F 137 Standard Test Method for Flexibility of Resilient Flooring Materials protocols.
  6. Color Stability: Meets or exceeds ASTM F 1861 requirements for color stability when tested to ASTM F 1515 Standard Test Method for Measuring Light Stability of Resilient Flooring protocols.
  7. Contains at least 14% pre consumer recycled content.
  8. Phthalate free except for recycled materials.
- B. For Traditional Vinyl Wall Base:
1. Type: CB (for Toe).
  2. Colors: Johnsonite "80 Fawn CB".
  3. Height: 4".
  4. Length: 120' coils.
  5. Thickness 1/8".

### 2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: shall be low VOC, latex modified, Portland cement-based formulation acceptable to wall base manufacturer and compatible with substrates, equal to the following:
1. Ardex, Inc., products "Feather Flash" and "Ardex SD-P".
  2. Silpro Masonry Systems Inc., product "Masco Latex Cement".
  3. Quikrete Companies, product "Fast-Set Underlayment 1248".
- B. Adhesives: as recommended by wall base manufacturer to meet site conditions.
1. Johnsonite 960 Cove Base Adhesive.
  2. Johnsonite 945 Contact Bond Adhesive.
- C. Caulking: colored caulking acceptable to wall base manufacturer.
- D. Cleaning material: Domestic detergent, as recommended by the wall base manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.
- B. Prepare substrates according to manufacturer's written instructions to ensure adhesion of rubber wall base.

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1. Prepare substrates to be smooth, rigid, flat, level, permanently dry, clean and free of foreign materials such as paint, dust, grease, oils, solvent, and all other contaminants that may interfere with adhesive bond.
  2. Remove, by light sanding and grinding, all protruding edges, high spots, bumps and ridges. Ensure that substrate is free from paint, varnish, wax, oil, or other foreign matter.
  3. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound. Skim-coat substrate where necessary.
  4. Vacuum clean substrates to be covered by resilient products immediately before installation.
- C. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

### 3.3 INSTALLATION

- A. Comply with Manufacturer's written instructions for installing vinyl wall base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install base on solid backing, bond to vertical substrate with continuous contact at horizontal and vertical surfaces.
1. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
  2. Scribe to fit to doorframes and other interruptions.
  3. Apply primers as recommended by adhesive manufacturer's written instructions.
  4. Spread only enough adhesive to permit installation of materials before initial set. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates. Do not stretch resilient base during installation.
  3. Install external and internal corners in accordance with manufacturer's specific instructions. Where applicable, install preformed corners before installing straight pieces. Cope corners and fit neatly.
  4. Fill voids with plastic filler along the top edge of the resilient wall base on masonry or other similar irregular substrate surfaces.

### 3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing resilient base installation:
1. Remove adhesive and other blemishes from exposed surfaces.
  2. Damp-mop surfaces to remove marks and soil.
  3. Repair or replace defective or damaged installed products.
- B. Protect resilient base from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

**END OF SECTION**

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**SECTION 09 65 16**  
**VINYL SHEET FLOORING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install vinyl sheet flooring with integral wall base and all pertinent accessories as indicated on Drawings, and/or as specified in this Section.
1. Provide substrate preparation where required including but not limited to grinding down high spots, filling in low spots, skim-coating, smoothing, patching and leveling to specified conditions acceptable by flooring manufacturer.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Division 09 Section "Interior Painting": for finish painting abutting the integral wall base.
  2. Other Division 09 section "Vinyl Composition Tile Flooring": for floor finishes abutting the work of this Section and requiring transition strip.

1.4 REFERENCES

- A. ASTM International:
1. ASTM E 648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
  2. ASTM E 662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
  3. ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
  4. ASTM F 1303 Standard Specification for Sheet Vinyl Floor Covering with Backing
  5. ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use Under Resilient Flooring
  6. ASTM F 1861 Standard Specification for Resilient Wall Base
  7. ASTM F 1869 Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
  8. ASTM F 1913 Standard Specification for Vinyl Sheet Floor Covering Without Backing
  9. ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
- B. National Fire Protection Association (NFPA):
1. NFPA 253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
  2. NFPA 258 Standard Test Method for Measuring the Smoke Generated by Solid Materials

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1.5 SUBMITTALS

- A. Prepare and submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Submit manufacturer's technical data, installation and maintenance instructions, and warranty information.
  - 2. Shop drawings: scaled drawings showing seaming plan, coving details.
  - 3. Samples: Manufacturer's standard samples showing full range of colors for flooring, welding rods, and applicable accessories.

1.6 QUALITY ASSURANCE

- A. Select an installer who is competent in the installation of resilient sheet flooring using heat-welded seams.
- B. Fire Performance Characteristics: Provide resilient vinyl sheet flooring with the following fire performance characteristics as determined by testing material in accordance with ASTM test methods indicated below by a certified testing laboratory or other testing agency acceptable to authorities having jurisdiction:
  - 1. ASTM E 648 Critical Radiant Flux of 0.45 watts per sq. cm. or greater, Class I
  - 2. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.
- B. Store materials in a clean, dry, enclosed space off the ground, protected from harmful weather conditions and at temperature and humidity conditions recommended by the manufacturer. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.

1.8 PROJECT CONDITIONS

- A. Temperature: Maintain a minimum temperature in the spaces to receive the flooring and accessories of 60°F and a maximum temperature of 85°F for at least 24 hours before, during, and for not less than 72 hours after installation. Thereafter, maintain a minimum temperature of 55°F (13°C) in areas where work is completed.

1.9 WARRANTY

- A. Manufacturer's warranty against product defects in manufacturing materials and workmanship for a period no less than five (5) years commencing from the date of Substantial Completion.

**PART 2- PRODUCTS**

2.1 MANUFACTURERS

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. Armstrong World Industries, Inc., Lancaster, PA.



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2. Mannington Milles, Inc., Salem, NJ.
3. Tarkett USA Inc., Houston, TX.
4. Or equal.

B. Basis of Design: "Connection CORLON" as manufactured by Armstrong World Industries, Inc., 2500 Columbia Avenue, Lancaster, PA; or equal as approved by Architect.

## 2.2 VINYL SHEET FLOORING MATERIALS

A. Provide Inlaid Vinyl Sheet Flooring:

1. Description: An inlaid sheet flooring consisting of an embossed wear layer of vinyl chips/granules consolidated on a flexible fibrous backing. Protected by a UV-cured polyurethane finish, the colors and pattern detail are dispersed uniformly throughout the wear layer of the product. Color pigments are insoluble in water and resistant to cleaning agents and light.
2. Inlaid vinyl sheet flooring shall conform to the requirements of ASTM F1303 Standard Specification for Sheet Vinyl Floor Covering with Backing, Type II, Grade 1, with Class A backing
3. Color: "white cliffs".
4. Width: 6 ft. (1.83 m).
5. Length: up to 82 lineal feet (25 meters)
6. Thickness: 0.080 in.
7. Wear layer: 0 050 in.

B. Vinyl Weld Rod: Provide patterned vinyl weld rod as produced by the same flooring manufacturer, and intended for heat welding of seams. Color shall be compatible with field color of flooring.

## 2.3 WALL BASE MATERIALS

A. For integral WBA flash cove base: Provide integral flash cove wall base by extending sheet flooring 4 in. up the wall using adhesive, welding rod, and accessories recommended and approved by the flooring manufacturer.

## 2.4 ADHESIVES

A. Waterproof Adhesive: shall be "Aquaflex System" as manufactured by Formulators, Santa Ana, CA.

1. The system shall consist of the following:
  - a. Aquaflex Waterproof Adhesive.
  - b. Aquaflex DeGAS Primer.
  - c. Gundlach WHA trowel for application.
  - d. Weighted Application for Primer.
  - e. Aquaflex Skim Fast - waterproof skim coat.
  - f. Aquaflex Cleaner.
  - g. Sponge for clean up.
2. Performance requirements:
  - a. insitu %RH (ASTM F-2170) to 100%.
  - b. MVER (ASTM F1869) >15 lbs / 1000 sf / day.
  - c. pH (ASTM F710) to 14.
  - d. Solids: >80%.
  - e. Flammability: nonflammable.
  - f. VOC: 0g/l.

B. Optional High Moisture Adhesive: Flooring Manufacturer's High Moisture Adhesive (such

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as Armstrong S-543 Premium Plus) may be used only in conjunction with moisture vapor and alkalinity mitigation system equivalent to "Ardex MC Rapid" with "Ardex V-1200" self-leveling underlayment, and all other pertinent accessories.

## 2.6 ACCESSORIES

- A. For patching, smoothing, and leveling monolithic subfloors , provide Armstrong S-194 Cement-Based Patch, Underlayment and Embossing Leveler / S-195 Underlayment Additive.
- B. For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.
- C. Provide top edge trim caps of plastic for integral flash cove.
- D. Provide a fillet support strip for integral cove base with a minimum radius of 1 in. (2.54 cm) of plastic.
- E. Provide resilient transition edge strips, Johnsonite SSR-XX-D, of full width at the bottom of Toilet Room door, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered with "55 Silver Grey" color.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Visually inspect flooring materials, adhesives and accessories prior to installation. Flooring material with visual defects shall not be installed and shall not be considered as a legitimate claim.
- B. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.
- C. Inspect subfloors prior to installation to determine that surfaces are free from residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.
- D. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- E. Beginning of substrate preparation constitutes Installer's acceptance of substrate conditions.

### 3.2 PREPARATION

- A. All concrete surfaces must be prepared prior to adhesive application per ASTM F710 consisting flat, dry porous and free of dust, dirt, wax, cut-back, paint, grease, oil, curing agents, mold, bond breakers, residual alkaline salts, densifiers, hardeners or any other foreign material that would inhibit bond. Use only mechanical methods to clean existing sub-floor. Fill cracks, holes, and depressions using only materials designed for this intended purpose. Never use adhesive to fill cracks over or expansion joints.

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1. Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints, and other defects with fast-setting cement-based underlayment or fast-setting cement-based patch and skim coat as recommended by the flooring manufacturer.
2. To insure porosity, concrete substrate shall be prepared by mechanical grind to CSP1 surface profile, according to ICRI standard.
  - a. Concrete surface must achieve porosity by grinding with a planetary diamond-bit grind method or Diamabrush. A sanding disk process is not acceptable.
- B. To the flat, dry, porous concrete apply a thin skim coat of Aquaflex Skim Fast. Allow 40-50 mins of cure and sand. Vacuum the concrete surface before proceeding.
- C. Acclimatize flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.
  1. The installation area should be acclimated to at least 60°F for 24 hrs prior, during and 72 hrs following the installation procedure. Do not install if temperature exceeds 85° F.
- D. Install flooring and accessories after the other finishing operations, including painting, have been completed.
- E. Vacuum-clean and damp mop surfaces to be covered immediately before the application of flooring. Make subfloor free from dust, dirt, grease, and all foreign materials.

### 3.3 INSTALLATION OF FLOORING

- A. Install flooring in strict accordance with adhesive and flooring manufacturers' instructions. The flooring installer shall be responsible for any failure to comply may result in voiding the manufacturer's warranty.
  1. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.
- B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on Drawings.
- C. Where applicable, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.
- D. Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.
- E. Apply one coat of Aquaflex D-Gas Primer over the immediate section prior to adhesive in order to penetrate and "de-gas" the concrete surface. Use a fine nylon push broom. **Do not use a nap roller.** Allow approximately 1hr to cure.
- F. Fold back the sheet to just over half its length, making sure the remaining half retains its position.
- G. Use the supplied trowel. TROWEL ACCURATELY, do not leave clumps or "snake tracks" of glue. Upon opening pail, slice tie, open bag and pour adhesive into pail. Apply

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adhesive until the pail is ½ empty then switch to a new trowel edge. Plan to install in sections. The section size must be easy to control within the given operating time which is typically about 30 minutes.

1. Spread the adhesive over the smooth freshly prepared concrete surface using only the trowel supplied by Formulators. Maintain the correct size of notch at all times.
- F. After spreading the adhesive allow approximately 15-20 minutes of flash time. When the adhesive is ready to accept the flooring material, fold the sheet vinyl back into the adhesive, rubbing from the center to the edge, taking care not to twist the roll or trap air bubbles. **Displace the weight of your body with adequate knee guards.** A 20-minute working time for sheet vinyl placement into the Aquaflex adhesive must be observed (timing to start, when adhesive application begins).
- G. Lay flooring to provide a minimum number of seams. Avoid cross seams, filler pieces, and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer's recommendations.
1. Do not leave visible wet adhesive at the seam. Any excess Aquaflex adhesive in the seam area should be cleaned.
- H. Heat Welded Seams: Prepare heat-welded seams with special routing tool supplied for this purpose and heat weld with vinyl welding rod in seams.
1. Prepare sealed seams with special seam adhesive supplied for this purpose.
  2. Use methods and sequence of work in conformance with written instructions of the flooring manufacturer.
  3. Finish all seams flush and free from voids, recesses, and raised areas.
- I. Adhere flooring to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.
- J. Integral Flash Cove: Provide integral flash cove wall base where shown on Drawings, including cove fillet support strip and top edge cap trim. Construct flash cove base in accordance with the flooring manufacturer's instructions. Heat-weld seams as specified for those on the floor.

#### 3.4 INSTALLATION OF ACCESSORIES

- A. Place resilient etransition strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

#### 3.5 CLEANING AND PROTECTION

- A. Perform initial and on-going maintenance according to the latest edition of Armstrong Guaranteed Installation Systems manual, F-5061.
- B. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings.

**END OF SECTION**

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**SECTION 09 65 19**  
**VINYL COMPOSITION TILE FLOORING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install vinyl composition tile flooring with all pertinent accessories as indicated on Drawings and/or as specified in this Section.
  - 1. Provide substrate preparation where required including but not limited to grinding down high spots, filling in low spots, skim-coating, smoothing, patching and leveling to specified conditions acceptable by flooring manufacturer.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 09 Section "Vinyl Wall Base": for resilient wall base covering perimeter of vinyl tile flooring abutting a wall.
  - 2. Other Division 09 sections: for floor finishes abutting and/or related to this Section.

1.4 SUBMITTALS

- A. Submit under the provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's product technical specifications, performance data, physical properties.
  - 2. Shop drawings: layouts showing color patterns.
  - 3. Samples: manufacturer's standard samples showing the required colors for flooring, and applicable accessories.

1.5 QUALITY ASSURANCE AND REGULATORY REQUIREMENTS

- A. Installer shall be skilled, competent and experienced in the installation of vinyl composition tile flooring.
- B. Provide flooring and accessories supplied by one manufacturer, including leveling and patching compounds.
- C. Provide flooring material to meet the following fire test performance criteria as tested by a recognized independent testing laboratory:
  - 1. ASTM E 648 Critical Radiant Flux of 0.45 watts per sq. cm. or greater, Class I.
  - 2. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less.

1.6 ENVIRONMENTAL CONDITIONS

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- A. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.
- B. Store materials in a clean, dry, enclosed space off the ground, and protected from the weather and from extremes of heat and cold. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.
- C. Maintain a minimum temperature in the spaces to receive the flooring and accessories of 65°F (18°C) and a maximum temperature of 100°F (38°C) for at least 48 hours before, during, and for not less than 48 hours after installation. Thereafter, maintain a minimum temperature of 55°F (13°C) in areas where work is completed. Protect all materials from the direct flow of heat from hot-air registers, radiators, or other heating fixtures and appliances.
- D. Install flooring and accessories after the other finishing operations, including painting, have been completed. Close spaces to traffic during the installation of the flooring. Do not install flooring over concrete slabs until they are sufficiently dry to achieve a bond with the adhesive, in accordance with the manufacturer's recommended bond and moisture tests.

**1.7 WARRANTY**

- A. **Manufacturer's Warranty:** Flooring manufacturer shall warrant the floor products to be free from manufacturing defects for at least five (5) years commencing from the date of Substantial Completion.
- B. **Installer's Warranty:** Flooring installer shall warrant the workmanship to be free from installation defects for at least one (1) year commencing from the date of Substantial Completion.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. Armstrong World Industries, Inc., Flooring Division, Lancaster PA.
  - 2. Mannington Mills, Inc., Salem NJ.
  - 3. Tarkett Inc., Parsippany, NJ.
  - 4. Or equal.
- B. **Basis of Design:** "Standard Excelon Imperial Texture" as manufactured by Armstrong World Industries, Inc., Flooring Division, Lancaster PA.

**2.2 VINYL COMPOSITION TILE MATERIALS**

- A. Provide vinyl composition tile flooring in colors as scheduled below, having a nominal total thickness of 1/8", 12 in. x 12 in., composed of polyvinyl chloride resin binder, plasticizers, fillers, and pigments with colors and texture dispersed uniformly throughout its thickness. Vinyl composition tile shall conform to the requirements of ASTM F 1066, Class 2 – through pattern.

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1. Color(s): Initial color selection is based on "Standard Excelon Imperial Texture" of Armstrong World Industries Inc. The number of colors indicate design concept only and shall be used as guidelines. Final selection will be made by Architect upon Owner's approval of all interior finish material colors.
  - a. Border: Armstrong 52514 "Jubilee white".
  - b. Field Checker 1: Armstrong 52520 "Faire White".
  - c. Field Checker 2: Armstrong 52525 "Pie Car".

### 2.3 ADHESIVES

- A. Waterproof Adhesive: shall be "Aquaflex System" as manufactured by Formulators, Santa Ana, CA.
  1. The system shall consist of the following:
    - a. Aquaflex Waterproof Adhesive.
    - b. Aquaflex DeGAS Primer.
    - c. Gundlach WHA trowel for application.
    - d. Weighted Application for Primer.
    - e. Aquaflex Skim Fast - waterproof skim coat.
    - f. Aquaflex Cleaner.
    - g. Sponge for clean up.
  2. Performance requirements:
    - a. insitu %RH (ASTM F-2170) to 100%.
    - b. MVER (ASTM F1869) >15 lbs / 1000 sf / day.
    - c. pH (ASTM F710) to 14.
    - d. Solids: >80%.
    - e. Flammability: nonflammable.
    - f. VOC: 0g/l.
- B. Optional High Moisture Adhesive: Flooring Manufacturer's High Moisture Adhesive (such as Armstrong S-543 Premium Plus) may be used only in conjunction with moisture vapor and alkalinity mitigation system equivalent to "Ardex MC Rapid" with "Ardex V-1200" self-leveling underlayment, and all other pertinent accessories.

### 2.4 ACCESSORIES

- A. For patching, smoothing, and leveling monolithic subfloors (such as concrete), provide Armstrong S-183 Fast-Setting Cement-Based Underlayment, S-184 Fast-Setting Cement-Based Patch and Skim Coat, or S-194 Fast-Setting Cement-Based Patch and Underlayment as recommended by the resilient flooring manufacturer.
- B. For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.
- C. Provide transition/reducing strips at open edges, or edges abutting dissimilar flooring materials. Transition/reducing strips shall be tapered to meet abutting materials.
- D. Provide threshold of thickness and width as shown on Drawings.
- E. Provide resilient edge strips of width shown on the drawings to protect exposed edges of the flooring, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered or bullnose edge, with color to match or contrast with the flooring, or as selected by the Architect from standard colors available. Provide units of maximum available length to minimize the number of joints.

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**PART 3 - EXECUTION**

**3.1 MANUFACTURER'S INSTRUCTIONS**

- A. Compliance: Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures as needed.

**3.2 EXAMINATION**

- A. Visually inspect flooring materials, adhesives and accessories prior to installation. Flooring material with visual defects shall not be installed and shall not be considered as a legitimate claim.
- B. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.
- C. Inspect subfloors prior to installation to determine that surfaces are free from residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.
- D. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- E. Beginning of substrate preparation constitutes Installer's acceptance of substrate conditions.

**3.2 PREPARATION**

- A. All concrete surfaces must be prepared prior to adhesive application per ASTM F710 consisting flat, dry porous and free of dust, dirt, wax, cut-back, paint, grease, oil, curing agents, mold, bond breakers, residual alkaline salts, densifiers, hardeners or any other foreign material that would inhibit bond. Use only mechanical methods to clean existing sub-floor. Fill cracks, holes, and depressions using only materials designed for this intended purpose. Never use adhesive to fill cracks over or expansion joints.
  - 1. Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints, and other defects with fast-setting cement-based underlayment or fast-setting cement-based patch and skim coat as recommended by the flooring manufacturer.
  - 2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Substrate shall be prepared by mechanical concrete grind to CSP1, concrete surface profile, according to ICRI standard.
  - 3. Concrete surface must achieve porosity by grinding with a planetary diamond-bit grind method or Diamabrush. A sanding disk process is not acceptable. To insure porosity it is required to achieve a CSP-1 by ICRI standard.
    - a. Remove paint, varnish, oils, release agents, sealers, and waxes. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents.



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- B. To the flat, dry, porous concrete apply a thin skim coat of Aquaflex Skim Fast. Allow 40-50 mins of cure and sand. Vacuum the concrete surface before proceeding.
- C. Acclimatize flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.
  - 1. The installation area should be acclimated to at least 60°F for 24 hrs prior, during and 72 hrs following the installation procedure. Do not install if temperature exceeds 85° F.
- D. Install flooring and accessories after the other finishing operations, including painting, have been completed.
- E. Surface Cleaning: Vacuum-clean and damp mop surfaces to be covered immediately before the application of flooring. Make subfloor free from dust, dirt, grease, and all foreign materials.

### 3.3 INSTALLATION OF VINYL COMPOSITION TILE FLOORING

- A. Install flooring in strict accordance with adhesive and flooring manufacturers' instructions. The flooring installer shall be responsible for any failure to comply may result in voiding the manufacturer's warranty.
  - 1. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.
- B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on Drawings.
- C. Where applicable, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.
- D. Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.
- E. Apply one coat of Aquaflex D-Gas Primer over the immediate section prior to adhesive in order to penetrate and "de-gas" the concrete surface. Use a fine nylon push broom. **Do not use a nap roller.** Allow approximately 1hr to cure.
- F. Use the supplied trowel. TROWEL ACCURATELY, do not leave clumps or "snake tracks" of glue. Upon opening pail, slice tie, open bag and pour adhesive into pail. Apply adhesive until the pail is ½ empty then switch to a new trowel edge. Plan to install in sections. The section size must be easy to control within the given operating time which is typically about 30 minutes.
  - 1. Spread the adhesive over the smooth freshly prepared concrete surface using only the trowel supplied by Formulators. Maintain the correct size of notch at all times.
- G. After spreading the adhesive allow approximately 15-20 minutes of flash time. When the adhesive is ready to accept the flooring material, set tile into the adhesive, rubbing from the center to the edge, taking care not to trap air bubbles. **Displace the weight of your body with adequate knee guards.** A 20-minute working time for vinyl tile placement into

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the Aquaflex adhesive must be observed (timing to start, when adhesive application begins).

- H. Lay flooring in checkerboard pattern and to provide a minimum number of filler pieces and strips. Match edges for color shading and pattern at the joints in compliance with the manufacturer's recommendations.
  - 1. Do not leave visible wet adhesive at the seam. Any excess Aquaflex adhesive in the seam area should be cleaned.
- I. Adhere flooring to the subfloor without cracks, voids, raising and puckering at the joints. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.

#### 3.4 INSTALLATION OF ACCESSORIES

- A. Place resilient edge strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

#### 3.5 CLEANING AND PROTECTION

- A. Perform initial maintenance according to the latest edition of "Armstrong Guaranteed Installation System F-5061" with the following minimum:
  - 1. Apply 2 coats of sealer.
  - 2. Apply 3 coats of polish.
  - 3. Buff, spray buff or burnish to achieve acceptable gloss level.
- B. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings.

**END OF SECTION**

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**SECTION 09 91 23**  
**INTERIOR PAINTING**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install interior primer, finish paints with all pertinent accessories to cover all designated areas as scheduled, as indicated on Drawings and/or as specified in this Section.
  - 1. The work shall include proper surface preparation of various substrates designated to receive painted finish, in accordance with painting manufacturer's instructions.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 01 Section "Cutting and Patching": for existing construction disturbed by cutting and patched, and requiring painting finish to match adjacent existing construction.
  - 2. Division 02 Section "Selective Demolition": for existing construction disturbed by selective demolition or the work under this Contract, and requiring patching and painting to match adjacent existing construction.
  - 3. Division 06 Section "Misc. Carpentry": for exposed-to-view wood to receive painted finish.
  - 4. Division 09 Section "Gypsum Boards": for gypsum board substrate to receive painted finish.
  - 5. Divisions 21, 22, 23, and 26: paint exposed-to-view existing and new conduits, piping, ductwork, and other similar items within the contract areas.

1.4 REFERENCES

- A. ASTM:
  - 1. ASTM D 16 – Standard Terminology for Paint, Related Coatings, Materials, and Applications.
  - 2. ASTM D 523 - Standard Test Method for Specular Gloss.
- B. Green Seal Standard GS-11; May 20, 1993.
- C. GREEN WISE – Coatings Research Group, Incorporated.
- D. MPI (APL) - Master Painters Institute.
- E. SCAQMD 1168 - South Coast Air Quality Management District Rule #1168; October 3, 2003.

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- F. Steel Structures Painting Council (SSPC):
  - 1. SSPC (PM1) - Steel Structures Painting Manual, Vol. 1, Good Painting Practice; Society for Protective Coatings; 1993, Third Edition.
  - 2. SSPC (PM2) - Steel Structures Painting Manual, Vol. 2, Systems and Specifications; Society for Protective Coatings; 1995, Seventh Edition.
  - 3. SSPC (SP6) - Commercial Blast Cleaning Procedures.
  - 4. SSPC (SP10) - Near White Blast Cleaning Procedure.
- G. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for
- H. Architectural Coatings; U.S. Environmental Protection Agency; current edition.

1.5 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16.
  - 1. Flat: Paint or coating whose specular gloss registers less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Method D 523, Standard Test Method for Specular Gloss.
  - 2. Non-flat: Paint or coating whose specular gloss registers 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Method D 523, Standard Test Method for Specular Gloss.

1.6 SUBMITTALS

- A. Prepare and submit under provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's product specifications for each product used.
  - 2. Shop drawings: Paint schedule.
  - 3. Samples: Color chips for color selection by Architect.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A single manufacturer with a minimum of 10 years experience.
- B. Installer Qualifications: A firm or individual with 5 years documented experienced applying paints and coatings similar in material, design, and extent to those specified for this Project.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F (7 degrees C). Maintain storage containers in a clean condition, free of foreign materials and residue.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under

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environmental conditions outside manufacturer's absolute limits.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:
  - 1. California Paints; Andover, MA.
  - 2. Sherwin Williams, Cleveland OH.
  - 3. Benjamin Moore & Company, Montvale, NJ.
  - 4. Or equal as approved by Architect.
- B. Basis of Design: California Paints; Andover, MA.

**2.2 MATERIALS - GENERAL**

- A. Compatibility: Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Volatile Organic Compound (VOC) Content: Provide coatings that comply with the most stringent requirements of the following
  - 1. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
  - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Mixing and Tinting:
  - 1. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.
  - 2. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.
  - 3. Where paint is to be sprayed, thin according to manufacturer's guidelines.

**2.3 INTERIOR PRIMERS - NEW CONSTRUCTION**

- A. Wood:
  - 1. Latex: One Coat - PRIME CHOICE All Surface Acrylic Primer #50300.
- B. Ferrous Metal:
  - 1. Latex: One Coat - Rust-Stop DTM Acrylic Latex Flat Primer/Finish #1061, 64, 67.
- C. Galvanized Metal:
  - 1. Latex: One Coat - GRIP COAT Interior / Exterior Bonding Primer #50500.
- D. Gypsum Board, Plaster:

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1. Latex: One Coat - PRIME TOUCH Professional Acrylic Latex Primer / Sealer #54500.

#### 2.4 INTERIOR PRIMERS - PREVIOUSLY PAINTED SURFACES

- A. Previously Painted Gypsum Board or Plaster: Latex: One Coat - PRIME CHOICE All Surface Acrylic Primer #50300.
- B. Previously Painted Wood: Latex: One Coat - PRIME CHOICE All Surface Acrylic Primer #50300.
- C. Previously painted finned tube, radiator, and associated piping: One Coat - Red Metal Primer, after removing all loose paint and residual rust.

#### 2.5 INTERIOR FINISH COATS

- A. Flat Finish: Latex: Two Coats - Pro 2000 Latex Ceiling Flat White #55500.
- B. Eggshell Finish: Latex: Two Coats - Pro 2000 Acrylic Latex Eggshell #557XX.
- C. Semi-Gloss Finish: Latex: Two Coats - Pro 2000 Acrylic Latex Semi-Gloss #558XX.
- D. Semi-Gloss Finish: High heat enamel for existing finned tube, radiator, and associated piping.

### **PART 3 - EXECUTION**

#### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Ensure that surfaces to receive paint are dry immediately prior to application.
- C. Ensure that moisture-retaining substrates to receive paint have moisture content within tolerances allowed by coating manufacturer. Where exceeding the following values, notify Architect and obtain direction before beginning work.
  1. Interior Wood: 15 percent.
  2. Plaster and Gypsum: 15 percent.
  3. other acceptable test to manufacturer. Verify acceptable moisture transmission and pH levels.
- D. Examine surfaces to receive coatings for surface imperfections and contaminants that could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.
- E. Correct conditions that could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.
- F. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

#### 3.2 SURFACE PREPARATION

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- A. General:
1. Clean surfaces thoroughly prior to installation.
  2. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.
  3. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.
  4. Remove Mildew, Algae, and Fungus using materials and methods recommended by coating manufacturer.
  5. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.
  6. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive coatings.
  7. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.
  8. **Protect adjacent surfaces not indicated to receive coatings.**
  9. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Existing Coatings:
1. Surface should be free of all contaminants such as dirt, dust, oil, grease, wax, rust, mold, mildew, chalk, calcimine, soap or detergent residue. Glossy or hard surfaces should be sanded or abraded to promote maximum adhesion. Apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion.
  2. If presence of lead in existing coatings is suspected, cease surface preparation and notify General Contractor immediately.
- C. Gypsum Board: Repair cracks, holes and other surface defects with joint compound to produce surface flush with adjacent surfaces.
- D. Plaster: Repair cracks, holes and other surface defects as required to maintain proper surface adhesion. Apply patching plaster or Joint compound and sand to produce surface flush with adjacent undamaged surface. Allow a full cure prior to coating application as recommended by the patching compound manufacturer's recommendations. New plaster should be knifed down to remove nibs and other protrusions. Voids, holes and cracks should be cut out and filled with prepared compound. New plaster should not be sanded until after prime coat is applied.
- E. Wood:
1. Seal knots, pitch streaks, and sap areas with sealer recommended by coating manufacturer; fill nail recesses and cracks with filler recommended by coating manufacturer; sand surfaces smooth. Brush to remove loose dirt and sanded particles.
  2. Apply primer coat to back of wood trim and paneling.

### 3.3 APPLICATION

- A. Apply coatings in accordance with manufacturer's instructions.
- B. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections

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are not permitted.

- C. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.
- D. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet (1.5 m).
- E. Remove dust and other foreign materials from substrate immediately prior to applying each coat.
- F. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.
- G. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

**3.4 CLEANING**

- A. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.
- B. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.
- C. Reconnect equipment adjacent to surfaces indicated to receive coatings.
- D. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.
- E. Remove protective materials.

**3.5 PROTECTION**

- A. Protect installed products until date of Substantial Completion.

**END OF SECTION**

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**SECTION 10 11 23  
TACKBOARDS**

**PART 1 - GENERAL**

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

- A. Furnish and install aluminum framed tackboards and all pertinent accessories as indicated and/or as specified in this Section.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 06 Section "Miscellaneous Rough Carpentry": for wood blocking, grounds, shims and nailers.
  - 2. Division 09 Section "Non-Structural Metal Framing": for metal stud support framing and backing plates.
  - 3. Division 09 Section "Gypsum Boards": for gypsum drywall substrate for mounting of marker boards and tack boards.

1.4 REFERENCES

- A. Comply with applicable requirements of the following standards and those others referenced in this Section.
  - 1. ASTM B 209 - Aluminum-Alloy Sheet and Plate.

1.5 SUBMITTALS

- A. Submit the following under provisions of Division 01 Section "Submittal Procedures".
  - 1. Product Data: Manufacturer's technical product specifications and installation instructions.
  - 2. Shop Drawings: Identifying all parts and showing configurations, construction, installation, anchorage and relation to adjacent construction.
  - 3. Samples:
    - a. Manufacturer's sample face sheet chain showing finishes and colors available for selection by Architect.
    - b. Tackboard, six by six inches, each color, mounted on backing.
    - c. Anodized aluminum frame, 300 mm (six inch) length.
    - d. Cork filled map rail, 300 mm (six inch) length.
    - e. Each accessory (after approval, may be used in the work).

1.6 WARRANTY

- A. Standard warranty: stating that when installed in accordance with manufacturer's instructions and recommendations, tackboards shall be guaranteed for at least one year against defects in materials and workmanship.

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1.7 MAINTENANCE

- A. Provide maintenance information on regular cleaning, stain removal for tackboards.

**PART 2 - PRODUCTS**

2.1 MANUFACTURERS

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following:

1. Claridge Products & Equipment Inc., Harrison AK.
2. AARCO, Yaphank, NY.
3. Best-Rite Manufacturing Temple, TX.
4. Or equal.

- B. Basis of Design: Claridge Products & Equipment Inc., Harrison AK.

2.2 FABRICATION

- A. Factory Framed Tackboards:

1. Tack Surface: Designer Fabric.
2. Series: Series 1.
3. Typical Arrangement: as indicated.
4. Panel Size: as indicated.

2.3 MATERIALS

- A. Tackboard Panel:

1. Designer Fabric Self-healing, mildew resistant "Designer Series Fabric" polyester fabric covered 1/4 inch thick natural cork laminated to 1/4 inch thick fiberboard back.
  - a. Fabric: 16 oz per linear yard, non-directional weave.
  - b. Contents: 100% recycled polyester.
  - c. Breaking Strength: 150 lbs. Min. warp and fill (ASTM D5034).
  - d. Tear Strength: 30 lbs. Min. warp and fill (ASTM D2661).
  - e. Flame test: ASTM E-84 Class A or 1.
  - f. Colors: Select by Architect from manufacturer's full range of standard colors.
2. Thickness: Total laminated nominal thickness of core and covering shall be ½".

- B. Aluminum Trim:

1. Exposed Trim: shall be .0062 inch thick extruded 6063 alloy grade aluminum with T5 tempering in accordance with ASTM B221.
  - a. Single length units to minimize joints.
  - b. Miter all corners to a neat, hairline closure.
  - c. Satin anodized finish, AA-M30C22A31.
  - d. When structural support accessories are required for boards in addition to normal trim, provide such additional support or modify trim as required to provide necessary support.

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2. Divider strip (where applicable): 1-1/4 inch mullion trim, finished to match frame.
  - a. Factory Built Trim: Series 1.

#### 2.4 ACCESSORIES

- A. Map Rail: shall be 1" continuous, with cork insert. Extend map rail full width at top of each marker board, tack board, and tack board/marker board combination.
- B. Provide sliding aluminum accessories, hook type, to fit display rail at each tackboard:
  1. Provide one (1) sliding aluminum map supports for every two linear feet of tackboard.
  2. For each location provide one flag holder.
  3. For each location provide two roller map brackets.
  4. Mounting "z" clips, stainless steel fasteners and other pertinent mounting accessories.
- C. Grounds: Continuous zinc-coated (galvanized) steel or extruded aluminum members designed to support the tackboard and clips for snap-on frames, and map rail.
- D. Clips: Manufacturer's standard as required to support frame, mullions, and rail.
- E. Miscellaneous Aluminum Trim: Fabricate miscellaneous trim of at least 0.062" thick, extruded aluminum alloy with satin clear anodized finish, of proper size and shape to suit the installation. Joints shall be kept to a minimum. Corners shall be mitered to a neat, hairline closure.

### **PART 3 - EXECUTION**

#### 3.1 EXAMINATION

- A. Verify that surfaces and internal wall blocking are ready to receive work of this Section.
- B. Beginning of installation means acceptance of substrate.

#### 3.2 INSTALLATION

- A. Install tackboards in accordance with manufacturer's instructions.
- B. Protect tackable facing and aluminum frame from soiling and damage during handling and installation.
- C. Install units level and plumb utilizing concealed continuous hangers wherever possible and where fasteners must be exposed, use tamperproof-type fasteners.
- D. Establish mounting heights as indicated on the Drawings, or if not indicated, as directed by Architect.

#### 3.3 CLEANING

- A. Clean board surfaces in accordance with manufacturer's instructions.
- B. Cover boards with protective cover taped to frame. Remove cover on Date of Substantial Completion.

### **END OF SECTION**

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**SECTION 10 28 13  
TOILET ACCESSORIES**

**PART 1 - GENERAL**

**1.1 GENERAL PROVISIONS**

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

**1.2 SUMMARY**

- A. Furnish and install toilet accessories with all pertinent accessories as indicated on Drawings and/or as specified in this Section.
  - 1. Furnish toilet accessory templates, to locate anchorage reinforcement, to trades responsible.
  - 2. Prepare concealed blocking and install Owner's furnished toilet accessories.
    - a. One surface mounted soap dispenser similar to Georgia Pacific Manual Soap and Sanitizer Dispenser.
    - b. One surface mounted paper towel dispenser similar to Centerpull Towel Dispenser.
    - c. One surface mounted toilet tissue dispenser similar to Georgia Pacific Professional Softpull Mini Centerpull Twin-Roll Dispenser.

**1.3 RELATED WORK**

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Division 06 Section "Misc. Carpentry": for wood blocking and shims required for toilet accessory installation.
  - 2. Division 09 Section "Non-Structural Metal Support Assemblies": Support framing for gypsum board.
  - 3. Division 09 Section "Gypsum Boards": for gypsum board partitions.

**1.4 REFERENCES**

- A. Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Division 1 Section "References".
  - 1. ANSI A117- 1986 Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
  - 2. IBC – Chapter 11, Accessibility.
  - 3. ADA, Accessibility Guidelines for Buildings and Facilities, Federal Register Volume 56, Number 144, Rules and Regulations.
  - 4. Fair Housing Amendments Act of 1988, Accessibility Guidelines, Federal Register Volume 56, Number 44.
  - 5. 521 CMR - Massachusetts Architectural Access Board Regulations.

**1.5 SUBMITTALS**

- A. Prepare and submit under provisions of Division 01 Section "Submittal Procedures".
  - 1. Product data: Manufacturer's technical specifications, warranties, for each item furnished.
  - 2. Shop drawings: indicating installation details and abutting conditions.

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3. Samples: furnish sample upon Architect's request.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages, containers or bundles bearing brand name, identification of manufacturer or supplier and item identification number corresponding with approved schedule.
- B. Store materials inside, under cover, and in manner to keep them dry, protected from weather, surface contamination, corrosion and damage from construction traffic and other causes.

1.7 SEQUENCING AND SCHEDULING

- A. Coordinate the work of this Section with placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

1.8 WARRANTY

- A. Provide no less than one year guarantee against defects in material and workmanship on all accessories. In addition to the above the following shall apply.
  1. Welded stainless steel framed mirrors shall have a fifteen-year guarantee against silver spoilage.

**PART 2 - PRODUCTS**

2.1 MANUFACTURERS

- A. Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
  1. Bobrick Washroom Equipment, Inc., Clifton Park NY.
  2. American Specialties, Inc., Yonkers NY.
  3. GAMCO, Durant, OK.
  4. Or equal as approved by Architect.
- B. Basis of Design: unless noted otherwise, toilet accessories shall be equivalent to "ClassicSeries" as manufactured by Bobrick Washroom Equipment, Inc., Clifton Park NY.
  1. All toilet accessories shall be the products of a single manufacturer. Accessories with tumbler locks shall be keyed alike with the exception of coin boxes in vending equipment.

2.2 MATERIALS

- A. Sheet steel: Cold rolled, commercial quality, ANSI/ASTM A 366.
- B. Stainless steel sheet: ASTM A 167, Type 302/304.
- C. Tubing: ASTM A 269 stainless steel.

2.3 TOILET ACCESSORIES

- A. Hook Strip: Provide one mounted on interior side of Toilet Room door.
  1. Basis of Design: Bobrick Model B-232-24.
  2. Hook strip shall be type-304 stainless steel with satin finish. Hooks shall be 12 gauge and mounting strip shall be 18 gauge.

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3. Hook strip shall be mounted no higher than 36 inches above the floor to the centerline of the strip.
- B. Grab Bars: The water closet shall have two grab bars, 42 inches long, one mounted on the wall in back of the water closet and one on the side wall closest to the water closet and located no more than six inches from the interior corner.
1. Basis of Design: Bobrick Model B-5806.99 X 42.
  2. Grab bar shall be type-304 stainless steel with satin-finish. Grab bar shall have 18-gauge wall thickness and 1-1/4" outside diameter. Clearance between the grab bar and wall shall be 1-1/2". Concealed mounting flanges shall be 1/8" thick stainless steel plate, 2" x 3-1/8", and equipped with two screw holes for attachment to wall. Flange covers shall be 22-gauge stainless steel, 3-1/4" diameter, and shall snap over mounting flanges to conceal mounting screws and/or Winglt fasteners. Ends of grab bar shall pass through concealed mounting flanges and be heliarc welded to form one structural unit. Grab bar shall comply with accessible design (including ADAAG in the U.S.A.) for structural strength.
  3. Grab bars shall be mounted from the floor to the top of the grab bar as follows:
    - a. Pre-kindergarten: 18" to 20" (457mm to 508mm)
- D. Stainless Steel Channel Frame Mirror:
1. Basis of Design: Bobrick Model B-165-1836.
  2. Mirror shall have a one-piece type-430 stainless steel channel frame, with 90° mitered corners; all exposed surfaces shall have satin finish. Select float glass mirror shall be guaranteed for 15 years against silver spoilage. The back shall be protected by full-size, shock-absorbing, water-resistant, nonabrasive, polyethylene padding. Galvanized steel back shall have integral horizontal hanging brackets located at top and bottom for mounting on concealed wall hanger to prevent the mirror from pulling away from the wall. Locking devices secure mirror to concealed wall hanger. Mirror shall be removable from the wall.
  3. The top of any shelf and or bottom of any mirror which is provided above a sink shall be set with the bottom edge of the reflecting surface no higher than 31 inches above the finish floor.

## 2.4 LOCKS

- A. General: All locks shall be keyed alike. Provide four (4) keys, for lockable accessories, to the Owner.

## 2.5 INSTALLATION ACCESSORIES

- A. Fasteners, screws, and bolts: Type 304 stainless, tamperproof.
- B. Expansion shields: Fiber, lead or rubber as recommended by accessory manufacturer for component and substrate.

## 2.6 FABRICATION

- A. Form exposed surfaces from single sheet of stock, free of joints. Form surfaces flat without distortion, scratches or dents. Weld and grind smooth joints of fabricated components.
- B. Back paint components where contact is made with building finishes to prevent electrolysis.
- C. Shop assemble components and package complete with anchors and fittings. Hot dip galvanize exposed and painted ferrous metal and fastening devices. Provide steel anchor plates, adapters, and anchor components for installation.

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**2.7 FACTORY FINISHING**

- A. Ferrous metals: Clean and treat, spray apply one coat of baked-on rust and moisture-resistant primer, followed by two coats of baked-on synthetic enamel, in selected colors. Ensure that finish coating is uniform in color intensity and degree of gloss, throughout.
- B. Chrome/Nickel Plating: ASTM 456, Type SC2, satin finish.
- C. Stainless steel: Number 4 satin finish, except as otherwise specified above.

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Provide templates and rough-in measurements as required. Deliver inserts and rough-in frames to site at appropriate times for building-in by other trades
- B. Coordinate with trades responsible for providing receiving surfaces on which accessories will be installed.
- C. Coordinate with Owner for scheduling and receiving Owner-furnished toilet accessories.

**3.2 EXAMINATION**

- A. Verify that surfaces and internal wall blocking are ready to receive work of this Section.
- B. Check wall open for dimensions, plumbness of blocking or frames that would affect installation of recessed accessories. For surface mounted accessories check condition of wall and confirm installation of backing within wall.
- C. Beginning of installation means acceptance of substrate.

**3.3 INSTALLATION**

- A. Install accessories at locations and heights indicated, straight, plumb and level and in accordance with approved shop drawings and manufacturer's installation instructions.
- B. Install items securely and rigidly anchored with theft proof and non-corrosive fasteners of the size and type most appropriate for the specific devices and receiving surface,
- C. Installation methods shall conform to manufacturer's recommendations for backing and proper support.
- D. Conceal evidence of drilling, cutting, and fitting to room finish.
- E. Fit flanges of accessories snugly to wall surfaces

**3.4 ADJUSTMENT AND CLEANING**

- A. Upon completion of the work, remove all traces of protective coatings or paper.
- B. Clean and polish exposed surfaces prior to final installation.
- C. Remove all rubbish, packing materials, and debris, caused by the work of this Section.

**END OF SECTION**



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