

**CITY OF BOSTON
PUBLIC FACILITIES DEPARTMENT**



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CONTRACT DOCUMENTS

Project Title: Moon Island Seawall

Project Number: 7222

Prepared By: GEI Consultants, Inc.

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**M.G.L. CHAPTER 30, § 39M Specifications
CITY OF BOSTON**



Chetan Swarn

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PROJECT NUMBER: 7222.

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N/A

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CITY OF BOSTON
PUBLIC FACILITIES DEPARTMENT

ARTICLE 1 - TERMINOLOGY

1.1 Defined terms (i.e., capitalized terms) used in this Instructions to Bidders, Section 00 20 00, have the intent and meanings assigned to them in the General Conditions, Section 00 70 00.

1.2 Unless the context requires otherwise, the term "Bidder" may be interpreted to also cover prospective Bidders as well as prospective subcontractors, suppliers or others considering submission of or intending to submit a sub-bid to a Bidder(s).

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.1 Neither the **City** nor the **Designer** assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents in preparing Bids.

2.2 The **City** and the **Designer** in making copies of Bidding Documents available do so only for the purpose of obtaining Bids and do not confer a license for any other use.

2.3 The **City** will, upon receipt of a fully refundable deposit of the amount per set designated in the Advertisement, furnish one complete set of Bidding Documents for each person requesting the same. No partial sets of Bidding Documents will be issued. Bidding Documents must be returned in good condition within thirty (30) days after the opening of Bids. If they are not returned within this time period, the Bidder shall forfeit the deposit.

2.4 The **Official** will furnish to every eligible Bidder in the Bidding Documents a form for Bid.

ARTICLE 3 - BIDDING DOCUMENTS; SITE CONDITIONS; LAWS

3.1 It is the responsibility of each Bidder, before submitting a Bid, to (a) examine the Bidding Documents thoroughly, (b) visit the site to become familiar with general, local and prevailing conditions, (c) familiarize himself with and consider Laws covering the Work, (d) study and carefully correlate the Bidder's observations with the Bidding Documents, and (e) request written interpretations or clarifications, as provided in Article 4, promptly after discovering any conflicts, ambiguities, errors, or omissions in the Bidding Documents.

3.2 It is the responsibility of all Bidders to refer to Section 00200, Information to Bidders, for identification of:

3.2.1 (a) reports of explorations and tests of subsurface conditions, (b) information and data reflected in the Bidding Documents or designated drawings and specifications, or both, of physical conditions in or relating to existing surface and subsurface structures or Underground Utilities, which have been utilized by the **Designer** in the preparation of the Bidding Documents. Except as otherwise may be expressly limited in the Specifications, Bidders may rely upon the technical data contained in the reports, drawings or specifications but not upon non-technical data, interpretations or opinions contained in the reports, drawings or specifications or on their completeness for the purpose of bidding or construction.

3.2.2 Except for the technical data on which Bidders may rely, as provided in paragraph 3.2.1, the **City** and the **Designer** make no representation or warranty about the accuracy, correctness or completeness of the reports, drawings and specifications, nor does the **City** or the **Designer** assume any responsibility for any conclusions or interpretations made by any Bidder based on the data contained in those reports, drawings and specifications.

3.3 Information and data reflected in the Bidding Documents about Underground Utilities owned by others is based upon information or data furnished by the owners of those Underground Utilities or others. Neither the **City** nor the **Designer** assumes any responsibility for the accuracy, correctness or completeness of that information or data.

3.4 The General Conditions contain provisions concerning responsibilities for Underground Utilities, and concerning changes that may be necessary due to site conditions which differ from those shown or indicated (on which Bidders are entitled to rely) or from those ordinarily encountered and recognized as inherent in work of character and scope similar to the Work.

3.5 It is the responsibility of each Bidder, at the Bidder's own expense, to make or obtain any additional examinations, explorations and drawings and to obtain any additional information and data which pertain to site conditions (subsurface, surface and subsurface structures, and Underground Utilities) at or contiguous to the site or which otherwise may affect the cost, schedule, progress performance or furnishing of the Work, which the Bidder deems necessary to determine his Bid.

3.6 The lands upon which the Work is to be performed, rights-of-way and easements for access, and those other lands designated for use in performing the Work which are furnished by the **City** are identified in the Bidding Documents. Any additional lands and access not furnished by the **City** required for temporary facilities, ingress and egress, or for storage shall be obtained by the Bidder awarded the Contract. Neither the **City** nor the **Designer** assumes any responsibility for site conditions at those lands and access so obtained.

3.7 It is the responsibility of each Bidder to inform himself of, and the Bidder awarded the Contract shall comply with, all applicable Laws, including but not limited to those affecting the cost, schedule, progress, performance or furnishing of the Work. Examples of such Laws include, but are not limited to those relating to prevailing wages, nondiscrimination in employment, protection of public and employee safety and health, environmental protection, building codes, fire protection, grading and drainage, airport operation and safety, use of explosives, vehicular traffic, access to streets and highways, restoration of lands and property under the control of the Federal Government, Commonwealth or a political subdivision, or a Public Governmental Body, nuisance control, taxes, permits, licenses, and fees.

3.7.1 The attention of all Bidders is called to, and all Bids submitted shall be subject to, all applicable provisions of Massachusetts General Laws, including but not limited to M.G.L. Chapter 30, Sections 39F, 39K, 39M and 39N, Chapter 149, Sections 29 and 44A through and including 44J. Pursuant to M.G.L. Chapter 60, § 93, it is understood, agreed and acknowledged by the Contractor, and the Contractor by the execution of this Contract so certifies, that the Collector-Treasurer of the City of Boston may withhold from any amounts owing and payable to the Contractor under this Contract any and all sums owed to any department or agency of the City of Boston, together with interest and costs, which remain wholly or partially unpaid. This shall include but not be limited to unpaid taxes and assessments, police details, fire watches, and any other fees and charges until such sums owed have been paid in full. The Collector-Treasurer further may apply any amounts owing and payable to the Contractor to satisfy any sums owed to the City. Any Contractor who is delinquent in payments to the Boston Police Department Detail Billing and Payment Account will be prohibited from bidding on

City of Boston Contracts until such detail accounts are paid in full. Any payments due to Contractors currently under contract with the City that are delinquent in their payments to the Boston Police Detail Account will be withheld to the extent of the amount past due, plus interest and costs, until such detail accounts are paid in full.

3.8 Provisions in the General Conditions as to taxes, permits, approvals, licenses and fees are supplemented as follows:

3.8.1 Except as stated in the Bidding Documents, the Bidder awarded the Contract shall pay and bear responsibility for all taxes assessed against the **City** or the Bidder in connection with the Work.

3.8.2 Except for permits, approvals, licenses, and fees for which the **City** is responsible under the Bidding Documents, the Bidder awarded the Contract shall bear responsibility for the cost and time required to obtain all permits, approvals, licenses and fees necessary for prosecution and completion of the Work.

3.8.3 The **City** of Boston is exempt from the provisions of the Massachusetts sales tax. The Certificate of Exemption number is E046-001-380.

3.9 Before submitting a Bid, each Bidder shall examine the contents of the Bidding Documents and the site to identify (a) the coordination and cooperation requirements between the Work and other work at or near the site; (b) any limitations in access to or release of portions of the site to accommodate other work at or near the site; and (c) any Contract Time and work sequence conditions indicated in or required by the Bidding Documents to effect proper interfacing between the progress of the Work and the progress of the other work at or near the site.

3.10 Submission of a Bid constitutes a binding representation by the Bidder that all prices bid on the Bid Form reflect all conditions and consequences which may result from the performance of other work and which may in any manner affect cost, schedule, progress, performance or furnishing of the work.

3.11 Bidders should refer to the General Conditions and also to Section 01 32 17 that contains detailed Construction Progress Schedule requirements. Submission of a Bid constitutes a binding representation by the Bidder that he has examined and agrees with those requirements.

3.12 It is the responsibility of each Bidder in the preparation of his Bid to account for all other general, local and prevailing conditions at or contiguous to the site which may in any manner affect the cost, schedule, progress, performance or furnishing of the Work. Examples of such other conditions include, but are not limited to (a) the nature and location of the Work, (b) conditions relating to the transportation, disposal, handling and storage of

materials, (c) the availability and suitability of labor, materials, water, electric power, telephone, sanitary services and roads, (d) daily and monthly weather variations, including any related subsurface conditions, river stages, or similar conditions, (e) the character, quality and quantity of surface and subsurface conditions at the site, including but not limited to ground water table variations, and the location, configuration and condition of existing structures and Underground Utilities, (f) the character of equipment and facilities needed preliminary to and during Work performance, (g) conditions related to the maintenance of the uninterrupted operation of existing services or facilities and (h) the nature, characteristics and use of adjacent or nearby property insofar as they may affect site operations.

3.13 The submission of a Bid constitutes a binding representation by the Bidder that the Bidder has complied with every requirement of this Article, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and those means, methods, techniques, sequences, or procedures applicable to the Work as may be indicated in or required by the Bidding Documents and that the Bidder considers the Bidding Documents to be sufficient in scope and detail to indicate and convey a clear understanding of all terms and reasonably foreseeable conditions applicable to the Work, and how such terms and conditions may affect the cost, schedule, progress, performance and furnishing of the Work.

3.14 Any failure of a Bidder to take the actions described and acknowledged in this Article will not relieve the Bidder of responsibility for estimating properly the difficulty, cost of, and schedule for successfully performing and furnishing the Work, or for proceeding to successfully perform and furnish the Work without an increase in Contract Price or Contract Time.

3.15 Neither the **City** nor the **Designer** assumes any responsibility for any conclusion or interpretations made by any Bidder based on the information made available by the Bidding Documents, nor does the **City** or the **Designer** assume any responsibility for any understanding reached or representation made about conditions which may affect the cost, schedule, progress, furnishing and performance of the Work, unless that understanding or representation is expressly stated or indicated in the Bidding Documents, including all issued written Addenda.

3.16 The General Conditions contain provisions which require the Bidder awarded the Contract to:

3.16.1 Bear responsibility for costs which may arise from certain specific events, and such costs will not be included in prices, cost reimbursements, or settlements related to Change Orders, Change Authorization or claims;

3.16.2 Bear responsibility for delay, extension or

acceleration for which the **City** may otherwise be responsible under the Contract and such delay extension or acceleration will not warrant adjustments in Contract Price or Contract Time; and

3.16.3 Submit detailed cost and pricing data and detailed productivity and production data based on a detailed analysis of the Progress Schedule when submitting proposals and claims to enable the **City** and the **Designer** to determine the necessity, reasonableness, and allowability of any costs and any delay, extension, acceleration and the associated proposed cost.

ARTICLE 4 - INTERPRETATIONS; ADDENDA

4.1 Bidders requiring interpretation or clarification of any perceived conflict, ambiguity, error or omission which is discovered upon examination of the Bidding Documents, the Site or any other general, local or prevailing conditions shall make a request for interpretation or clarification. Requests for interpretation or clarification, or proposals for any other modifications to the Bidding Documents, made orally or received less than seventy-two (72) hours prior to the date of Bid opening will not be answered.

4.2 Any interpretation, clarification, correction, addition or deletion to the Bidding Documents will be binding only if given by a written Addendum, signed by the **Official**. Interpretations, clarifications, corrections, additions or deletions made orally or in any other manner are not binding and should not be relied upon by the Bidders. Addenda will be sent by electronic mail (e-mail) or facsimile, if an e-mail address is not provided to the **Official**, to all parties who, according to the **Official's** records, have obtained Bidding Documents and have furnished to the **Official** an e-mail address and/or facsimile number for the purpose of receiving the Addenda. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the **Official**.

4.3 Prior to submission of his Bid, each Bidder shall ascertain that he has received all Addenda issued and must acknowledge all Addenda on his Bid Form

4.4 Any quantities of Unit Price Work given on the Bid Form are approximate only, and are to be used solely for the comparison of bids received and to establish the Contract Price for the Work. Neither the **City** nor the **Designer** represents or warrants that actual quantities of Unit Price Work performed will equal those given. Progress payments will be made only for actual quantities of Unit Price Work performed in accordance with the Contract Documents. Actual quantities of Unit Price Work may overrun or under-run those given in the Bid Form without necessarily invalidating any of the unit prices bid.

ARTICLE 5 - BID SECURITY

5.1 Every Bid shall be accompanied by a bid deposit in the form of a bid bond, or cash, or a certified, treasurer's or cashier's check issued by a responsible bank or trust company, payable to the **City** of Boston. A bid bond shall be (a) in a form satisfactory to the **Official** (see Section 00 43 13 Bid Bond Form) , (b) issued by a good and sufficient surety licensed and otherwise qualified to do business in the Commonwealth of Massachusetts by the Division of Insurance and appearing on the current U.S. Department of the Treasury List of Approved Sureties (Circular 570) and satisfactory to the **Official**, and (c) conditioned upon the faithful performance by the principal of the agreement contained in the Bid. The amount of each such bid deposit shall be five-percent (5%) of the value of the Bid, including all alternates.

5.2 All bid deposits, except those of the three (3) lowest responsible and eligible Bidders, shall be returned within five (5) business days after the opening of the Bids. The bid deposits of the three lowest responsible and eligible Bidders shall be returned upon the execution and delivery of the Contract or, if no award is made, upon the expiration of thirty (30) business days after the opening of the Bids or, if Federal Government approval is required, within thirty business days after such approval; except that, if any Bidder fails to perform his agreement to execute a contract and furnish a performance bond and also a labor and materials payment bond as stated in his Bid, his bid deposit shall become and be the property of the **City** of Boston, as liquidated damages; provided that, the amount of the bid deposit which becomes the property of the **City** of Boston shall not, in any event, exceed the difference between his bid price and the bid price of the next lowest responsible and eligible bidder; and provided further that, in case of death, disability, bona fide clerical or mechanical error of a substantial nature or other unforeseen circumstances affecting the Bidder, his bid deposit shall be returned to him.

5.3 The amount of the bid deposit which becomes the property of the **City** of Boston shall not exceed the difference between the bid price and the bid price of the next lowest responsible and eligible bidder.

5.4 In addition to the provisions for the return of bid deposits in the first sentence of paragraph 5.2, upon the receipt of a bid bond in an amount not less than the amount of the required bid deposit, the **City** shall return any bid deposit of a Bidder forthwith after the public opening of Bids. The Bid bond shall be in an amount and in the form provided in paragraph 5.1.

ARTICLE 6 - CONTRACT TIME

6.1 The number of days within which, or the dates by which, the Work or any part of the Work, shall be completed (the Contract Times), are specified in the Agreement, Section 00 52 13, Article 4, and may be supplemented, also as provided in the Contract. The Contract Times so specified are of the essence of the Contract.

6.2 If a Bidder believes that any of the Contract Times specified are insufficient or excessive, that Bidder shall advise the **Official** in accordance with the requirements of Section 00 52 13, Article 4.

ARTICLE 7 - LIQUIDATED DAMAGES

7.1 Liquidated damages are specified in the Contract, Section 00 52 13, Article 4, and may be supplemented in the Supplementary Conditions.

ARTICLE 8 - ITEMS SPECIFIED; SUBSTITUTES

8.1 The Contract, if awarded, will be on the basis that the Bidder awarded the Contract will furnish only items of material and equipment named or specified in the Bidding Documents as advertised or added by Addenda.

8.2 Any time it is stated in the Bidding Documents that an "or-equal" material or equipment, or a substitute means, method, technique, sequence or procedure applicable to the Work, may be furnished or used by the Bidder awarded the Contract if acceptable to the **Official**, application for that acceptance will not be considered until after the date the **City** executes the Contract.

ARTICLE 9-BID FORM & BID FORM ATTACHMENTS

9.1 The Bidding Documents include the Bid Form. All blank spaces shall be properly printed in ink or typed in accordance with the requirements of these Instructions to Bidders, and the Bid Form, as applicable. All bid prices shall be entered in both words and figures.

9.2 Bids by individuals shall state the name and business address of the individual and shall be signed by the person making that Bid.

9.3 Bids by partnerships shall be signed in the true name of the partnership. The name, signature and designation (general or managing) of the partner(s) authorized to sign

shall be entered below the partnership name. Evidence of authority to sign and the official address of the partnership shall be provided.

9.4 Bids shall state the legal name of the bidder. The signature of the authorized representative shall be indicated below the legal name.

9.5 The Bidder shall complete the acknowledgment of Addenda table in the space provided in the Bid Form.

9.6 The telephone number and FAX number of the Bidder to be used for communications about the Bid shall be shown.

9.7 Bidders shall submit the required information on the Bid Form provided. All blank spaces shall be properly printed in ink or typed, in accordance with the requirements of these Instructions to Bidders.

9.8 Whenever there is a discrepancy between words and figures on a form for Bid, words shall take precedence over figures.

ARTICLE 10 - PREPARATION AND SUBMISSION OF BIDS

10.1 Bids must be received by 12:00 noon on the date and at the place stated in the Advertisement. Late bids will not be accepted. Bids submitted orally, or by telephone, or by telegraph or facsimile are invalid and will be rejected without consideration.

10.2 Each Bid shall be enclosed in a sealed envelope which shall be marked with the name, address and telephone number of the Bidder and the name of the Project. The opaque sealed envelope shall contain the completed Bid Form. If the Bidding Documents require each Bid to enclose other documents not to be attached to the Bid Form, the sealed envelope shall contain another envelope with those Bidder provided documents.

10.3 Each bid shall be legibly prepared on the Bid Form. The Bidder shall show the sum representing the Bidder's Base Bid, and if alternates are listed, the sum of the Bidder's Base Bid plus the Bidder's Bid Prices for all alternates, in the designated location.

10.4 Before submission of his Bid, a Bidder may alter or revise any price of information he has entered on the Bid Form by crossing out the entry, legibly printing in ink or typing the new figure or information, and placing his initials immediately adjacent to each change. After the Bid opening, the **Official** may require a Bidder to verify any alteration or revision. Ambiguities arising from any such entries so altered or revised will be resolved against the

Bidder in the **Official's** sole discretion.

ARTICLE 11 - WITHDRAWAL OF BIDS

11.1 Any Bidder may withdraw his Bid before Bid opening. The **City** reserves the right to require any Bidder wishing to withdraw his Bid before Bid opening to both sign and properly submit a document requesting the withdrawal both in the manner in which a Bid shall be signed and submitted to the **City**. Withdrawal of a Bid before Bid opening will not prejudice the right of a Bidder to re-submit a Bid. After the time for receiving Bids has expired, no Bid may be withdrawn by a Bidder, except as provided in this Article and as permitted by Law.

11.2 After the time for receiving Bids has expired, if any Bidder wishes to withdraw his Bid because of a bona fide mechanical or clerical error he shall submit to the **Official** within two (2) business days after the date of the Bid Opening evidence in the form of estimate sheets showing the purported error together with a notarized statement explaining the reason for the withdrawal request. If the **Official** determines the evidence to be sufficient the **City** will accept withdrawal and return the Bid Deposit to the Bidder.

ARTICLE 12 - OPENING OF BIDS

12.1 All Bids duly received at the place designated in the Advertisement before the announced closing time for receipt of Bids will be opened publicly and read aloud. Each Bidder assumes full responsibility for timely delivery of his Bid at the location and before the closing time specified. Any Bid received after the announced closing time will be returned unopened. Any uncertainties as to whether a Bid was submitted in time will be resolved against that Bidder in the **City's** sole discretion.

12.2 Upon inspection of the Bids, if any Bidder who submitted a Bid to the **City** has any objections to the award of the Contract to any other Bidder, that Bidder shall lodge that protest, in writing, with the **City** within two (2) Business Days after the date when the Bids become available for inspection. The protest shall describe in detail the basis for the protest, and shall request a determination under this Article.

ARTICLE 13 - BIDS TO REMAIN OPEN

13.1 All Bids shall remain open for acceptance by the **City** for no less than the period during which bids shall remain open stated in the Advertisement, if any, or in accordance

with applicable law, whichever is greater.

13.2 Extensions of the time during which Bids shall remain open, at no increase in (a) the Bidder's Base Bid, (b) any of the Bidder's alternates, nor (c) any Contract Time stated in days, may be made only by mutual agreement between the **City** and any of the Bidders remaining for consideration of the award. If a Bidder fails to agree to an extension of the time when his Bid shall remain open subject to the conditions stipulated in this paragraph, the Contract shall not be awarded to that Bidder, and that Bidder's failure to agree to any such extension will not constitute grounds for forfeiting his Bid Security.

ARTICLE 14 - BIDS

14.1 Bids shall be submitted on the Bid Form furnished by the **City**, which is bound into the Bidding Documents. The Bid shall be completely filled in, signed, enclosed in an envelope, sealed and plainly marked with the name and number of the Project, and a description of the work to be done. Bids will be valid only when accompanied by a bid deposit in accordance with the requirements of Article 5. The Bid shall be filed with the **City** at the place designated in the Advertisement. The Bid shall be filed before twelve o'clock noon on the date stipulated in the Advertisement. Bids received after precisely twelve o'clock noon will not be accepted and will be returned unopened.

14.2 Bids shall be for the complete Work as specified. The Bidder shall be selected on the basis of such Bids.

14.3 Every Bid shall be accompanied by a bid deposit in the form and amount specified herein. This bid deposit shall become and be the property of the **City** as liquidated damages if, after a contract is awarded the bidder shall fail to enter into the required contract within five (5) days, Saturdays, Sundays and Legal Holidays excluded, after such notice of award is received by him.

14.4 A performance bond and also a labor and materials payment bond, each of a surety company licensed by the Division of Insurance to do surety business in the Commonwealth of Massachusetts and included on the U.S. Treasury list of approved sureties (see Circular 570), and satisfactory to the **City**, each in the sum of 100% of the Contract Price, will be required of the successful Bidder.

14.5 Subject to the provisions in paragraph 14.5.1, and the requirements of the Bidding Documents, if the **City** elects to award the contract, the **City** will award it to the lowest responsible and eligible Bidder who submits a Bid, without conditions or exceptions, which conforms in all material respects with the requirements of the Bidding Documents, as determined solely by the **City's** and the **Designer's** evaluation of the Bid Form, Bid Form Attachments and

Bidder-provided documents.

14.5.1 Determination of the lowest Bidder shall be on the basis of the sum of the Base bid and any alternates accepted by the **City**.

14.6 Upon evaluation of the Bids of those Bidders remaining for consideration for the award, if the **City** disqualifies any Bidder for the award, the **City** will give written notice of the disqualification to that Bidder.

14.7 Except in circumstances leading to a determination obviously in error or inconsistent with the Bidding Documents, discrepancies or non-conformance on the Bid Form shall be resolved as follows: (a) between words and figures, the written words are binding on the Bidder, (b) between any sum, indicated by the Bidder, and the correct sum, the correct sum is binding on the Bidder; (c) between the product, indicated by the Bidder, of any quantity and bid unit price and the correct multiplication of the unit price times the quantity of Unit Price Work, the unit price bid is binding on the Bidder, and (d) if a Bidder fails or neglects to enter a Bid price in both words and figures, the Bid price entered, whether in words or figures, will be binding on the Bidder.

ARTICLE 15- SUB-TRADES PERFORMED BY BIDDERS

15.1 If a Bidder customarily performs sub-trade(s) with his own employees a Bidder will be considered able to do so only if the Bidder can show, to the satisfaction of the **City**, that he does customarily perform such sub-trade(s), and is qualified to do the character of work required by the applicable section of the specifications.

ARTICLE 16 - REJECTION OF BIDS

16.1 Every Bid which is not accompanied by a bid deposit as prescribed by M.G.L. Chapter 30, Section 39M, or which otherwise does not conform with all applicable sections of M. G. L. Chapter 30 and Chapter 149, as amended, or which is incomplete, conditional, or obscure, or which contains any addition not called for, shall be invalid; and the **City** shall reject every such Bid. No such Bid shall be rejected because of the failure to submit prices for, or information relating to, any item(s) for which no specific space is provided on the bid form furnished by the **City**.

16.2 The Bid Price shall be the price set forth in paragraph C of the Bid Form. No Bid shall be rejected because the Bidding Documents do not accompany the Bid.

16.3 The **City** further reserves the right to reject any or all Bids if it be in the public interest to so do; and to reject any

Bid if it determines that such Bid does not represent the Bid of a person competent to perform the work as specified, or that the prices are not reasonable for acceptance without further competition.

ARTICLE 17 - AWARD TO NEXT LOWEST RESPONSIBLE AND ELIGIBLE BIDDER

17.1 If the Bidder selected as the Contractor fails to perform his agreement to execute a Contract in accordance with the terms of his Bid, furnish a performance bond and also a labor and materials payment bond and provide evidence that the insurance required by the Contract Documents has been obtained, an award may be made to the next lowest responsible and eligible Bidder.

17.2 No time limit shall be applicable to a second or subsequent award made after the expiration of the initial time limit with the consent of said next lowest responsible and eligible Bidder, and made because the original award made within the time limit was invalid, or because the Bidder failed to execute the Contract or to provide a performance bond and labor and materials payment bond, or provide evidence of the insurance required by the Contract Documents.

17.3 As provided in M.G.L. Chapter 30, Section 39M, the words "lowest responsible and eligible Bidder" shall mean the Bidder whose bid is the lowest of the Bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety approved by the U.S. Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and who obtains within ten days of contract award the security by bond required under section 29 of Chapter 149. Essential information in regard to qualifications shall be submitted in such form as the **City** may require.

ARTICLE 18 - CONFLICT OF INTEREST

18.1 A Bidder filing a bid thereby certifies that the bid is made in good faith, without fraud, collusion, or connection of any kind with any other Bidder for the same work, and that the Bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm. If any officer, agent, or employee of the **City**

has a financial interest in the Bidder, he/she should consult with the City of Boston Law Department, Room 615, City Hall, to learn what must be done to comply with the provisions of the Conflict of Interest Law (MGL, Chapter 268A) and the **City** Charter (Statutes 1909, Chapter 486).

ARTICLE 19 - EQUAL OPPORTUNITY/WORKFORCE

19.1 The attention of all Bidders is specifically directed to the requirements set forth in the Boston Residents Jobs Policy.

19.2 The work force requirements apply to each trade that appears on the list of "Classification and Prevailing Wage Rates" as determined by the Massachusetts Department of Labor Standards under the provisions of MGL Chapter 149, sections 26 through 27, as amended. If you have any questions pertaining to the applicability of these requirements, please call the Boston Residents Jobs Policy Unit at 617-635-4511.

ARTICLE 20 - BIDDERS AS FOREIGN CORPORATIONS

20.1 Pursuant to M.G.L. Chapter 30, Section 39L, the City will not enter into a contract with a Bidder and shall not approve as a Subcontractor any foreign corporation until the Bidder or Subcontractor has filed with the **City** a certificate of the Secretary of State for the Commonwealth of Massachusetts, stating that such corporation has complied with the requirements of section 15.03 of subdivision A of Part 15 of Chapter 156D and the date of such compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of Chapter 156D.

**END OF SECTION 00 20 00
INSTRUCTIONS TO BIDDERS**

SECTION 00 41 13: FORM FOR BID (Chapter 30, §39M contracts)

CITY OF BOSTON PUBLIC FACILITIES DEPARTMENT

PROJECT TITLE: Moon Island Seawall

PROJECT LOCATION: Moon Island, Boston, Massachusetts

PROJECT NUMBER: 7222

TO THE AWARDING AUTHORITY, acting in the name and on behalf of the City of Boston:

A. The undersigned proposes to furnish all labor and materials required for the Project specified above, located in Boston, Massachusetts, in accordance with the accompanying Contract Documents, plans and specifications prepared by (Name of Designer): GEI Consultants, Inc.

for the Contract Price specified below, subject to additions and deductions, according to the terms of the Contract Documents.

B. This Bid includes addenda numbered: _____

C. The proposed Contract Price is: _____

_____ DOLLARS (\$ _____).

<u>FOR ALTERNATE NO.</u>	<u>ADD</u>	<u>SUBTRACT</u>
1	\$ _____	\$ _____
2	\$ <u>N/A</u> _____	\$ <u>N/A</u> _____
3.	\$ <u>N/A</u> _____	\$ <u>N/A</u> _____
4.	\$ <u>N/A</u> _____	\$ <u>N/A</u> _____
5.	\$ <u>N/A</u> _____	\$ <u>N/A</u> _____
6.	\$ <u>N/A</u> _____	\$ <u>N/A</u> _____

D. The undersigned agrees that if he is selected as the Contractor, he will within five (5) days, Saturday, Sunday and legal holidays excluded, after presentation thereof by the **Awarding Authority**, execute a Contract in accordance with the terms of this Bid and furnish a performance bond and also a labor and materials payment bond, each of a surety company licensed to do business under the laws of the Commonwealth; appearing on the U.S. Treasury List of Approved Sureties; satisfactory to the **Awarding Authority**; and each in the sum of one hundred percent (100%) of the Contract Price, the premiums for which are to be paid by the Contractor and are included in the Contract Price.

E. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all elements of labor employed or to be employed on the Work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to M.G.L. 30, §39M.

F. Names and addresses of all persons interested in this bid, as principals other than the undersigned, are as follows:

G. The Bidder is (a) (an) _____
(Indicate: Individual, Partnership, Corporation, Joint Venture, or Trust)

1. If the Bidder is a Partnership, state names and residential addresses of all partners:

2. If Bidder is a Corporation, complete the following:

Corporation is incorporated in the State of _____

President: _____

Treasurer: _____

Place of Business: _____
(Street, City, and State)

(a) If the Bidder is a Foreign Corporation, also complete the following:

The Power of Attorney required by M.G.L. Laws, Chapter 181, Section 4, was filed on:

The Certificate and copy of its Charter, Articles of Incorporation required by M.G.L. Chapter 181, Section 4, were filed on:

3. If the Bidder is a Joint Venture, state the names and business addresses of each person, firm, or company that is party to the joint venture:

A copy of the Joint Venture Agreement will be delivered to the Award Authority on request, and is on file at:

4. If the Bidder is a Trust, state the names and residential addresses of all Trustees:

The Trust Documents will be delivered to the City on request, and are on file at:

5. List here, or attach a separate sheet listing all ongoing projects, and projects completed within the past three years on which you served as General Contractor, and the name of the Designer or Owner's Representative:

<u>Project</u>	<u>Designer/Owners Rep.</u>	<u>Tel. No.</u>	<u>Contract Amount</u>
_____	_____	_____	\$
_____	_____	_____	\$
_____	_____	_____	\$
_____	_____	_____	\$

6. Bank References: _____

7. If the business is conducted under any title other than the real name of the owner, state the time when and place where the Certificate required by M.G.L. Chapter 110, Section 5, was filed:

8. The Federal Social Security Identification Number of the Bidder (the number used on Employer's Quarterly

Federal Tax Return, U.S. Treasury Department Form 941) is: _____

FORM FOR BID

C. 30

H. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all requirements of the plans and specifications:

1. Have been in business under present business name _____ years.
2. Ever failed to complete any work awarded? _____.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. Chapter 29, Section 29F, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

Name of Bidder: _____

By: _____
(Name of Individual Signing Bid and Title)

Business Address: _____

Business Phone: _____ Home Phone: _____

Do you have any answering service: Yes _____ No _____

**END OF SECTION 00 41 13
FORM FOR BID – C.30**

SECTION 00 43 13: BID BOND FORM (c. 30,§39m Contracts)

CITY OF BOSTON PUBLIC FACILITIES DEPARTMENT

KNOW ALL PERSONS BY THESE PRESENTS

That _____
of _____, as
PRINCIPAL, and _____,
a _____ Corporation, as **SURETY**, are held firmly bound unto the City of Boston,
acting by and through its Public Facilities Department, as **OBLIGEE** in the sum of
_____ Dollars (\$ _____), for the
payment of which sum, well and truly to be made, the **PRINCIPAL** and **SURETY** bind themselves, their heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the **PRINCIPAL** has submitted a bid for _____

NOW, THEREFORE THE CONDITION OF THIS OBLIGATION is such that if the bid of the aforesaid
PRINCIPAL shall be awarded the Contract for the above-cited project, the **PRINCIPAL** will enter into a Contract with
the **OBLIGEE** in accordance with the terms of such bid, and give such bond or bonds as may be specified in the
bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for
the prompt payment of labor and material furnished in the prosecution thereof, then this **OBLIGATION** shall be null
and void. **OTHERWISE**, the **PRINCIPAL** and **SURETY** will pay unto the **OBLIGEE** the difference in money between
the amount of the bid of the said **PRINCIPAL** and the amount for which the **OBLIGEE** legally contracts with another
party to perform the work covered by said bid, if the latter amount be in excess of the former, but in no event shall
liability exceed the penal sum hereof.

IN WITNESS WHEREOF, the parties have signed, sealed and delivered this instrument at Boston, MA this

_____ day of _____, 20_____.

(Name of **PRINCIPAL**) (Affix Corporate Seal HERE)

(Signature/Title of **PRINCIPAL**)

(Name of **SURETY**) (Affix Corporate Seal HERE)

(Attorney-in-Fact)

[Attach Power of Attorney to this page]

C.30, §39M
Rev. 9/06

**END OF SECTION 00 43 13
BID BOND**

SECTION 00 51 00: CONTRACT LETTER OF AWARD PAGE

[The letter from the **Official** to the Mayor of Boston concerning the award of the Contract **MUST** be attached to this page.]

C. 30, §39M
Rev. 9/06

**END OF SECTION 00 51 00
LETTER OF AWARD PAGE**

**SECTION 00 52 13: AGREEMENT
(C. 30, §39M Contracts)**

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CITY OF BOSTON
PUBLIC FACILITIES DEPARTMENT

THE CITY OF BOSTON, a municipal corporation of the Commonwealth of Massachusetts, acting by its Public Facilities Commission, by its Director of Public Facilities and

(Complete Legal Name)

(Address)

(The **Contractor**) hereby mutually agree as follows:

ARTICLE 1 - THE CONTRACT DOCUMENTS

1.1 The Contract Documents form the contract between the **City** and the **Contractor** and are incorporated into this Contract by this reference. The Contract Documents represent the final and entire integrated agreement between the parties with respect to the Work under the Contract Documents. The Contract Documents supersede all prior oral or written agreements, if any, between the parties, and any statement, representation, promise or inducement not set forth in the Contract Documents is null and void, and not binding on either the **City** or the **Contractor**. The Contract Documents shall not in any way create a relationship of any kind between the **Designer** and the **Contractor**, or between the **City** and any Subcontractor, or Supplier, or any other person. The **Designer** shall, however, be entitled to performance and enforcement of obligations under the Contract which are consistent with the **Designer's** authority and responsibilities under the Contract Documents.

Rev. 2006

00 52 13 - 1

©Copyright City of Boston, Public Facilities Department. All rights reserved.

1.2. The Contract Documents, on the date when the **Official** executes this Contract and which are attached to this Contract consist of the following:

This Contract, fully executed by the **City** and the **Contractor**, including:

Addenda ___ through ___.

Letter of Award.

Supplementary Conditions, Sections 00 73 00 (including any attachments), and Supplementary Instructions, if any, Section 00 22 00.

General Conditions, Section 00 70 00.

Divisions 00 and 01 of the Specifications.

Divisions 02 through 35 of the Specifications, and Drawings, bearing the title: Moon Island Seawall, dated May 15, 2026.

Advertisement for Bids and Instructions to Bidders.

Performance and Payment Bonds, fully executed by the **Contractor**, and the corresponding sureties.

The **Contractor's** Bid Form.

The Contract Documents itemized in this paragraph 1.2 are included with this Contract.

1.3 Other Contract Documents which will be issued after the date when the **City** executes this Contract consist of:

Change Orders signed by the **City**, regardless of whether or not they are signed by the **Contractor**.

Change Authorizations signed by the **Official**, regardless of whether or not they are signed by the **Contractor**.]

1.4 There are no Contract Documents other than those listed in this Article 1. The Contract Documents may be modified or supplemented as provided in the General Conditions.

ARTICLE 2 - GENERAL DESCRIPTION OF THE WORK

2.1 The **Contractor** shall furnish all of the materials and perform all of the Work required by the Contract Documents entitled Moon Island Seawall, Project No. 7222, dated May 15, 2026.

ARTICLE 3 - THE DESIGNER

3.1 The **City** has retained GEI Consultants, Inc. to act as the **City's** representative, assume all duties and responsibilities of and have the rights and authority assigned to the **Designer** in the Contract Documents with respect to

completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIME

4.1 Contract Time shall commence upon the execution of this Contract by the **City** of Boston, acting by the Director of Public Facilities after the approval of this Contract by the **City** Auditor, the certification of the availability of an appropriation and the Corporation Counsel's approval as to form, and the **Contractor** shall bring the Work to Substantial Completion within 240 calendar days, and to Final Completion within 300 calendar days. The **Contractor** represents to the **City** that the Contract Time is sufficient to perform the original scope of work in accordance with the Contract Documents.

4.2 The **City** and the **Contractor** recognize that the Contract Time(s) so specified are of the essence of this Contract, and the **City** will suffer financial losses if the Work is not completed within the Contract Time(s) specified plus any extensions authorized by Change Order. Accordingly, if the **Contractor** fails to complete the Work, or designated part of the Work, within the corresponding Contract Times, he shall pay the **City** liquidated damages in accordance with paragraph 4.2.1.

4.2.1 The **Contractor** agrees to allow the **City** to deduct from progress payments and retention and to pay to the **City** as liquidated damages, and not as a penalty, the amount of One Thousand Dollars and No/Cents (\$1000.00) for each day that expires after the Contract Time specified in paragraph 4.1 for Substantial Completion until the Work is Substantially Complete. The **Contractor** further agrees to allow the **City** to deduct from progress payments or retention and to pay to the **City** as liquidated damages, and not as a penalty, the amounts designated subject to the terms and conditions specified, for each day that expires after each of the Contract Time(s) specified for Substantial Completion or Partial Completion of each of those separable parts of the Work until each of the parts is so substantially or partially complete. After Substantial Completion of the Work, if the **Contractor** neglects, refuses or fails to complete the remaining Work within the Contract Time or any proper extension granted by the **City**, the **Contractor** agrees to allow the **City** to deduct from progress payments and retention, and to pay to the **City** as liquidated damages, and not as a penalty, the amount of One Thousand Dollars and No/Cents (\$1000.00) for each day that expires after the Contract Time specified in paragraph 4.1 for completion and readiness for final payment until the Work is completed and ready for final acceptance. These liquidated damages are cumulative and represent a reasonable estimate of the **City's** extra expenses, which expenses are difficult to estimate with accuracy, for each day that expires after the associated Contract Times.

ARTICLE 5 - CONTRACT PRICE

5.1 The **City** shall pay and the **Contractor** shall accept, as full compensation for everything furnished, done by or resulting to the Contract in carrying out this Contract, subject

to additions and deductions in the Contract Documents, the

not to exceed Contract Price of _____ DOLLARS (\$_____).

The **Contractor** agrees that the Contract Price complies with prevailing wage requirements and is sufficient to properly staff the Work within the Contract Time.

5.2 This Contract is subject to the availability of an appropriation.

5.3 If the Contract is funded under a grant with the Federal Government, it is being executed without further appropriation pursuant to M.G.L. Chapter 44, Section 53A.

5.4 If the amount of the City Auditor's certification of available funds is less than the not to exceed Contract Price stated above, the City shall not be liable for any claims or requests for payment by the **Contractor** which would cause total claims or payments under this Contract to exceed the amount so certified by the City Auditor.

5.5 Unless otherwise expressly provided in a writing incorporated herein by reference the amount certified by the City Auditor as available funds under this Contract may be increased or decreased by the **Official** upon written notice to the **Contractor** bearing the written approval of such change by the City Auditor. Such notice shall be sent or delivered to the **Contractor** at the **Contractor's** business address and shall take effect not less than seven (7) days after the date of such delivery or mailing. In the event of such decrease, the **Contractor** shall be compensated for services rendered to the effective date of such reduction, in accordance with the rates of compensation specified in this Contract.

5.6 Payments by the **Owner** to the **Contractor** will be made in current funds on the basis of the prices indicated on the **Contractor's** Bid Form, subject to the conditions governing payments to the **Contractor** given in the Contract Documents.

ARTICLE 6 - CONTRACTOR'S REPRESENTATIONS

6.1 The **Contractor** has not given, offered or agreed to give any person, corporation or other entity any gift, contribution or offer of employment as an inducement for, or in connection with, the award of this Contract.

6.2 No Subcontractor has given, offered or agreed to give any gift, contribution or offer of employment to the **Contractor**, or to any other person, organization, or entity as an inducement for, or in connection with, the award to the Subcontractor of a contract by the **Contractor**.

6.3 No person, corporation or other entity, other than a bona fide full-time employee of the **Contractor** has been retained or hired by the **Contractor** to solicit for or in any way assist the **Contractor** in obtaining this Contract upon an agreement or understanding that such person, corporation or other entity by paid a fee or other consideration contingent upon the award of this Contract to the **Contractor**.

ARTICLE 7 - MISCELLANEOUS

7.1 No assignment by a party to this Contract of any rights under or interests in the Contract Documents will be binding on the other party without the written consent of the party sought to be bound; and specifically, but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

7.2 The **Contractor** shall perform all Work under this Contract as an independent contractor. The **Contractor** shall not be considered an agent of the **City**, nor shall any Subcontractors be considered agents of the **City**.

7.3 The **City** and the **Contractor** each binds itself, its partners, successors, assigns and legal representatives to the other party to this Contract, its partners, successors, assigns and legal representatives in respect of all agreements and obligations contained in the Contract Documents.

7.4 This Contract and the Contract Documents shall be governed by the Laws and Regulations of the Commonwealth of Massachusetts.

7.5 The **City** reserves the right to correct any error in any progress payment that may have been paid. The **City** reserves the right, should proof of defective Work be discovered after final payment, to claim and recover from the **Contractor** and his surety, or either of them, sufficient sums to correct or remove and replace the defective Work.

7.6 Any waiver by the **City** of any provision of the Contract Documents shall be specific and in writing, and shall apply only to the particular matter and not to other similar or dissimilar matters. Any waiver of any breach of this Contract shall not be held to be a waiver of any other or subsequent breach.

7.7 Nothing contained in this Contract shall in any manner authorize, empower or constitute the **Contractor**, his Subcontractors or Suppliers to assume or create any obligation or responsibility whatsoever, express or implied, on behalf of or in the name of the **City**; or to bind the **City** in any manner or make any representation, warranty, covenant, agreement or commitment on behalf of the **City**. The **Contractor** shall perform all Work under this Contract as an independent contractor. This contract does not create and shall not be construed as creating, any rights enforceable by any person not a party to the Contract.

7.8 This Contract supersedes all prior oral or written agreements, if any, between the parties and constitutes the entire, integrated agreement between the parties with respect to the Work to be performed under the Contract Documents.

7.9 If any provision(s) of the Contract Documents is/are

invalid, illegal or unenforceable, all other provisions of the Contract Documents shall nevertheless remain in full force and effect. If any provision of the Contract Documents is inapplicable to any person or circumstance, that provision shall nevertheless remain applicable to all other persons and circumstances.

7.10 It is the intent of the **City** and the **Contractor** that all provisions of Law required to be inserted or referenced in the Contract Documents are in fact inserted or referenced in the Contract Documents. If any provision of Law is not so inserted or referenced, or is inserted or referenced improperly, then each such provision shall be considered inserted or referenced in proper form at no increase in Contract Price or Contract Time.

7.11 The duties, obligations, criteria or procedures imposed by the Contract Documents and the rights and remedies made available are in addition to, and not in any way a limitation of, any rights and remedies which are otherwise allowed or imposed by Law, except that in the event a specific part or detailed requirement of a provision, criterion or procedure in the Contract Documents and a specific part or detailed requirement of a provision, criterion or procedure imposed by Law conflict, the specific part or detailed requirement of such provision, criterion or procedure imposed by Law shall govern. All other specific parts or detailed requirements in the provisions, criteria or procedures of the applicable Law and the Contract Documents shall remain in full force and effect and be read with the controlling specific part or detailed requirement. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

7.12 The **Contractor** shall not sell, assign, transfer or otherwise convey any of his rights and shall not delegate any of his duties under this Agreement without the prior and express written consent of the **City** and the Surety. In its sole discretion the **City** may refuse to consent to any proposed assignment or delegation. Any attempted sale, assignment, transfer, conveyance or delegation in violation of this paragraph shall be void and shall relieve the **City** of any further liability under the Contract Documents but shall not relieve the **Contractor's** sureties of any liability. If the **City** consents in writing to an assignment, unless specifically stated to the contrary in the consent, the assignment shall not release or discharge the **Contractor** from any duty or responsibility set forth in the Contract Documents, and shall not release or discharge the Surety under the Bonds required by the Contract Documents.

7.13 This Contract shall be binding on the **City**, the **Contractor** and all of their respective successors and legal representatives and, if the **City** has consented to an assignment or delegation as provided in paragraph 7.12, on assigns and delegates.

7.14 Unless otherwise specified in the Contract Documents, any notice or communication shall be in writing, and shall be deemed to have been given as of the time of actual receipt.

7.15 Unless otherwise specified in writing, any notice or other

communication to the **City** or **Contractor** shall be sufficiently given if delivered to the intended individual in person or at the corresponding address designated in this Agreement.

7.16 Any notice or other communication to the surety(ies) furnishing the Performance and Payment Bonds shall be sufficiently given if delivered to the intended individual in person or to a member of the firm or entity, or to an officer of the corporation for which it was intended, at the corresponding address designated in this Agreement or at the address designated in the corresponding Bond.

ARTICLE 8 – AVAILABILITY OF APPROPRIATION

8.1 This Contract is subject to an appropriation being available therefor.

(The remainder of this page has intentionally been left blank.)

C. 30, §39M

END OF SECTION 00 52 13: AGREEMENT



STANDARD CONTRACT DOCUMENT

CITY OF BOSTON

(FORM CM 10)

CONTRACT ID:

Contractor Legal Name: (and d/b/a):	City Department Name:
Contractor Address:	Department Head: Mailing Address:
Contractor Vendor ID:	Billing Address (if different):

ACCOUNT	FUND	DEPT ID	PROGRAM	CLASS	PROJECT	BUD REF	FUNCTION	AMOUNT
								\$
								\$
								\$
								\$
								\$

Contract Details

Description/Scope of Services: (Attach supporting documentation)

Begin Date:

End Date:

Rate: \$

Not to Exceed Amount: \$

(Attach details of all rates, units, and charges)

Contract Signatures

AUDITOR	CONTRACTOR	AWARDING AUTHORITY/OFFICIAL
APPROVED AS TO AVAILABILITY OF APPROPRIATION OR PURSUANT TO ARTICLE 12.2 OF THE GENERAL CONDITIONS	AGREES TO PROVIDE THE GOODS OR SERVICES AS INDICATED IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS.	ATTACH APPROVED LETTER OF AWARD AND OTHER REQUIRED DOCUMENTS.
IN THE AMOUNT OF \$		
	SIGNATURE	SIGNATURE
SIGNATURE	TITLE	DATE
DATE	DATE	

CERTIFICATE OF AUTHORITY

CM-06

INSTRUCTIONS

Corporations must complete this form and indicate the individual legally authorized to sign contracts on behalf of the corporation. The individual signing this form must be the clerk or secretary for the corporation as authorized by the corporation's filings made with the Secretary of the Commonwealth, not the authorized contract signer.

REQUIRED CERTIFICATION

At a meeting of the Directors of the _____ *Name of Corporation*
duly called and held at _____ *Location of Meeting*
on _____ *Date of Meeting*
at which a quorum was present and acting, it was VOTED,
that _____ *Name of Authorized Individual*
the _____ *Position of Authorized Individual*
of this corporation is hereby authorized and empowered to make, enter into, sign,
seal and deliver in behalf of this corporation a contract for
_____ *Description of Service*

with the City of Boston, and a performance bond in connection with said contract.

I do hereby certify that the above is a true and correct copy of the record that said vote has not been amended or repealed and is in full force and effect as of this date, and that the authorized individual named herein is duly elected by this corporation.

Attest:

Name of Corporation Clerk or Secretary	
Signature	<i>Affix Corporate Seal Here</i>
Current Date	

APPROVED AS TO FORM BY CORPORATION COUNSEL APRIL, 2025
THIS FORM IS VOID AND WITHOUT LEGAL EFFECT IF ALTERED IN ANY WAY

SECTION 00 52 15: CORPORATION COUNSEL SIGNATURE PAGE

The Attached contract number **C-**_____ between the City of Boston,

acting by its Public Facilities Department as the Awarding Authority (the City), and

_____, (the Contractor)

for the

Project entitled

is hereby approved as to matters of form by the Corporation Counsel.

Approved as to matters of form.

Corporation Counsel

C. 30, §39M
Rev. 9/06

SECTION 00 60 10: LIST OF STANDARD FORMS (Chapter 30, §39M Contracts)

- 1.1 The form to be used by the **Contractor** as the Performance Bond is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.2 The form to be used by the **Contractor** as the Payment Bond is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.3 The Page to be used by the **Contractor** to attach the Certificate(s) of Insurance.
- 1.4 The form to be used by the **Contractor** for the Certification of Disposal Facilities is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.5 The forms to be used by the **Contractor** for CORI compliance are attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.6 The State Tax Return Certificate Form CB-08 is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.7 The form to be used by the **City** or the **Contractor** when negotiating or executing Change Authorizations is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.8 The form to be used by the **City** and the **Contractor** when executing Change Orders is attached to these Project Forms and incorporated into the Contract Documents by this reference.

C. 30, §39M
Rev. 9/06

**END OF SECTION 00 60 10
LIST OF STANDARD FORMS**

SECTION 00 61 13.13

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

that we, _____, as Principal,

and _____, as Surety,

are held and jointly and severally bound unto the CITY OF BOSTON, Boston, Massachusetts, as Obligee,

in the sum of _____ DOLLARS (\$ _____),

well and truly to be paid to the City of Boston, and for the payment of which we and each of us hereby bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a Contract with the City of Boston acting through it Public Facilities Department for a project entitled _____; Project Number _____; Contract Number _____;

THIS OBLIGATION IS UPON THE CONDITION that if the person or persons designated in the Contract incorporated by reference and annexed hereto as the Contractor, during the original term of said contract and any extension(s) thereof that may be granted by the City, and during the life of any guaranty required under the Contract shall faithfully furnish and perform everything required to be furnished and performed by them under the provisions of said Contract and perform all of the undertakings, agreements, terms and conditions of any and all duly authorized changes or additions to said Contract that may hereafter be made, notice to the Surety of such changes or additions being hereby waived, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In the event that the said Contract is abandoned by the Contractor, or the work of the Contractor is discontinued under the provisions of Article 14 of the General Conditions, said Surety hereby further agrees that it shall, if requested in writing by the City, acting by the Official, take such action as is necessary to complete said Contract.

FOR VALUE RECEIVED, said Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said Contract to the work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract or to the work or to the specifications.

IN WITNESS WHEREOF, the parties hereto have signed, sealed and delivered this instrument at Boston, Massachusetts, this _____ day of _____ 20_____.

Principal

Surety

By: _____

By: _____

Name and Title
(Affix Corporate Seal Here)

Attorney-in Fact
(Affix Corporate Seal Here)

(Power of Attorney must be attached to this Page.)

C.30, §39M
Rev. 9/06

**END OF SECTION 00 61 13.13
PERFORMANCE BOND**

SECTION 00 61 13.16

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

that we, _____, as Principal,

and _____, as Surety,

are both jointly and severally bound unto the CITY OF BOSTON, Boston, Massachusetts, as Obligee,

in the sum of _____ Dollars (\$_____),

well and truly to be paid, and for the payment of which we and each of us hereby bind ourselves, our heirs, executors, administrators, successors and assigns, firmly by these presents.

WHEREAS the said Principal has entered into a Contract with the City of Boston acting through its Public Facilities Department for a project entitled _____; Project Number _____; Contract Number _____;

THIS OBLIGATION IS UPON THE CONDITION that that if the person or persons designated in the Contract annexed hereto and incorporated herein by reference as the Contractor, and all Subcontractors under said Contract, shall promptly pay for all labor performed or furnished and materials used or employed in the work, all as and to the extent specified in the Massachusetts General Laws Chapter 149, § 29, as amended, and any authorized extension or modification to the said Contract, this obligation shall be null and void; otherwise it shall remain in full force and effect.

Said Surety hereby further agrees that no final settlement between the Obligee and the Principal shall abridge the right of any beneficiary hereunder whose claim(s) may be unsatisfied.

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

IN WITNESS WHEREOF, the parties have signed, sealed and delivered this Payment Bond at Boston, Massachusetts this _____ day of _____, 20 _____.

Principal

By: _____
Name and Title
(Affix Corporate Seal Here)

Surety

By: _____
Attorney-in-Fact
(Affix Corporate Seal Here)

(Power of Attorney must be attached to this Page)

C. 30, §39M
Rev. 9/06

**END OF SECTION 00 61 13.16
PAYMENT BOND**

SECTION 00 62 16: CERTIFICATE(S) OF INSURANCE PAGE

[All of the Certificate(s) of Insurance that are required by the Contract Documents, IN THE EXACT FORM REQUIRED BY THE CONTRACT MUST be attached to this page.]

C. 30, §39M
Rev. 9/06

**END OF SECTION 00 62 16
CERTIFICATE(S) OF INSURANCE PAGE**

00 62 23 CERTIFICATION OF DISPOSAL FACILITIES

CONTRACT NUMBER: _____

DATE: _____

I, _____,

the **Contractor**, hereby certify that I have disposal facilities available at:

Disposal Facilities Name

Address

and by signing this certification I further certify that my use of such facilities during the term of the Contract will comply with all applicable State and local requirements.

Signature of Authorized Representative of Bidder: _____

Name and Address of Bidder: _____

END OF CERTIFICATION OF DISPOSAL FACILITIES

ORDINANCE 2015 –CHAPTER 5
CITY OF BOSTON

DATE PASSED

JUN 04 2015

BY _____



IN THE YEAR TWO THOUSAND FIFTEEN

An Ordinance to Protect Air Quality throughout the City Of Boston by Reducing Fuel Emissions

WHEREAS, the City of Boston is committed to ensuring health, safety, and well-being of its residents; and

WHEREAS, in order to protect air quality throughout the community, the City must control emissions of air pollutants; and

WHEREAS, air pollution has their deleterious effects on human life, animal life, urban agriculture, personal property and limits citizens' activities in the communities; and

WHEREAS, the Mayor and Boston City Council continue to have a vital interest in reducing fuel emissions to improve the air quality all City of Boston residents; now, THEREFORE,

Be it ordained by the City Council of Boston, as follows:

That the City of Boston Code, Chapter VII, entitled "Environmental Protection" is hereby amended by adding the following as Section 7-2.3, "Diesel Emissions Reductions":

a. Purpose. The purpose of this ordinance is to minimize the public health risks associated with exposure to diesel particulate emissions by establishing requirements relating to the use of ultra-low sulfur diesel fuel and diesel emissions control technology by non-road and on-road diesel vehicles used in City projects and services, and by City owned, leased or operated diesel vehicles.

It is further the purpose of this ordinance to protect the public health and the environment by reducing vehicular emissions and conserving fuel.

b. Definitions. When used in this section, unless a contrary intention clearly appears, the following terms shall have the following meaning:

APCC means the Air Pollution Control Commission.

CARB means the California Air Resources Board or any successor agency.

Consumer Price Index means the annual average Consumer Price Index (CPI-U) as determined by the U.S. Bureau of Labor Statistics.

Diesel equipment means any diesel-powered equipment greater than fifty brake-horsepower.

EPA means the United States Environmental Protection Agency or any successor agency.

Non-road vehicle means a vehicle that is powered by a non-road diesel engine fifty brake-horsepower or greater and that is not a motor vehicle or a vehicle used solely for competition, which shall include, but not be limited to, backhoes, bulldozers, compressors, cranes, excavators, generators, and similar equipment; non-road vehicles do not include locomotives or marine vessels.

On-road vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway that operates on diesel fuel and that has a gross vehicle weight rating of 14,000 pounds or more.

Ultra low sulfur diesel fuel means diesel fuel that has a sulfur content of no more than fifteen parts per million.

Verified or certified retrofit technology means diesel emissions control technology that appears on the Verified Retrofit Technologies List of EPA or CARB or any successor list or that has been certified by its manufacturer as meeting or exceeding emissions reductions provided by emission control technology on such a list, the adequacy of such certification being subject to review by the City of Boston.

c. *Idling.*

1. It shall be the duty of every Police Officer, every official or employee of the Transportation Department assigned the responsibilities provided in Boston Code 6-6.2, and every official or employee of the Air Pollution Control Commission who takes cognizance of a violation of any provision of M.G.L. c. 90 §§ 16A and 16B, as now or hereinafter amended, or any regulation, as now or hereinafter amended, promulgated by the Registry of Motor Vehicles pursuant to M.G.L. c. 90 § 16B, to issue a written warning or to issue a written violation and to give the offender a notice to appear before the Parking Clerk, during regular office hours, not later than twenty-one (21) days after the date of the violation. The offender has the right to appeal a violation to the Parking Clerk, and that such hearings before the Parking Clerk will be conducted pursuant to G.L. c. 30A.

2. The fine for any violation of the provisions of M.G.L. c. 90 § 16A, as now or hereinafter amended, shall be one hundred dollars for the first offense, and five hundred dollars for each succeeding offense.

The fine for any violation of the provisions of M.G.L. c. 90 § 16B and 540 CMR 27.00 *et seq.*, as now or herein after amended, shall be one hundred dollars for the first offense, and five hundred dollars for each succeeding offense.

3. Any violation issued pursuant to this section, and any appeal of such violation to the Office of the Parking Clerk, shall be done in accordance with the procedures set forth in G.L. c. 90, s. 20A 1/2.

d. City Vehicles All on-road vehicles, non-road vehicles, and diesel equipment owned, leased, or operated by the City of Boston shall:

1. Be powered by ultra-low-sulfur diesel fuel; and
2. Meet EPA emissions standards for new vehicles in effect in 2007 or later for their respective classes of vehicle or have verified or certified retrofit technology that removes at least 20 percent of particulates from the exhaust stream.
3. Notwithstanding the requirements of 7-2.3(d)(2), the Commissioner of Public Works, in consultation with the Air Pollution Control Commission, may determine, if supported by data concerning annual vehicle usage, fuel consumption, and emission rates, that a greater net reduction in diesel emissions can be achieved at a lesser cost to the city by withholding the installation of diesel emission control equipment from certain vehicles and installing higher-yield diesel emission control equipment on other vehicles. In such cases, equipment installation shall follow said determination. Vehicles receiving higher-yield emission control equipment and vehicles receiving none on this basis shall be specifically identified in the annual report required by 7-2.3(f) (2).
4. All on-road vehicles, non-road vehicles, and diesel equipment owned, leased, or operated by the City of Boston shall meet this requirement set forth in 7-2.3(d) by December 31, 2015.
5. Exemptions: The following are exempt from the requirements of 7-2.3(d):
 - (a) Emergency vehicles, including but not limited to vehicles operated by the Boston Police Department, Boston Fire Department, and Boston Emergency Medical Services.
 - (b) On-road vehicles, non-road vehicles, and diesel equipment used solely for snow removal,
 - (c) On-road vehicles, non-road vehicles, and diesel equipment in operation for fewer than 100 hours a year,
 - (d) On-road vehicles, non-road vehicles, and diesel equipment to be sold, surplus, or removed from service before December 31, 2015, as determined by the Director of Central Fleet Management, and
 - (e) On-road vehicles, non-road vehicles, and diesel equipment identified in a cost-effectiveness determination, as specified in 7-2.3(d) (3).

e. Contract Requirements: All contracts entered into by the City of Boston for construction projects and other projects and services having a total estimated cost in excess of \$2,000,000.00 adjusted annually to reflect changes in the Consumer Price Index, shall require that on-road vehicles, non-road vehicles, and diesel equipment used to fulfill the contract or any subcontracts:

1. Be powered by ultra-low-sulfur diesel fuel; and
2. Meet EPA emissions standards for new vehicles and equipment in effect in 2007 or later for their respective classes of vehicle or equipment; or have verified or certified retrofit technology that removes a significant percentage of particulates from the exhaust stream, as follows:

(a) For contracts entered into on or after July 1, 2015 and before July 1, 2016, verified or certified retrofit technology shall be present on at least one half of all on-road vehicles, non-road vehicles, and diesel equipment used to fulfill the contract and requiring retrofit technology, and shall remove at least 20 percent of particulates from the exhaust stream.

i. Exemptions. The following on-road vehicles, non-road vehicles, and diesel equipment are exempt from the requirements relevant to contracts entered into on or after July 1, 2015 and before July 1, 2016 as provided in §§ 7-2.3(e)(2)(a):

(A) On-road vehicles, non-road vehicles, and diesel equipment, which are not owned by the contractor and on site for fewer than 30 days during the life of the project, or any lesser period of time as determined by the APCC pursuant to section (f)(4), and

(B) On-road vehicles, non-road vehicles, and diesel equipment used solely for snow removal.

(C) On-road vehicles used solely for the delivery of products or goods to the City of Boston.

(b) For contracts entered into on or after July 1, 2016 and before July 1, 2017, verified or certified retrofit technology shall be present on all on-road vehicles, non-road vehicles, and diesel equipment used to fulfill the contract and requiring retrofit technology.

i. Exemptions. The following on-road vehicles, non-road vehicles, and diesel equipment are exempt from the requirements relevant to contracts entered on or after July 1, 2016 and before July 1, 2017 as provided in §§ 7-2.3(e)(2)(b):

(A) On-road vehicles, non-road vehicles, and diesel equipment, which are not owned by the contractor and on site for fewer than 30 days during the life of the project, or any lesser period of time as determined by the APCC pursuant to section (f)(4), and

(B) On-road vehicles, non-road vehicles, and diesel equipment used solely for snow removal.

(C) On-road vehicles used solely for the delivery of products or goods to the City of Boston.

(c) For contracts entered into on or after July 1, 2017, verified or certified retrofit technology:

i. Shall, if available for the vehicle or equipment, remove at least 85 percent of particulates from the exhaust stream.

ii. If equipment required by sub-paragraph (i) is not available, the verified or certified retrofit technology shall remove the highest possible percentage of particulates from the exhaust stream. All equipment within a five-(5-) point range shall be considered equivalent.

iii. Notwithstanding the requirements of subsections (i) and (ii), no retrofit technology shall be required that reduces the safety of operation for any vehicle or equipment, as determined by the requirements of the U.S. Occupational Safety and Health Administration or other similarly recognized national organization.

iv. Exemptions. The following on-road vehicles, non-road vehicles, and diesel equipment are exempt from the requirements relevant to contracts entered on or after July 1, 2017 as provided in §§ 7-2.3(e)(2)(c)(i)-(ii):

(A) On-road vehicles, non-road vehicles, and diesel equipment retrofit before July 1, 2017, to meet the requirements of subsection 7-2.3(e)(2)(b);

(B) On-road vehicles, non-road vehicles, and diesel equipment, which are not owned by the contractor and on site for fewer than 30 days during the life of the project, or any lesser period of time as determined by the APCC pursuant to section (f)(4), and

(C) On-road vehicles, non-road vehicles, and diesel equipment used solely for snow removal.

(D) On-road vehicles used solely for the delivery of products or goods to the City of Boston.

3. Compliance with these requirements shall be deemed a cost of doing business and shall be considered incidental to the cost of the contract.

f. Implementation. The Air Pollution Control Commission shall:

1. Issue guidance to all City of Boston departments and agencies for implementing the requirements of this section; obtaining documentation of compliance; and providing application procedures and deadlines about available local, State and Federal public incentive programs to retrofit, re-power, or replace older, more polluting diesel equipment;

2. Issue an annual report on the overall progress of implementation to the Mayor and City Council;
3. Upon request of a contracting agency or as determined by the Commission, review the adequacy of manufacturer's certification for *retrofit technology*;
4. From time to time, after public hearing, , review and change the length of time that diesel vehicles or equipment not owned by contractors may remain on project sites without having emissions reduction or retrofit technology. Any such change by the Commission shall apply to all contracts described in section (e) of this ordinance and shall take effect in the following fiscal year;
5. Every five years, review and, as appropriate, recommend to the Mayor changes in requirements for diesel emissions control equipment for all City and contract vehicles and equipment subject to this section;
6. Notwithstanding other paragraphs of this section, the Commission may participate in or offer grant programs to assist owners of diesel vehicles and equipment in reducing emissions from their vehicles.

g. *Enforcement and sanctions*

Upon request, the Commission shall provide assistance to the contracting agency in determining non-compliance with the ordinance. In the event of non-compliance, the contracting agency shall immediately utilize all remedies available under the contract to address and halt the non-compliance, including, where appropriate, termination of the contract.

h. *Applicability* If any provision of this section imposes greater restrictions or obligations than those imposed by any other general law, special law, regulation, rule, ordinance, by-law, order, or policy then the provisions of this section control. Nothing in this Ordinance shall be construed to restrict or abrogate any of the duties, powers, or responsibilities of any official or employee of the city of Boston existing prior to the enactment of this Ordinance.

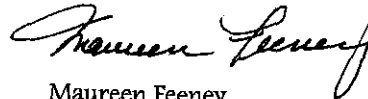
i. *Severability* If any provision of this section is to be held invalid by a court of competent jurisdiction then such provision should be considered separately and apart from the remaining provisions, which shall remain in full force and effect.

j. *Date of Effectiveness* The provisions of this section are effective immediately upon passage.

Filed in City Council: May 13, 2015

In City Council May 13, 2015. Passed
Approved by the Mayor June 1, 2015.

Attest:



Maureen Feeney
City Clerk

CITY OF BOSTON
DIESEL EMISSIONS REDUCTION ORDINANCE

In 2015, the City of Boston enacted the Diesel Emissions Reductions Ordinance (Section 7-2.3 of the Municipal Code) to reduce exposure to harmful air pollution from diesel engines. The ordinance required the City to finish installing pollution-reduction equipment on all of its older diesel vehicles and equipment by the end of 2015. The ordinance also established pollution-reduction requirements for diesel on-road and off-road vehicles and equipment used by contractors for City projects and services.

FREQUENTLY ASKED QUESTIONS

To which City contracts do the requirements apply?

The requirements apply to new contracts with an estimated cost of more than \$2 million that will require use of diesel vehicles or equipment; for example, construction and transportation contracts.

To what vehicles and equipment do the requirements apply?

The requirements apply, with some exceptions, to diesel-powered vehicles and equipment, on-road and off-road, with engines of more than 50 brake-horsepower.

What are the exceptions?

For contracts for fiscal year 2017 (FY17, July 2016–June 2017), the requirements do not apply to three categories of vehicles and equipment:

1. Vehicles and equipment not owned by the contractor that are on site for fewer than 30 days during the life of a project (for example, rented equipment)
2. Vehicles and equipment used only for snow removal
3. On-road vehicles used only for the delivery of products or goods

What are the requirements?

In FY17, diesel vehicles and equipment must either (a) be model year 2007 or later and meet the EPA standards for engines in effect at that time, or (b) have “verified or certified retrofit technology” that removes “at least 20 percent of particulates from the exhaust stream.”

Do other jurisdictions have similar requirements?

Yes. MassHighway and some other state agencies have similar requirements. Any vehicle or piece of equipment that has already been approved under those programs meets the City of Boston’s requirements.

Why are vehicles and equipment from 2007 or later OK?

The U.S. Environmental Protection Agency (EPA) set standards for 2007 engines that significantly lowered their pollution emissions. These standards have become stronger over time.

What is the retrofit technology that diesel engines need?

The two most common types of retrofits are diesel oxidation catalysts (DOCs) and diesel particulate filters (DPFs). Most DOCs, similar to the catalytic converters found on many cars, meet the minimum requirements for FY17. DPFs are a more advanced technology and can remove 80 or 90 percent of particulates, which is much better for human health and the environment.

What is the right type to choose?

Not all types of technology are available or suitable for all makes and sizes of vehicles and equipment. Please consult an equipment vendor to determine the best retrofit for specific equipment.

What is the cost of a retrofit?

The cost of a retrofit depends on the type and size of the equipment. DOCs are, in general, less expensive than DPFs, and can start in the range of a couple of thousand dollars. The amount of maintenance required also varies by type of equipment and patterns of operations.

What does “verified or certified” mean?

EPA and the California Air Resources Board (CARB) maintain lists of retrofit equipment that meets certain standards. Equipment on these lists have been verified or certified. The City of Boston also accepts, subject to review, equipment that has been certified by its manufacturer as meeting the emissions requirements. Contact the Boston Air Pollution Control Commission, APCC@boston.gov, for more information.

How does this City of Boston implement the DERO requirements?

For City contracts where DERO applies, contractors have to sign a form acknowledging their requirements.

What does a contractor have to do to demonstrate compliance?

Prior to beginning work, contractors will have to provide a list of all diesel vehicles and diesel equipment expected to be used to fulfill the contract, their model years, and, if necessary, the types of retrofit equipment. The City will provide forms for this purpose.

What happens, if the contractor needs a vehicle or piece of equipment not on the list?

The contractor should submit an updated list as soon as possible.

What else should a contractor do?

The contractor should keep a record of all diesel equipment on site and its time on site.

What will the City do to enforce the DERO requirements?

The City of Boston may conduct inspections to determine whether a contractor is in compliance. Violations of DERO are contract violations. The City of Boston may pursue any remedies allowed in case of a violation of contract.

Does the ordinance have other requirements?

The ordinance requires all covered vehicles and equipment to use ultra-low-sulfur Diesel (ULSD) fuel (less than 15 parts per million of sulfur). This is the standard diesel fuel usually sold.

Will the City of Boston pay for the cost of the device?

No. It is the contractor’s responsibility.

Will requirements change in the future?

Yes. In FY18, pre-2007 diesel vehicles and equipment on City contracts that have not been previously retrofit will have to reduce particulate emissions by 85 percent.

Where is more information available?

For EPA information about diesel pollution and retrofit equipment, see www3.epa.gov/otaq/diesel/verification/verif-list.htm and www.arb.ca.gov/diesel/verdev/vt/cvt.htm.

For general information about the Diesel Emissions Reductions Ordinance, see <http://www.cityofboston.gov/news/Default.aspx?id=20145>.

For specific contract provisions related to DERO, contact the department responsible for the contract.

Certificate of Compliance with “Diesel Emissions Reductions” Ordinance

On June 1, 2015, the Mayor of the City of Boston approved a Diesel Emissions Reductions Ordinance (Section 7-2.3 of the City Code). The purpose of this ordinance is to minimize the public health risks associated with exposure to diesel particulate emissions by establishing requirements relating to the use of ultra-low sulfur diesel fuel and diesel emissions control technology by non-road and on-road diesel vehicles used in City projects and services, and by City owned, leased or operated diesel vehicles.

Pursuant to Section 7-2.3 of the City Code, all contracts entered into by the City of Boston for construction projects and other projects and services having a total estimated cost in excess of \$2,000,000 (adjusted annually to reflect changes in the Consumer Price Index) shall require that on-road vehicles, non-road vehicles, and diesel equipment used to fulfill the contract or any subcontracts be powered by ultra-low sulfur diesel fuel. The vehicles and equipment must also meet certain EPA emissions standards or have verified or certified retrofit technology that removes a significant percentage of particulates from the exhaust stream. A copy of Section 7-2.3 is attached to this form for your reference.

Prior to beginning work on this contract, the undersigned vendor agrees to provide the City of Boston with a list identifying all diesel vehicles and diesel equipment used to fulfill the contract or any subcontracts, and demonstrating that such vehicles and equipment are in compliance with the emissions standards set forth in Section 7-2.3. The list shall be in a form provided by the City of Boston. Such list shall be signed by the vendor under the pains and penalties of perjury, certifying that the information it contains is truthful and accurate. The vendor shall immediately provide an updated list to the City of Boston, certified and signed in a like manner, if any additional vehicles or equipment will be used at a later date.

The undersigned vendor agrees to provide documentation, upon reasonable request, to the City of Boston related to compliance with Section 7-2.3. The undersigned vendor also agrees to cooperate with the City of Boston and allow access to the project site to allow inspection of all vehicles and equipment covered by this ordinance.

The undersigned vendor understands that failure to comply with the requirements of Section 7-2.3, at any time during the course of the contract, shall allow the City of Boston to pursue any and all available remedies allowed under the contract to immediately halt non-compliance including, where appropriate, termination of the contract.

Signature of the Vendor

Date

APPROVED AS TO FORM BY CORPORATE COUNSEL MARCH 2016

4-7 CORI SCREENING BY VENDORS OF THE CITY OF BOSTON.

4-7.1 Purpose.

These sections are intended to ensure that the persons and businesses supplying goods and/or services to the City of Boston deploy fair policies relating to the screening and identification of persons with criminal backgrounds through the CORI system.

4-7.2 Definitions.

Unless specifically indicated otherwise, these definitions shall apply and control in CBC 4-7.

Applicant means any current or prospective employee, licensee, or volunteer and includes all persons included in 803 CMR 2.03.

Awarding authority means any department, agency, or office of the City of Boston that purchases goods and/or services from a vendor.

CHSB means the Criminal History Systems Board defined in MGL c6 and 803CMR 2.00.

City means the City of Boston or department, agency, or office thereof.

Otherwise qualified means any applicant that meets all other criteria for a position or consideration for a position.

Vendor means any vendor, contractor, or supplier of goods and/or services to the City of Boston.

4-7.3 CORI-Related Standards of the City of Boston.

The City of Boston will do business only with vendors that have adopted and employ CORI-related policies, practices, and standards that are consistent with City standards.

The City of Boston employs CORI-related policies and practices that are fair to all persons involved and seeks to do business with vendors that have substantially similar policies and practices. The awarding authority shall review all vendors' CORI policies for consistency with City standards. The awarding authority shall consider all vendors' CORI standards as part of the criteria to be evaluated in the awarding of a contract and will consider a vendor's execution of the CORI standards to be evaluated among the performance criteria of a contract. The awarding authority shall consider any vendor's deviation from the CORI standards as grounds for rejection, rescission, revocation, or any other termination of the contract.

The CORI-related policies and practices of the City include, but are not limited to:

- a. The City does not conduct a CORI check on an applicant unless a CORI check is required by law or the City has made a good faith determination that the relevant position is of such sensitivity that a CORI report is warranted.
- b. The City reviews the qualifications of an applicant and determines that an applicant is otherwise qualified for the relevant position before the City conducts a CORI check. The City does not conduct a CORI check for an applicant that is not otherwise qualified for a relevant position.
- c. If the City has been authorized by the CHSB to receive CORI reports consisting solely of conviction and case-pending information and the CORI report received by the City contains other information (i.e. cases disposed favorably for the applicant such as not guilty, dismissal) then the City informs the applicant and provides the applicant with a copy of CHSB's information for the applicant to pursue correction.
- d. When the City receives a proper CORI report of an applicant that contains only the CORI information that the City is authorized to receive and the City is inclined to refuse, rescind, or revoke the offer of a position to an applicant then the City fully complies with 803 CMR 6.11 by, including, but not limited to, notifying the applicant of the potential adverse employment action, providing the applicant with a photocopy of the CORI report received by the City, informing the applicant of the specific parts of the CORI report that concern the City, providing an opportunity for the applicant to discuss the CORI report with the City including an opportunity for the applicant to present information rebutting the accuracy and/or relevance of the CORI report, reviewing any information and documentation received from the applicant, and documenting all steps taken to comply with 803 CMR 6.11.
- e. The City makes final employment-related decisions based on all of the information available to the City, including the seriousness of the crime(s), the relevance of the crime(s), the number of crime(s), the age of the crime(s), and the occurrences in the life of the applicant since the crime(s). If the final decision of the City is adverse to the applicant and results in the refusal, rescission, or revocation of a position with the City then the City promptly notifies the applicant of the decision and the specific reason(s) therefor.

4-7.4 Waiver.

Under exigent circumstances, an awarding authority, by its highest ranking member, may grant a waiver of CBC 4-7.3 on a contract-by-contract basis and shall submit a written record of the waiver to the Office of Civil Rights and to the Boston City Council's Staff Director who shall provide a copy to each and every City Councilor. The written record shall include, but not be limited to, (a) a summary of the terms of the contract, (b) the details of the vendor's failure or refusal to conform with the City's CORI-related standards, and (c) a brief analysis of the exigency causing the grant of waiver.

No waiver may be considered perfected unless the awarding authority fully complies with the provisions of this sub-section.

4-7.5 Data Collection and Report.

Any awarding authority, vendor, applicant, or other interested party may contact the Office of Civil Rights to report any problems, concerns, or suggestions regarding the implementation, compliance, and impacts of these sections, and the Office of Civil Rights shall log every comment received with a summary of the comment and shall keep on file any written comments. Subsequent to logging any comment, the Office of Civil Rights may refer a complaint to the CHSB and shall notify the relevant awarding authority. The Office of Civil Rights shall prepare a written report including, but not limited to, a summary of the granted waivers, a summary of any feedback regarding CORI-related policies and/or practices, and any other information or analysis deemed noteworthy by the Director of the Office of Civil Rights. The Office of Civil Rights shall file the report with the Boston City Council via the Boston City Clerk every six (6) months from the implementation date of these sections.

4-7.6 Applicability.

If any provision of these sections imposes greater restrictions or obligations than those imposed by any other general law, special law, regulation, rule, ordinance, order, or policy then the provisions of these sections shall control.

4-7.7 Regulatory Authority.

The Office of Civil Rights shall have the authority to promulgate rules and regulations necessary to implement and enforce these sections and may promulgate a form of the affidavit.

4-7.8 Severability.

If any provision of these sections shall be held to be invalid by a court of competent jurisdiction, then such provision shall be considered separately and apart from the remaining provisions, which shall remain in full force and effect.

4-7.9 Implementation.

The provisions of these sections shall be effective on July 1, 2006.

(PUB July 2012)

The City of Boston is subject to City of Boston Code, Chapter 4, section 7, which is intended to ensure that persons and businesses supplying goods and/or services to the City of Boston deploy fair policies relating to the screening and identification of person with criminal backgrounds through the CORI system.

INSTRUCTIONS

Vendors entering into contracts with the City must affirm that their policies regarding CORI information are consistent with the standards set by the City of Boston.

- A Vendor should not check Line 1 unless it performs NO CORI checks on ANY applicant.
- A Vendor who checks Lines 2 certifies that the Vendor’s CORI policy conforms to the standards set forth in Form CM-15B.
- A Vendor with a CORI policy that does NOT conform to the standards set forth on Form CM-15B must check Line 3.
 - Vendors who check Line 3 will not be permitted to enter into contracts with the City, absent a waiver, as provided for in CBC 4-7.4.
 - For any waiver to be granted, a completed Form CM-15C must be completed by the awarding authority and attached hereto.
 - **NOTE:** The Awarding Authority may grant a waiver of CBC 4-7.3 under exigent circumstance on a contract by contract basis.

CERTIFICATION

The undersigned certifies under penalties of perjury that the vendor is in compliance with the provisions of City of Boston Code, Chapter 4, section 7, as currently in effect.

- 1 CORI checks are not performed on any Applicants.
- 2 CORI checks are performed on some or all Applicants. The Vendor, by affixing a signature below, affirms under penalties of perjury that its CORI policy is consistent with the standards set forth on the attached Form CM-15B.
- 3 CORI checks are performed on some or all Applicants. The Vendor’s CORI policy is not consistent with the standards set forth on the attached Form CM-15B (a copy of the Vendor’s written CORI policy must accompany this form).

All Vendors must check one option.

Name of person signing quotation, bid, or proposal	
Name of Business	
Signature	

APPROVED AS TO FORM BY CORPORATION COUNSEL APRIL, 2025

By checking line 2 on the foregoing Form CM-15A, the Vendor affirms that its CORI-related policies, practices, and standards are consistent with the following standards:

- 1** The Vendor does not conduct a CORI check on an Applicant unless a CORI check is required by law or the Vendor has made a good faith determination that the relevant position is of such sensitivity that a CORI report is warranted.
- 2** The Vendor reviews the qualifications of an Applicant and determines that an Applicant is otherwise qualified for the relevant position before the Vendor conducts a CORI check. The Vendor does not conduct a CORI check for an Applicant that is not otherwise qualified for a relevant position.
- 3** If the Vendor has been authorized by the MDCJIS to receive CORI reports consisting solely of conviction and case-pending information and the CORI report received by the Vendor contains other information (i.e. cases disposed favorably for the Applicant such as Not Guilty, Dismissal) then the Vendor informs the Applicant and provides the Applicant with a copy of MDCJIS' information for the Applicant to pursue correction.
- 4** When the Vendor receives a proper CORI report of an Applicant that contains only the CORI information that the Vendor is authorized to receive and the Vendor is inclined to question an applicant about their criminal history, or refuse, rescind, or revoke the offer of a position to an Applicant, then the Vendor complies with this section by, including, but not limited to, notifying the Applicant of the potential adverse employment action, providing the Applicant with a photocopy of the CORI report received by the Vendor, informing the Applicant of the specific parts of the CORI report that concern the Vendor, providing an opportunity for the Applicant to discuss the CORI report with the Vendor including an opportunity for the Applicant to present information rebutting the accuracy and/or relevance of the CORI report, reviewing any information and documentation received from the Applicant, and documenting all steps taken to comply with 803 CMR 2.17.
- 5** The Vendor makes final employment-related decisions based on all of the information available to the Vendor, including the seriousness of the crime(s), the relevance of the crime(s), the age of the crime(s), and the occurrences in the life of the Applicant since the crime(s). If the final decision of the Vendor is adverse to the Applicant and results in the refusal, rescission, or revocation of a position with the Vendor then the Vendor promptly notifies the Applicant of the decision and the specific reasons therefor. Nothing in these requirements modifies or affects a Vendor's obligation to comply with Massachusetts or federal laws regarding CORI.

APPROVED AS TO FORM BY CORPORATION COUNSEL APRIL, 2025

CORI COMPLIANCE WAIVER

CM-15C

The undersigned awarding authority hereby certifies that exigent circumstances exist warranting the grant of a waiver from the provisions of CBC 4-7.3 for the attached contract.

INSTRUCTIONS

This form must be completed in full and attached to Form CM-15A for any contract between the City and a Vendor who has not checked line 1 or 2 on said Form CM-15A. Pursuant to CBC 4-7.4, the undersigned must explain in summary the contract terms in the space below, attaching additional sheets if necessary, the details of the Vendor's failure or refusal to conform with the City's CORI-related standards, and a brief analysis of the exigency causing the grant of waiver.

Summary of the terms of the contract.

Details of the Vendor's failure or refusal to conform to the City's CORI-related standards.

Explanation of the exigency causing the grant of this waiver.

Awarding Authority

Auditing Use Only

Copy to OCR

Copy to City Council
Staff Director

APPROVED AS TO FORM BY CORPORATION COUNSEL APRIL, 2025

CITY of BOSTON

Published May 2025



CITY OF BOSTON • MASSACHUSETTS

OFFICE OF THE MAYOR
MARTIN J. WALSH

EXECUTIVE ORDER
ESTABLISHING REQUIREMENTS FOR CITY CONTRACTS IN AN EFFORT TO
PREVENT WAGE THEFT

WHEREAS, the practice commonly known as “wage theft”—improperly withholding payment from employees and failing to pay them according to required schedules--harms the well-being of employees, their families, and their communities; and

WHEREAS, low income, immigrant, and limited English proficient workers are most vulnerable to this practice; and

WHEREAS, workers in the hospitality service industry are also vulnerable to this practice; and

WHEREAS, the high cost of wage theft to the City, its business community, and its residents impedes the City’s economic development and growth; and

WHEREAS, requiring City vendors to certify to the City their compliance with federal and state wage law, or to report violations and provide a wage bond, strengthens the City’s ability to hire vendors that treat their employees fairly; and

WHEREAS, prohibiting City departments from contracting with debarred vendors for the period of debarment will help to ensure that City resources are not used to support those vendors debarred for wage law violations; and

WHEREAS, the City desires to ensure that potential and current recipients of licenses issued under G.L. chapter 138 and chapter 140 comply with applicable wage laws;

NOW, THEREFORE, pursuant to the authority vested in me as chief executive officer of the City of Boston by St. 1951, c. 376, § 1.11, and every other power hereto enabling, I hereby order and direct as follows:

BOSTON CITY HALL • ONE CITY HALL SQUARE • BOSTON • MASSACHUSETTS • 02201
617-635-4500 • www.boston.gov

STANDARD CONTRACT PROVISION

1. The following section 11.9 shall be incorporated into the City of Boston's Standard Contract General Conditions (Form CM-11) as of January 1, 2015, and shall apply to every new contract and every renewal term of a contract entered into after that date:

ARTICLE 11--COMPLIANCE WITH LAWS AND PUBLIC POLICY:

11.9 The Contractor certifies that neither it nor any of its subcontractors have been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act within three (3) years prior to the date of the Contract; or certifies that it has provided copies of any and all of the above to the Official prior to the date of the Contract and any required wage bond or insurance; and certifies that while the Contract is in effect, it will report any instance of the above to the Official within five (5) days of Contractor's receipt. The Contractor agrees and shall require any subcontractor to agree to post in conspicuous places notices to be provided by the City, informing employees of the protections of applicable local, state, and federal law.

CITY PROCUREMENTS

2. The following provisions shall be included in any request for proposals, invitation for bids or request for qualifications issued by the City on or after January 1, 2015:
 1. Prospective vendors must provide the following certifications or disclosures in writing to the Official with their bids or proposals, and, for multi-year Contracts, annually upon the anniversary of the Contract date. Failure to provide the following shall result in rejection of the bid or proposal:
 - a. Prospective vendors must certify that neither they nor any of their subcontractors have been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act within three (3) years prior to the date vendors submit their bids or proposals; or
 - b. Prospective vendors must disclose any such criminal or civil judgment, administrative citation, final administrative determination, order or debarment and include copy(ies) with their bids or proposals.

c. Prospective vendors are notified that they must report any such criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act while any of their bids or proposals to the Official is pending and, if awarded a Contract, during the term of the resulting Contract, within five (5) days of vendor's receipt.

d. Prospective vendors that are subject to a state or federal debarment for violation of the above laws, either voluntarily or involuntarily, or that have been prohibited from contracting with the Commonwealth or any of its agencies or subdivisions will be deemed not responsible and their bids or proposals shall be rejected. Such vendors shall be deemed not responsible for the entire term of debarment or other stated time period. During the term of a Contract, upon a finding or order of such debarment or prohibition, the City may terminate the contract.

e. Vendor(s) awarded a Contract that have disclosed a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act within three (3) years prior to the date they submit their bids or proposals, or Vendor(s) awarded a Contract that receive a federal or state criminal or civil judgment, administrative citation, order or final administrative determination resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act during the term of the Contract, and that are not otherwise prohibited from public contracting, may be required by the Official to obtain a wage bond or other form of suitable insurance in an amount equal to the aggregate of one year's gross wages for all employees, based on an average of its total labor costs for the past two years. Such bond must be maintained for the term of the Contract, including any renewal terms or extensions, and proof of such bond must be provided upon request by the Official.


f. Vendor(s) awarded a Contract must post in conspicuous places notices to be provided by the City, informing employees of the protections of this Executive Order and applicable local, state, and federal law.

g. Vendor(s) awarded a Contract that have disclosed a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act within three (3) years prior to the date they submit their bids or proposals and through the Contract term shall furnish their monthly certified payrolls to the Official for all employees working on such Contract.

3. Contracts between the City and the United States or a corporation wholly owned by the government of the United States, or the Commonwealth of Massachusetts, its subdivisions and corporate bodies shall be exempt from this policy.
4. The Boston Licensing Board, in issuing licenses under G.L. c. 138 or G.L. c. 140, may consider whether a potential or current licensee has been subject to a federal or state criminal or civil judgment, administrative citation, order or final administrative determination resulting from a violation of G.L. c. 149, c. 151, or the Fair Labor Standards Act in determining whether to issue, re-issue, modify, suspend or revoke a license. Licensees that are subject to a state or federal debarment for violation of the above laws, either voluntarily or involuntarily, or that have been prohibited from contracting with the Commonwealth or any of its agencies or subdivisions shall be prohibited from holding, or continuing to hold, licenses issued by the Boston Licensing Board for the entire period of debarment or other stated time period.

All Cabinet Officers, Department Heads and City employees are hereby directed to render such aid and assistance as is required for the implementation of the foregoing policy.

10-23-14
Date



Martin J. Walsh
Mayor of Boston

The City of Boston has established requirements for City contracts in an effort to prevent wage theft. Prospective vendors must provide the following certifications or disclosures with their bids/proposals. Failure to provide the following shall result in rejection of the bid/proposal.

INSTRUCTIONS

A vendor must check box 1 or box 2 as applicable and must sign this form, certifying compliance with the requirements set out in this Form. This form must be included with the bid or proposal, and for multi-year contracts must be completed annually on the contract anniversary.

Pursuant to the above mentioned Executive Order, vendors who have been awarded a contract with the City of Boston must post the Massachusetts Wage and Hour Laws notice informing employees of the protections of G.L. c. 149, c. 151, and the Fair Labor Standards Act in conspicuous places.

This notice can be found at: mass.gov/ago/docs/workplace/wage/wagehourposter.pdf

CERTIFICATION

The undersigned certifies under penalties of perjury that the vendor is in compliance with the provisions of the Executive Order titled “Establishing Requirements for City Contracts in an Effort to Prevent Wage Theft,” as currently in effect.

- 1 Neither this firm nor any subcontractor has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act within three (3) years prior to the date of this bid/proposal submission.
- 2 This firm, or a subcontractor of this firm, has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act within three (3) years prior to the date of this bid/proposal submission and such documentation is included in the bid/proposal submission.
- 3 Any federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act imposed while any bid/proposal is pending and, if awarded a contract, during the term of the contract, will be reported to the Official within five (5) days of receiving notice.

Select one statement to certify, as applicable.

All vendors must certify.

- 4** Vendors awarded a contract that have disclosed a federal or state criminal or civil judgment, administrative citation, final administrative determination, or order resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act within three (3) years prior to the date of this bid/proposal, or during the term of the contract and through the contract term shall furnish their monthly certified payrolls to the Official for all employees working on such contract and may be required to obtain a wage bond or other suitable insurance in an amount equal to the aggregate of one year’s gross wages for all employees. Vendors subject to a state or federal debarment for violation of the above laws or prohibited from contracting with the Commonwealth are prohibited from contracting with the City, and upon a finding or order of debarment or prohibition, the City may terminate the contract.

- 5** Notice provided by the City, informing employees of the protections of the Order and applicable local, state, and federal law will be posted in conspicuous places.

All vendors must certify.

Name of person signing quotation, bid, or proposal	
Name of Business	
Signature	
Date	

APPROVED AS TO FORM BY CORPORATION COUNSEL APRIL, 2025

4-8 REQUIRING CITY VENDORS TO SAFEGUARD UNPROTECTED ROAD USERS.

4-8.1 Purpose.

Vehicles covered by this ordinance shall be so constructed and/or equipped as to offer effective protection to unprotected road users against the risk of falling under the sides of the vehicle and being caught under the wheels.

(Ord. 2014 c. 14)

4-8.2 Definitions.

The words defined in this ordinance shall have the meanings set forth below whenever they appear in this section unless the context in which they are used clearly requires a different meaning, or a different definition is prescribed for a particular paragraph or provision.

(i) *Approval of a vehicle* means the approval of a complete vehicle type with regard to its lateral protection.

(ii) *City* means the City of Boston.

(iii) *Department(s)* shall mean those City of Boston Departments, Authorities, Agencies, Commissions and any other instrumentality acting on behalf of another (“Awarding Authorities”) under the supervision of the Mayor or persons appointed by him/her.

(iv) *Contract* means the contract between a Vendor and a Department resulting from a request for proposals or an invitation for bids issued by the City to do any work or to make any purchase.

(v) *Gross weight* means the sum of the weights transmitted to the road surface by all the wheels of the vehicle.

(vi) *Large vehicle* means a motor vehicle with a gross weight exceeding ten thousand (10,000) lbs; or a trailer with an unladen mass exceeding ten thousand (10,000) lbs; or a semi-trailer with a gross weight exceeding twenty-six thousand (26,000) lbs.

(vii) *Lateral protective device* means an apparatus installed on large vehicles between the front and rear wheels to help prevent injuries to unprotected road users, particularly from falling underneath the vehicle.

(viii) *Mayor* shall mean the Mayor or persons designated by him/her.

(ix) *Otherwise qualified* means any Vendor that meets all other criteria for the award of a Contract.

(x) *Unladen mass* means the weight of the vehicle in running order, unoccupied and unloaded, but complete with fuel, coolant, lubricant, tools, and spare wheel, if supplied by the vehicle manufacturer as standard equipment.

(xi) *Unprotected road users* mean pedestrians, cyclists, or motorcyclists using the road in such a way that they are liable to fall under the sides of the vehicle and to be caught under the wheels.

(xii) *Vendor* means any firm, vendor, contractor, or supplier of goods and/or services to the City of Boston, and any of its subcontractors.

(Ord. 2014 c. 14)

4-8.3 Requirements for Large Vehicles.

When any officer or board in charge of a Department or other awarding agency of the City issues requests for proposals or invitations for bids to do any work or make any purchase, said officer or board shall contract with a responsible and eligible Vendor that has also installed, or that demonstrates that it will install, side under-ride guards, convex mirrors, and appropriate warning signage on all large vehicles it uses or will use within the City of Boston in connection with the Contract in preference of otherwise qualified Vendors.

(Ord. 2014 c. 14)

4-8.4 Policy Implementation.

Every Large vehicle or a conventional cab configuration in which more than half (1/2) of the engine length is forward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter (1/4) of the vehicle length used by a Vendor in connection with a Contract shall be equipped with convex mirrors, cross-over mirrors, decals, and side under-ride guards affixed to the sides of such vehicles in a manner consistent this section and with rules and regulations further promulgated by the Boston Transportation Department, the Boston Police Department, and the Inspectional Service Department. As future technical innovations to improve safety for vulnerable road users become available, the City will make efforts to test and update these requirements.

(Ord. 2014 c. 14)

4-8.5 Technical Specifications for the Equipment of Lateral Protective Devices, Convex Mirrors and Convex Cross-over Mirrors, and Safety Decals.

(a) *Lateral Protective Devices.* Large vehicles must be constructed or equipped in such a way as to offer, throughout their length, effective protection to unprotected road users against the risk of falling under the side of the vehicle and being caught under the wheels. This requirement will be considered satisfied either

1. If the vehicle is equipped with a special lateral protective device (side under-ride guard) in accordance with the requirements of Section 4-8.5b

2. If the vehicle is so designed and/or equipped at the side that, by virtue of their shape and characteristics, its component parts can be incorporated and/or regarded as replacing the lateral protective device. Components whose combined function satisfies the requirements set out in Section 4-8.5b below are considered to form a lateral protective device.

(b) *Technical Specifications.* The lateral protective device can use horizontal rails or a continuous flat surface that meets the following dimensional requirements:

1. The lower edge of the lateral protective device shall at no point be more than twenty-one and one-half (21.5) inches above the ground

2. The upper edge of the lateral protective device shall not be more than fourteen (14) inches below that part of the structure of the vehicle, cut or contracted by a vertical plane tangential to the outer surface of the tires, excluding any bulging close to the ground

3. Not more than twelve (12) inches to the rear of the vertical plane perpendicular to the longitudinal plane of the vehicle and tangential to the outer surface of the tire on the wheel immediately forward of the guard

4. The rearward edge of the lateral protective device shall not be more than twelve (12) inches forward of the vertical plane perpendicular to the longitudinal plane of the vehicle and tangential to the outer surface of the tire on the wheel immediately to the rear

5. The lateral protective device shall not increase the overall width of the large vehicle and the main part of its outer surface shall not be more than five (5) inches inboard from the outermost plane (maximum width) of the vehicle.

6. Every lateral protective device shall be essentially rigid and securely mounted. They shall not be liable to loosening due to vibration in normal use of the vehicle. The lateral protective device shall be considered suitable if it is capable of withstanding a force of four hundred forty (440) pounds applied perpendicularly to any part of its surface by the center of a ram the face of which is circular and not more than eight and one-half (8.5) inches in diameter, and during such application

7. No part of the side under-ride guard shall be deflected by more than six (6) inches; and,
8. No part of the side under-ride guard which is less than ten (10) inches from its rearmost part shall be deflected by more than one and one-quarter (1.25) inches.

(c) *Convex Mirrors.* Large vehicles must be equipped with convex mirrors to enable the operator of the large vehicle to see all points on an imaginary horizontal line which:

1. Is three (3) feet above the road;
2. Is one (1) foot directly forward from the midpoint upon the longitudinal axis of the front of such large vehicle; and extends the full width of such large vehicle

(d) *Cross-Over Mirrors.* Large vehicles must be equipped with convex cross-over mirror on the front of the vehicle to enable the operator of the large vehicle with a conventional cab configuration in which at least more than half (1/2) of the engine length is forward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter (1/4) of the vehicle length to allow the driver to see:

1. Any person or object at least three (3) feet tall passing in front of the vehicle.
2. The area from the front bumper to where direct vision is possible.

(e) *Safety Decals.* Large vehicles must be equipped with a minimum of three (3) safety decals on the rear and sides that warn pedestrians and cyclists of blind spots:

1. Decals should be 'safety yellow' in color
2. Decals should include language or images warning of the blind spot locations on the vehicle.
3. Decals should be placed, when possible, on or near the lateral protection devices.

(Ord. 2014 c. 14)

4-8.6 Compliance and Enforcement.

(a) Non-compliance with the provisions of this section 4-8 by a Vendor shall be grounds for

- i. A fine of one hundred (\$100) dollars for the first offense on a Contract, escalating to one hundred fifty (\$150) dollars for the second offense, and two hundred (\$200) dollars for the third offense.

ii. Termination of the Contract.

(b) This section 4-8 shall be enforced by the Inspectional Services Department's Weights and Measures Division and the Boston Police Department. The Boston Police Department and The Inspectional Services Department shall determine non-compliance with the provisions of this section 4-8 and any applicable regulations and may make recommendations, if any, to the contracting Department.

(c) The Inspectional Services Department shall issue, for a Vendor's large vehicles, a compliance certification through a vehicle inspection of convex mirrors, lateral protective devices, and decals prior to the date Vendor begins work on a Contract. A fee to cover the costs associated with inspection will be determined by the Commissioner of the Inspectional Services Department and passed on to the Vendor.

(d) Vehicle compliance will be certified with a sticker denoting the year of inspection. Inspections must be updated Biennially.

(e) Vendors may file for a waiver as stipulated in section 4-8.7. Waiver applications must be made in writing at the time of contract bid to the Commissioner of Inspectional Services, the Department requesting services, and the Commissioner of Transportation. Waiver applications filed after contract bids will not be considered.

(f) Inspectional Services Department shall issue an annual report to be filed with the Mayor and the City Clerk and transmitted by the Clerk to the City Council on the actions undertaken by

the Inspectional Services Department on enforcement of this ordinance no later than May 31st of each year. The annual written report shall include, but not be limited to, the following items for the twelve (12) month period prior to the report's due date:

1. Any financial costs to the City associated with this ordinance
2. The number of vehicles this ordinance applied to
3. The number of vehicle exemptions, if any
4. The total number of inspections performed by inspectors and any subsequent violations of this ordinance

5. Evaluation of safety performance on equipped vehicles from Boston EMS and BPD reports of incidents

(Ord. 2014 c. 14)

4-8.7 Waiver.

(a) If a Vendor or Department determines that extenuating circumstances exist which prevent the Vendor from complying with this section 4-8, then such Vendor or Department may request an exemption from compliance to the City of Boston with its provisions. Waivers are issued at the sole discretion of the City of Boston.

(b) This ordinance does not apply to

(i) A motor vehicle which has a maximum speed not exceeding fifteen (15) mph

(ii) An agricultural trailer

(iii) A fire engine

(iv) An emergency medical vehicle

(v) A vehicle which is being driven or towed to a place where by previous arrangement a side under-ride guard is to be fitted so that it complies with this section 4-8

(vi) Vehicles used solely for the purpose of snow removal.

(vii) Street sweeper vehicles

(viii) City of Boston Fleet Vehicles purchased before July 1, 2014

(Ord. 2014 c. 14)

4-8.8 Conformity with Existing State and Federal Law.

This section shall be implemented in conformity with state and federal law.

(Ord. 2014 c. 14)

4-8.9 Severability.

The provisions of this section are severable and if any provision, or portion thereof, should be held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such unconstitutionality or invalidity shall not affect the remaining provisions, which shall remain in full force and effect.

(Ord. 2014 c. 14)

4-8.10 Effective Date.

(a) This section shall take effect one hundred and eighty (180) days after passage and shall apply to all new Contracts awarded and to all renewal terms of existing Contracts executed after that date.

(b) City of Boston fleet vehicles purchased after July 1, 2014 that are Large Vehicles as defined herein will be required to comply with the provisions of this section.

(c) The Inspectional Services Department, Boston Police Department, and the Transportation Department shall issue rules and regulations to implement the provisions of this section within ninety days of the date it takes effect.

TRUCK SIDE GUARD ORDINANCE

SUMMARY

As the first of its kind in the nation, the Truck Side Guard ordinance championed by Mayor Walsh applies to motor vehicles weighing over 10,000 lbs. and semi-trailers with a total weight exceeding 26,000 lbs. The ordinance requires City agencies to contract only with vendors that have properly installed the following: **side guards, convex mirrors, cross-over mirrors, and blind-spot awareness decals.** These features are intended to reduce the risk of unprotected road users from falling under the sides of vehicles and getting caught under the rear wheels. The ordinance does not apply to several types of large vehicles, such as agricultural trailers, fire engines, and trucks used exclusively for snow removal.

COSTS, APPLICATION

Studies by the U.S. Dept. of Transportation have determined the cost of sideguards to be an average of \$847. *They are typically installed as a bolt-on addition and can be fixed or hinged. Mercedes and Volvo have produced side guard models.

*In the City of Boston pilot, each truck was outfitted for \$1,200.

REQUIREMENTS

LATERAL PROTECTION (Side Guards)

- Device must not increase the width of the vehicle.
- Device is rigid and securely mounted.

CONVEX MIRRORS

- Objects can be seen down the full length of the vehicle.
- Objects can be seen 3' above the ground.

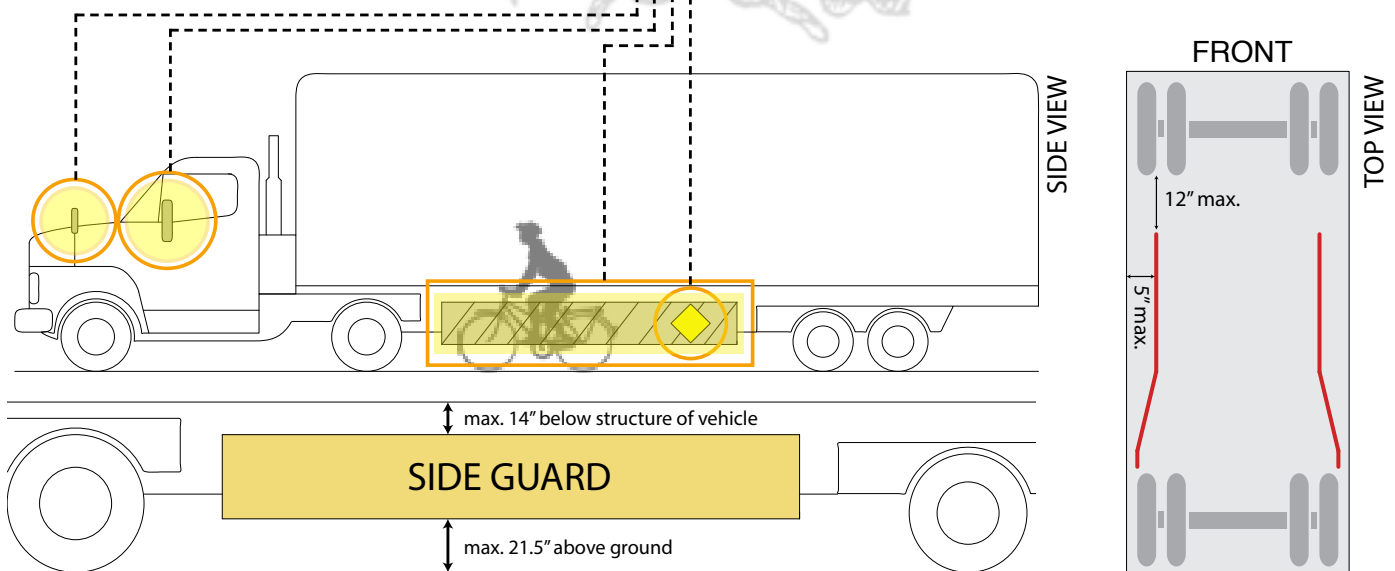
CROSS-OVER MIRRORS

- Objects can be seen 3' above the ground, from the bumper to where direct vision is possible.

SAFETY DECALS

- "Safety yellow" in color or bright.
- Minimum of 3 located in vehicle blind spots on side and the rear.

Vehicles designed in a manner that protects against lateral accidents, by virtue of their shape and characteristics, may satisfy the above requirements.



DIMENSION REQUIREMENTS FOR SIDE GUARDS

- Lowest edge of is maximum 21.5" above the ground.
- Not over 5" inboard of maximum width of vehicle.
- Upper edge is maximum 14" below structure of vehicle.
- Not over 12" from outer part of front and rear tire.

TRUCK SIDE GUARD ORDINANCE

TYPES OF SIDE GUARDS

SAMPLE OF GUARDS FROM BOSTON'S PILOT



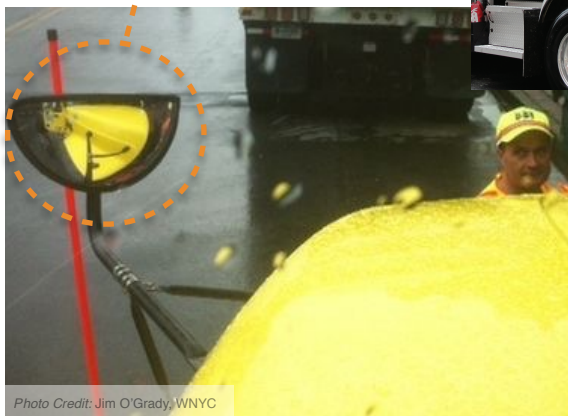
OTHER COMPONENTS

Safety decals



Cross Over Mirrors

Help drivers see objects in the front blindspot of large trucks



Common Questions

What types of vehicles does this ordinance apply to? This ordinance applies to large vehicles (over 10,000lbs) and semi-trailers used by City of Boston vendors within the City of Boston

Do I need an inspection before I start work on a contract? Yes

When does the ordinance go into effect? All contracts starting on or after May 5, 2015 must comply

Can tool boxes work as guards? Yes, but the tool box must meet all the required measurements in the ordinance

Do subcontractors with trucks regularly working on a job need to be inspected and permitted? Yes

What about deliveries to a job site? The City does not view a subcontractor that simply delivers materials or goods to a job site or to a City Department to be a "Vendor" subject to the ordinance."

If I typically rent trucks for a job, do those need to be inspected and permitted? Yes

Will the City do an off-site inspection for larger fleets? Yes, depending upon availability of inspectors and distance. Call the number below.

CALL TO SCHEDULE AN INSPECTION

The Inspectional Services Department is located at 1010 Massachusetts Ave.

T: 617.635.5300

E: ISD@cityofboston.gov

To register for an inspection, visit:
cityofboston.gov/isd/weightsandmeasures/sideguards/application/inspectionrequest.aspx

For more information, visit:
cityofboston.gov/isd/

ORDINANCE TO PROTECT WORKERS FROM HEAT-RELATED ILLNESSES AND INJURIES

HEAT-1

FACT SHEET FOR COVERED CONTRACTORS

Heat is the leading cause of death among all weather-related fatalities. In accordance with the City of Boston's Ordinance to Protect Workers from Heat-Related Illnesses and Injuries, employees covered under City of Boston contracts, leases, and licenses are afforded certain protections when, according to the National Weather Service, the heat index reaches 80°F (initial trigger), and additional protections when the heat index reaches 90°F (high heat trigger). The heat index may also be referred to as the "feels like" temperature.

The Office of Labor Compliance and Worker Protections has determined that the following types of contracts are covered under the Ordinance:

- Building and public works construction (M.G.L. c. 149, M.G.L. c. 149A, M.G.L. c. 30, § 39M)
- Landscaping, tree services, grounds cleaning/mowing, and maintenance of outdoor property
- Outdoor security services, including flaggers
- Moving services
- Trash and recycling collection and hauling

As a covered contractor, you have certain responsibilities:

1. You must develop and implement a Heat Illness Prevention Plan (HIPP) that outlines training and comprehensive workplace protections for your employees that will be implemented when the heat index reaches 80°F (initial trigger), and additional protections when the heat index reaches 90°F (high heat trigger).
2. Make your HIPP available to the City upon request;
3. Make your HIPP accessible to each employee in a language understood by the employee;
4. Incorporate your HIPP in all subcontracts, subleases, sublicenses, and other agreements with any third party engaged to perform labor or services in connection with the contract; and
5. Make information available to your employees, provided by the City, on the Ordinance and how to submit a complaint to the Office of Labor Compliance and Worker Protections.
6. Ensure compliance by your Subcontractor(s).

The Office of Labor Compliance and Worker Protections will provide covered contractors with the training and resources needed to comply with the Ordinance including:

- **Trainings** on understanding heat illness, necessary protections for workers, and how to create a Heat Illness Prevention Plan.
- **Templates for Heat Illness Prevention Plans** with examples of specific protections that should be provided to workers when the heat index reaches 80°F (initial trigger), and additional protections when the heat index reaches 90°F (high heat trigger).
- **Technical assistance** to support you in creating your Heat Illness Prevention Plan.
- **Training resources** for your employees on understanding heat illness and the protections outlined in your Heat Illness Prevention Plan.
- **Information in multiple languages** on the requirements of the Ordinance and how to submit a complaint to the Office of Labor Compliance and Worker Protections.
- To access available resources, and read the Ordinance in its entirety, go to boston.gov/heat-protections.



INSTRUCTIONS

In accordance with the City of Boston Code, Ordinances, Chapter 4-10 Ordinance to Protect Workers from Heat-Related Illnesses and Injuries in the City of Boston (“the Ordinance”), vendors entering into covered contracts must sign this form, certifying compliance with the standards set by the City of Boston.

Covered work includes:

- Building and public works construction (M.G.L. c. 149, M.G.L. c. 149A, M.G.L. c. 30, § 39M)
- Landscaping, tree services, grounds cleaning/mowing, and maintenance of outdoor property
- Outdoor security services, including flaggers
- Moving services
- Trash and recycling collection and hauling

The undersigned Vendor certifies the following under the pains and penalties of perjury:

- **Heat Illness Prevention Plan (HIPP) Development:** The Contractor will prepare, before any work begins, a project-specific HIPP that defines planned heat protections the Ordinance. For resources and information on HIPPs, go to boston.gov/heat-protections.
- **HIPP Implementation:** Basic heat protections defined in your HIPP must be implemented whenever the heat index reaches 80°F (initial trigger), and additional protections defined in your HIPP must be implemented when the heat index reaches 90°F (high heat trigger).
- **Availability:** The HIPP will be made available to the City upon request.
- **Language Access:** The HIPP will be accessible to each employee in a language understood by the employee.
- **Employee Notification:** The Contractor, and any Subcontractor(s), will make available to their employees information, provided by the City, on the Ordinance and how to submit a complaint should employees feel they are not receiving the protections required. For information to share with employees, go to boston.gov/heat-protections.
- **Subcontractor Compliance:** The HIPP will be incorporated in all subcontracts, subleases, sublicenses, and other third-party agreements with any third party engaged to perform labor or services in connection with the project. It is the obligation of the Contractor to ensure compliance with all provisions above by its Subcontractor(s).

The Vendor acknowledges that no provision of the Ordinance shall be construed to relieve the Vendor from complying with existing Occupational Safety and Health Administration (“OSHA”) health and safety regulations and that compliance with OSHA regulations is the sole responsibility of the Vendor.

Name of Vendor	
Name of Person Signing	
Signature	
Date	

4-10 Ordinance to protect workers from heat-related illnesses and injuries in the City of Boston

4-10.1 Definitions.

“*Covered Contractor*” refers to any person or entity that is a party to a City service or construction contract, City lease, or City license whose employees perform work in a setting at risk of causing Heat Illness, as determined by the Office of Labor Compliance and Worker Protections.

“*Drinking Water*” means potable, cool or cold water that is suitable for human consumption and is maintained in safe and sanitary conditions to prevent contamination and illness where such is not supplied through plumbed fixtures or otherwise continuously supplied. The term also includes commercially available electrolyte-replenishing beverages that do not contain caffeine.

“*Heat Illness*” means any medical condition caused by high temperatures and humidity, including but not limited to heat cramps, heat exhaustion, heat syncope, heat stroke, and heat edema.

“*Heat Illness Prevention Plan*” or “*HIPP*” refers to a written plan to prevent Heat Illness pursuant to the requirements of subsection 4-10.3 of this Section.

“*Heat Illness Prevention Plan Affidavit*” refers to a sworn statement on a form determined by the Office of Labor Compliance and Worker Protections certifying that the Covered Contractor, or his or her designee, has prepared and will implement a project-specific Heat Illness Prevention Plan that defines planned protections from potential heat hazards.

“*Rest*” means a break from work within working hours, during which an employee may not work.

“*Shade*” refers to an area that is not in direct sunlight. Shade may be provided by any natural or artificial means, such as a tree, tarp, tent, canopy, or other similar structure.

“*Subcontractor*” refers to any person or entity that has a contract with a Covered Contractor to perform all or part of the work covered by a City contract.

4-10.2 Purpose and Scope.

- A. The purpose of this Section is to ensure that all employees working for the City of Boston or under City of Boston contracts, leases, and licenses are afforded certain protections when the heat index reaches a threshold identified by the Office of Labor Compliance and Worker Protections. These protections are intended to reduce the likelihood of employee Heat Illness.
- B. This Section applies to all worksites and projects identified by the Office of Labor Compliance and Worker Protections as likely to cause Heat Illness.

4-10.3 Employees Working for the City of Boston or a Covered Contractor or Subcontractor.

- A. Subject to any bargaining obligations under G. L. c. 150E, all City of Boston departments whose employees perform work in a setting at risk of causing Heat Illness, as determined by the Office of Labor Compliance and Worker Protections, must develop and implement a Heat Illness Prevention Plan (HIPP) consistent with a template made available by the Office of Labor Compliance and Worker Protections. The HIPP may include, but need not be limited to:
 - 1. Appropriate opportunities for shade, rest, and water for employees;
 - 2. Appropriate responsive actions in the event of an emergency or Heat Illness; and
 - 3. Relevant training and materials to employees in advance of reasonably anticipated exposure to the risk of Heat Illness.

- B. Covered Contractors and Subcontractors whose employees perform work in a setting at risk of causing Heat Illness, as determined by the Office of Labor Compliance and Worker Protections, must provide a Heat Illness Prevention Plan Affidavit on a form provided by the Office of Labor Compliance and Worker Protections before they can begin work. The Affidavit may include, but need not be limited to, attestations that:
 - 1. The HIPP will be made available to the City upon request;
 - 2. The HIPP will be accessible to each employee in a language understood by the employee;
 - 3. The HIPP will be implemented when the heat index reaches a threshold identified by the Office of Labor Compliance and Work Protections;
 - 4. The HIPP will be incorporated in all subcontracts, subleases, sublicenses, and other agreements with any third party engaged to perform labor or services in connection with the contract; and
 - 5. The Covered Contractor understands it is the obligation of the Covered Contractor to ensure compliance by its Subcontractor(s).

- C. Covered Contractors and Subcontractors must make available to their employees information, to be provided by the Office of Labor Compliance and Worker Protections, on the requirements of this Section and how to submit a complaint should employees feel they are not receiving the protections required. Notice to employees may be made by posting signage provided by the Office of Labor Compliance and Worker Protections setting forth the protections afforded to workers pursuant to this section.

- D. Upon request, Covered Contractors shall provide the City with additional documentation to verify compliance with this Section, consistent with the Covered Contractor's contract with the City.

4-10.4 Administrative Responsibility.

- A. City departments shall include the requirements of this Section in all bids, proposals, written quotes, or requests for qualifications for contracts, leases, or licenses which are designated as covered by the Office of Labor Compliance and Worker Protections.

- B. The Office of Labor Compliance and Worker Protections shall conduct at least two trainings annually on Heat Illness and protections for both indoor and outdoor workers in order for City departments, Covered Contractors, and Subcontractors to understand the requirements of this

Section. These trainings shall be offered to all City departments, Covered Contractors, and Subcontractors, and shall be required of those who are found to be out of compliance with this Section.

4-10.5 Failure of Covered Contractors to Comply.

- A. The Office of Labor Compliance and Worker Protections shall monitor compliance with the provisions of this Section and may receive complaints, conduct investigations, issue notices to cure, and carry out enforcement actions. Any person or entity found to be in violation of this Section must be given notice and an opportunity to cure the violation(s) prior to further enforcement.
- B. Any person or entity who fails to comply with the provisions of this Section after receiving notice and an opportunity to cure shall be subject to those sanctions allowed by law, including but not limited to:
 - 1. Fines up to \$100 per day after issuance of notice to cure up to the date of full compliance;
 - 2. Cancellation, termination, or suspension of the contract; and/or
 - 3. Ineligibility for future contracts with the City until achieving compliance and paying all fines in full.

4-10.6 Preemption and Severability.

Nothing in this Section shall be construed to relieve persons or entities from complying with existing OSHA safety regulations or other applicable provisions of the law, nor is this Section intended to alter or diminish any obligation otherwise imposed by law.

If any provision of this Section is held invalid or unenforceable by any court, such a holding does not invalidate or render unenforceable any other provision of the Section, and the rest of the Section shall remain in full force and effect.

4-10.7 Exclusions.

This Section does not apply to any City contract, lease, or license with any other governmental agency.

4-10.8 Effective Date.

This Section shall take effect six months from passage.

Filed in Council: January 8, 2025

STATE TAX RETURN CERTIFICATE

CB-08

The City of Boston is subject to Section 49A of Chapter 62C of the Massachusetts General Laws, which provides, in subsection (b), “[t]hat no contract or other agreement for the purposes of providing goods, services or real estate space...shall be entered into, renewed or extended with any person unless such person certifies in writing, under penalties of perjury, that the person has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support[.]”

NOTE

Approval of a contract or other agreement will not be granted unless this certificate is signed by the bidder.

Social Security number or Federal Identification number, as applicable, will be furnished to the Massachusetts Department of Revenue to determine compliance with the above-referenced law.

CERTIFICATION

Pursuant to M.G.L. Chapter 62C, Section 49A, I certify under the penalties of perjury that I have complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

Name of Bidder or Proposer	
Authorized Signature of Bidder or Proposer	
Social Security # or Federal Identification #	
Date	

CHANGE ORDER

DATE _____ C.O. # _____ CHARTFIELD ACCOUNTS _____
 CONTRACT # _____ PROJECT # _____ _____
 PROJECT TITLE _____
 OFFICE OF BUDGET MANAGEMENT (Date) _____
 ARCHITECT _____ CONTRACTOR _____
 PROJECT MANAGER _____ FIN # _____

CHANGE IN CONTRACT PRICE (check here if applicable)

1. Original Contract Price	1. _____	\$0.00
2. Executed Bid Adjustment (from Previous Change Order)	2. _____	\$0.00
3. Adjusted Original Contract Price (lines 1 + 2)	3. _____	\$0.00
4. Net Change by all Previous Change Orders (excluding Bid Adjustment)	4. _____	\$0.00
5. Net Change by all Previous Change Orders (including Bid Adjustment) (lines 2 + 4)	5. _____	\$0.00
6. Contract Price Prior to this Change Order (lines 3 + 4)	6. _____	\$0.00
7. Contract Price will be (CIRCLE ONE: increased, decreased, unchanged) by this change order by	7. _____	\$0.00
8. New Total Change Order Price (excluding Bid Adjustment) (lines 4 + 7)	8. _____	\$0.00
9. New Total Change Order Price (including Bid Adjustment) (lines 2 + 4 + 7)	9. _____	\$0.00
10. New Contract Price including this Change Order is (lines 6 + 7)	10. _____	\$0.00

CHANGE IN CONTRACT TIME (Check here if applicable)

11. Time for Substantial Completion of Construction is (CIRCLE ONE: changed, unchanged)	11. From _____ days to _____ days
12. Date for Substantial Completion prior to this Change Order	12. _____
13. New Date for Substantial Completion is	13. _____
14. Time for Final Completion of Construction is (CIRCLE ONE: changed, unchanged)	14. From _____ days to _____ days
15. Date for Final Completion prior to this Change Order was	15. _____
16. New Date for Final Completion is	16. _____
17. Contract Expiration Date prior to this Change Order	17. _____
18. New Contract Expiration Date including this Change Order	18. _____

APPROVALS

Project Manager _____ Date _____ Director _____ Date _____
 Assistant Director _____ Date _____ Senior Legal Officer _____ Date _____

Attach Description of Change Order (p. 2), Signature Page (p. 3), Summary of Past Changes (p. 4) and supporting letter from Architect.

CITY OF BOSTON - PUBLIC FACILITIES DEPARTMENT

CHANGE ORDER

CONTRACT # 0

CHANGE ORDER # 0

The City of Boston, acting by and through its Public Facilities Department by its Director of Public Facilities, and the Contractor named above, hereby mutually agree that the Contract described above be, and the same hereby is, amended as follows:

Item # _____ Amount _____

Detailed description of changes:
(Narrative and budgetary changes)

Change is necessary because:

- Bid Adjustment Error/Omission Unforeseen Conditions User Agency Request
- Other (If Other is selected, please explain)

Item # _____ Amount _____

Detailed description of changes:
(Narrative and budgetary changes)

Change is necessary because:

- Bid Adjustment Error/Omission Unforeseen Conditions User Agency Request
- Other (If Other is selected, please explain)

For additional items, use Change Order Form page 2A

FORM FOR CHANGE ORDER
CO-2

CHANGE ORDER

CONTRACT # 0

CHANGE ORDER # 0

The City of Boston, acting by and through its Public Facilities Department by its Director of Public Facilities, and the Contractor named above, hereby mutually agree that the Contract described above be, and the same hereby is, amended as follows:

Item # _____ Amount _____

Detailed description of changes:
(Narrative and budgetary changes)

Change is necessary because:

- Bid Adjustment Error/Omission Unforeseen Conditions User Agency Request
- Other (If Other is selected, please explain)

Item # _____ Amount _____

Detailed description of changes:
(Narrative and budgetary changes)

Change is necessary because:

- Bid Adjustment Error/Omission Unforeseen Conditions User Agency Request
- Other (If Other is selected, please explain)

For additional items, use Change Order Form page 2B

FORM FOR CHANGE ORDER
CO-2A

CHANGE ORDER

CONTRACT # 0

CHANGE ORDER # 0

APPROVED AS TO AVAILABILITY
OF APPROPRIATION

RECOMMENDED BY THE ARCHITECT:

City Auditor Date

By: _____
Title Date

APPROVED AS TO FORM:

BASED UPON THE FOREGOING RECOMMENDATION
APPROVED FOR THE PUBLIC FACILITIES DEPARTMENT

Corporation Counsel Date

By: _____
Director Date

APPROVED:

Mayor Date

THE CONTRACTOR

CONTRACTOR AFFIX CORPORATE SEAL

By: _____
Date

SURETY:

SURETY: _____

- Notice of Changes Waived by terms of original bond
- Bonding required; Have this form signed and sealed by Surety Company; Attach Power of Attorney

AFFIX CORPORATE SEAL HERE:

In accordance with the General Condition of the Contract, the change in contract price and/or the extension in contract time for Substantial Completion, Final Completion, or Contract Expiration, if/as authorized by this change order is the contractor's sole and exclusive remedy for any and all delays, disruptions, interferences and/or hindrances and associated costs, however caused, resulting from the items and issues covered by this change order. No corresponding increase in the contract price or contract time is now, or shall in the future be considered or authorized as a result of this change order.

FORM FOR CHANGE ORDER
CO-3

SUMMARY OF PAST CHANGES

DATE	<u>1/0/1900</u>	CHANGE ORDER #	<u>0</u>
PROJECT NUMBER	<u>0</u>	CONTRACT #	<u>0</u>
PROJECT TITLE	<u>0</u>		
ARCHITECT	<u>0</u>	CONTRACTOR:	
PROJECT MANAGER	<u>0</u>		<u>0</u>

1 Original Contract Price	<u>\$0.00</u>	% Construction Complete:	<u> </u>
2 Bid Adjustment	<u>\$0.00</u>		
3 Adjusted Original Contract Price (lines 1 + 2)	<u>\$0.00</u>		
4 Net Change by all Previous Change Orders (excluding Bid Adjustment)	<u>\$0.00</u>	% of Adjusted Original Contract (line 4 ÷ line 3) X100	<u>#DIV/0!</u>
5 Net Change by all Previous Change Orders (including Bid Adjustment)	<u>\$0.00</u>	% of Original Contract (line 5 ÷ line 1) X100	<u>#DIV/0!</u>
6 Contract Price Prior to this Change Order (lines 3 + 4)	<u>\$0.00</u>		
7 Contract Price will be (CIRCLE ONE: increased, decreased, unchanged) by this change order	<u>\$0.00</u>	% of Adjusted Original Contract (line 7 ÷ line 3) X100	<u>#DIV/0!</u>
8 New Total Change Order Price (excluding Bid Adjustment) (lines 4 + 7)	<u>\$0.00</u>	% of Adjusted Original Contract (line 8 ÷ line 3) X100	<u>#DIV/0!</u>
9 New Total Change Order Price (including Bid Adjustment) (lines 2 + 4 + 7)	<u>\$0.00</u>	% of Original Contract (line 9 ÷ line 1) X100	<u>#DIV/0!</u>
10 New Total Contract Price including this C.O. (lines 6 + 7)	<u>\$0.00</u>		

DESCRIBE PREVIOUS CHANGE ORDERS

<u>CHANGE ORDER #</u>	<u>SCOPE CHANGE</u>	<u>TIME AND MONEY CHANGE</u>
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FORM FOR CHANGE ORDER
CO-4

**SECTION 00 70 00 - GENERAL CONDITIONS
(M.G.L. c.30, § 39M)**

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CITY OF BOSTON
PUBLIC FACILITIES DEPARTMENT
M.G.L. c.30, § 39M
GENERAL CONDITIONS

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 Use of Terms:

1.1.1 The following terms used in this Section or elsewhere in the Contract Documents, shall have these meanings:

Addendum – A written modification, clarification, correction or other change to the Contract Documents issued by the Official prior to the date stated for the receipt of bids.

Application for Payment - The form furnished by the **Official** to be used by the **Contractor** in requesting payment, and which shall enclose the affidavit required in the Contract Documents.

Business Day - Any day except Saturdays, Sundays and legal holidays observed by the **City**. The term "day" means a calendar day.

Change Authorization - A written order executed by the **City** directing the **Contractor** to make changes in the Work or giving the basis for a change in Contract Price or Contract Time for incorporation into the Contract Documents by a subsequent Change Order.

Change Order - A written instrument which when fully executed by the **City** amends the Contract Documents to provide for changes in the Work, or in Contract Price or Contract Time.

City - The City of Boston, a municipal corporation in the Commonwealth of Massachusetts, acting by its Public Facilities Commission, represented by the Director of the Public Facilities Department or his authorized representative.

Claim - A written demand of assertion by the **City** or **Contractor**, which is properly certified according to the requirements of Paragraph 15.2.1, seeking an adjustment in Contract Price and payment of monies due, an extension or shortening in Contract Time, the adjustment or interpretation of Contract terms, or any other relief arising under or relating to the Contract, after a determination by the **Designer** or **City** under the appropriate provision of the Contract Documents.

Contract/Contract Documents – The Agreement, fully executed; the Certificate of Authority; all Addenda; the Letter of Award; the Supplementary Conditions; the General Conditions; the Drawings; the Specifications; the Invitation for Bids; the Contractor's bid; all bonds submitted; all Change Authorizations and Change Orders when fully executed.

Contract Time – The time commencing upon the date of execution of the Contract by the Official and continuing through the date of Final Completion.

Contract Price – The not to exceed lump sum price representing full compensation for everything furnished, done by or resulting to the **Contractor** in carrying out the Contract.

Contractor - Person or firm named "The Contractor" in the Agreement with whom the **City** has awarded and entered into the Agreement.

Correction Period - The period of time within which the **Contractor** shall in accordance with the Contract Documents, either correct, or if rejected, remove and replace, defective Work.

Date for Commencement of the Contract Time - The date when the Contract Time starts to run.

Day – A calendar day.

Defective Work - Work that is unsatisfactory, deficient or damaged, does not conform to the Contract Documents, or does not meet the requirements of any inspection, test or approval.

Designer - The individual, partnership, corporation, joint venture, or any combination thereof, named as **Designer** in the agreement who will have the rights and authority assigned to the **Designer** in the Contract Documents. The term **Designer** means the **Designer** or its authorized representative.

Drawings – The graphic and pictorial part of the Contract Documents depicting the Work including plans, elevations, sections, details, schedules and diagrams. Drawings shall not serve nor be used as Shop Drawings.

Final Acceptance - The **Official's** written notice to the **Contractor** accepting the Work, following the **Official's** concurrence with the **Designer's** determination that the Work has been completed and is acceptable.

Laws - Laws, including statutes, by-laws, rules, regulations, codes and ordinances.

M.G.L. - Massachusetts General Laws.

Notice of Claim – A clearly marked written notice that states the general nature of the Claim delivered by the party making the Claim to the other party no later than thirty (30) days after the determination giving rise to the Claim.

Official - The Director of the Public Facilities Department, acting on behalf of the **City** in the execution of the Agreement, or his authorized representative.

Owner - The City of Boston: see definition for "City".

Partial Utilization - Use by the **City** of a portion of the Work before reaching Substantial Completion for all the Work.

Progress Schedule – The Schedule which shows the **Contractor's** approach to planning, scheduling, and execution of the Work.

Project - The total construction of which the Work may be the whole, or a part, as indicated in the Contract Documents.

Site – The land on which the Project is located, indicated on the Site Drawings and showing its physical position in relation to the adjacent lands.

Specifications - Parts of the Contract Documents consisting of written requirements for technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and performance of related services.

Subcontractor - A person having a Sub-agreement for performing labor at the Site, or for furnishing materials/equipment.

Submittals - Includes Shop Drawings, brochures, samples, and all those other documents required for submission by the Contract Documents. The term *Shop Drawings* includes drawings, diagrams, illustrations, standard schedules, performance charts, instructions, and other data prepared by or for the **Contractor** to illustrate some part of the Work, or by a Supplier and submitted by the **Contractor** to illustrate items of materials or equipment.

Substantial Completion - Either the Work has been completed except for Work items representing less than one percent (1%) of the adjusted Contract Price, or completed and opened to public use except for minor incomplete or unsatisfactory items

that do not materially impair the usefulness of the Work required by the Contract.

Supplier - A manufacturer, fabricator, distributor, materialman or vendor having a Sub-agreement for furnishing materials and equipment and not for performing labor at the Site.

Total Float - Number of Business Days by which Work may be delayed from its Early Dates without necessarily extending the Contract Times. *Contract Float* is the number of Business Days between the **Contractor's** anticipated date for early completion of all or part of the Work and the corresponding Contract Time.

Underground Utilities - All pipelines, conduits, ducts, cables, wells, tanks, tunnels, and appurtenances, or other similar facilities, installed underground to furnish: water, electricity, gases, steam, petroleum products, telephone, communications, cable TV, sewerage and drainage, traffic, or control systems.

Work - The entire completed construction, or its various parts, as specified in the Contract Documents. Work is the result of performing and furnishing all services, obligations, responsibilities, labor, materials, equipment, temporary facilities, and incidentals necessary to complete the scope under the Contract Documents. Whenever the term "execution" is used with reference to the Work, it includes the performance and/or furnishing of the Work.

1.1.2 Any period of time in days will be computed to exclude the first and include the last day. If the last day falls on a non-Business Day, it shall be omitted from the computation. The term "registered mail" includes certified mail with return receipt requested. The term "person" means individuals, firms, partnerships, corporations, receivers, trustees, joint ventures, and any combinations of them. The term "State" or "Commonwealth" means the Commonwealth of Massachusetts.

1.1.3. Other terms used in this Section shall have the meanings assigned to them elsewhere in the Contract Documents, and if not assigned and where the context will permit, as used or defined in Massachusetts General Laws (M.G.L.).

1.2 Interpretations:

1.2.1. Whenever the term "the **Contractor**" is used concerning an action, obligation or event, it shall cover, even if not expressly stated, actions or obligations of, events involving, any Subcontractor, Supplier, or anyone for whom any of them may be liable, unless the context requires otherwise.

1.2.2. Whenever a provision obligates the **Contractor** to reimburse the **City** for certain costs incurred, the **City** is entitled to withhold a corresponding set-off against any payment, and to amend the Contract Price accordingly.

1.2.3. Whenever a provision covering delay, extension, or acceleration which in the Contract Documents covers delay, rescheduling, extended performance, disruption, interference, inefficiency, productivity, and production losses, acceleration,

or hindrance and associated cost(s) for which the **City** is not responsible, or which is not unreasonable under the circumstances, or which was within the contemplation of the parties, specifies that "the **City** shall authorize the necessary change in Contract Time **only**", the authorized change in Contract Time shall be the **Contractor's** sole and exclusive remedy with respect to the **City** for any such delay, extension, or acceleration, however caused, resulting from the event contemplated by that provision.

1.2.4 A provision requiring the **Contractor** to "defend, indemnify and hold harmless the **City** and the **Designer**" or covering claims against or liability of the **City** and/or the **Designer**, shall include the **City** and **Designer**, their respective consultants, agents, directors, officers, shareholders and employees and any combination of any of them, and the **City's** agencies or department issuing permits covering the Work. A provision requiring the **Contractor** to so defend, indemnify and hold harmless the **City** and **Designer** shall also require the **Contractor** to defend, indemnify and hold harmless the **City** and **Designer**, as interpreted, from and against all of the specified claims, including those caused in part by the negligence or other liability-creating conduct or omissions of the **City** or **Designer**. The **Contractor** shall not be required to indemnify the **City** or **Designer** against liability for loss or damage resulting from the sole negligence of the **City** or **Designer**.

1.2.5 Any reference to an Article or paragraph in these General Conditions, without identification of the particular Section, shall mean a reference to these General Conditions. Terms capitalized in these General Conditions include terms defined in paragraph 1.1.1 or paragraph 1.1.3.

1.2.6 Each Article in this Section contains sub-articles, numbered as this sub-article 1.2 is numbered; parts, numbered as this part 1.2.6 is numbered; and sub-parts - all of which are considered "paragraphs". A reference to a paragraph means a reference to the entire sub-article, a part, or a sub-part, or any combination of them, depending on the intent of the reference.

1.3 Applicable Law:

1.3.1 This Contract is made subject to all laws of the Commonwealth of Massachusetts.

1.3.2 If the Contract Documents contain any unlawful provisions, such unlawful provisions shall be of no effect. Upon the application of either party, the unlawful provision shall be considered stricken from the Contract Documents without affecting the remainder of the Contract Documents.

1.3.3 All provisions of law required to be inserted in the Contract Documents shall be and are inserted herein. If through mistake, neglect, oversight or otherwise, any such provision is not herein inserted or inserted in improper form, upon the application of either party, the Contract Documents shall be changed by the **City**, at no increase in Contract Price or extension in Contract Time, so as to strictly comply with the law and without prejudice to the rights of either party hereunder.

1.4 Intent of the Contract Documents:

1.4.1 It is the intent of the Contract Documents to describe and provide for a functionally complete Project, or Work, to be constructed in accordance with the Contract Documents. In addition to the work expressly called for in the Drawings and Specifications, any other Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be provided, at no increase in Contract Price or extension in Contract Time, and without requiring any changes in the Work, whether or not specifically called for.

1.4.2 Except as otherwise provided in the Contract Documents, words which have an accepted technical or trade meaning used to describe any Work, materials or equipment, shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, whether specifically or by implication, shall mean the latest standard specification, manual, code in effect at the date established for receipt of Bids, unless otherwise expressly stated.

1.4.3 The Divisions and Sections of the Specifications and the identification of any Drawings shall be complementary, and anything mentioned or shown in a Division or in a specific Drawing shall be of like effect as if shown in all divisions of the Specifications and all Drawings.

1.4.4 Whenever the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of similar effect are used to describe a requirement, direction, review or judgment of the **Designer** (or the **City**) as to the Work, it is intended that the requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents. No use of any such term or adjective mentioned above, or provision of any standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the **Official**, the **Contractor**, or the **Designer**, or any of their consultants, agents or employees from those assigned in the Contract Documents, nor shall it be effective to assign to the **Official** or the **Designer**, or any of their consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.

1.5 Priority of the Contract Documents:

1.5.1 The Contract Documents are complementary, and anything mentioned or shown in a part of the Contract Documents shall be of like effect as if shown in all parts of the Contract Documents. In resolving conflicts, the Contract Documents shall be given the priority determined by the **Designer** to be consistent with their intent and necessary to produce the intended result.

1.5.2 If the issue of priority involves the technical Specifications and the Drawings, figured dimensions shall govern over scaled dimensions. Work not particularly shown, identified, sized, or

located shall be the same as similar Work that is shown or specified. Detail Drawings shall govern over general Drawings, larger scale Drawings take precedence over smaller scale Drawings and Contract Drawings govern over Shop Drawings. Whenever notes, specifications, dimensions, details, or schedules in the Specifications or in the Drawings, or between the Specifications and the Drawings, or between Change Order or Change Authorization Drawings and Contract Drawings, conflict, the higher performance requirement shall be furnished by the **Contractor** at no increase in the Contract Price or the Contract Time.

1.5.3 Compliance with these priority conditions shall not justify any changes in the Work, or any increase in Contract Price or Contract Time, unless any such compliance results in Work that may not reasonably be inferred from the Contract Documents as being required to produce the intended result.

1.6 Information and Instructions for Contract Documents:

1.6.1 The **Contractor** shall carefully study all contract Documents and other instructions from the **Designer** and the **Official** as they are delivered, and procure from the **Designer** such special information, detailed drawings, etc., as may be necessary for the proper performance of the Work.

1.6.2 Where drawings show outline or descriptive representations of repetitive features, the **Contractor** shall construe them in exact accordance with the corresponding features which are common to similar items or materials and which are completely drawn and specified.

1.6.3 Where the statement "Consult Drawing No. ___" or "Refer to Drawing No. ____" occurs in the Specifications, such references to a Drawing have been made solely for the convenience of the **Contractor** to help identify the item under consideration and to locate the typical detail of such item in the set of Contract Drawings. It is not the intention of such references, however, to list each and every Drawing on which a certain item may occur.

1.7 Ownership and Use of the Contract Documents:

1.7.1 Unless otherwise provided in the Supplementary Conditions, the **Official** shall furnish to the **Contractor** one (1) copy of the Contract Documents at no cost.

1.7.2 Neither the **Contractor**, nor any Subcontractor or Supplier shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other Contract Documents, and they shall not reuse any of them on extensions of the Project or any other project without prior written consent of the **City** and the **Designer**. The **Contractor**, Subcontractors and Suppliers are granted a limited license to use and reproduce portions of the Contract Documents as appropriate for use in the execution of the Work. Copies made under this license shall bear the copyright notice shown on the Contract Documents.

1.7.3 All work papers, questionnaires and other written material prepared or collected by the **Contractor** in the course of completing the Work to be performed under this Contract shall at all times be the exclusive property of the **City**. The

Contractor shall not use such materials for any purposes other than the purpose of this Contract without the prior written consent of the **Official**.

1.8 Relationship with the City:

1.8.1 The **Contractor** is retained solely for the purpose of and to the extent set forth in the Contract Documents. The **Contractor's** relationship to the **City** during the term of this Contract shall be that of an independent Contractor. The **Contractor** shall have no capacity to involve the **City** in any contract nor to incur any liability on the part of the **City**. The **Contractor**, its agents or employees shall not be considered as having the status or pension rights of an employee; provided that the **Contractor** shall be considered an employee for the purpose of M.G.L. Chapter 268A (the Conflict of Interest Law). The **City** shall not be liable for any personal injury to or death of the **Contractor**, its agents or employees.

1.8.2 The **Contractor** shall be solely responsible for construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work unless the Contract Documents give other specific instructions concerning these matters. Where the terms and conditions for the delivery or provision of goods or services by the **Contractor** to the City are expressly set forth in the Contract Documents or are incorporated herein by reference, those terms and conditions shall be complied with by the **Contractor**.

1.8.3. Before they can be binding on the Parties, all amendments to the Contract must be in writing and signed by the **Official** and the **Contractor**, approved as to form by the Corporation Counsel and approved as to the availability of a sufficient appropriation and filed with the City Auditor.

ARTICLE 2 - THE CITY - GENERAL PROVISIONS

2.1 The City May Stop the Work:

2.1.1 If the Contractor fails to correct work which is not in accordance with the requirements of the Contract Documents or, If the Work is *defective*, or the **Contractor** fails to provide sufficient skilled workers or suitable materials or equipment, or fails to execute Work so that in the judgment of the **City** the completed Work will conform to the Contract Documents, the **City** may order the **Contractor** to stop all or part of the Work in question, until the problem has been corrected. This right of the **City** to stop the Work shall not create or impose any duty on the **City** to exercise this right for the benefit of the **Contractor** or any other party. The **Contractor** shall remain responsible for maintaining progress, and shall not be entitled to any increase in Contract Time or Contract Price, and the **Contractor** shall reimburse the **City** for all direct, indirect or consequential costs incurred by the **City** and attributable to such an order to stop the Work.

2.2 Availability of Lands (Including Properties):

2.2.1 The Contract Documents indicate the lands upon which the Work is to be performed, including rights-of-way and easements for access that are furnished by the **City**.

2.2.2 Any additional lands, rights-of-way and easements not furnished that the **Contractor** deems necessary shall be obtained by the **Contractor** at no increase in Contract Price or Contract Time. The **Contractor** shall obtain and submit to the **City** all required permits from the State, the proper Federal Government agency, Public Governmental Body or public utility or from the property owner(s) for the use of lands and access so obtained.

2.3 Reference Points:

2.3.1 The **City** through the **Designer** shall provide reference points and will verify them in the field if requested to do so. The **Contractor** shall be responsible for laying out the Work, protecting and preserving those reference points, and he shall make no changes at all without the prior written approval of the **Designer**. The **Contractor** shall: report to the **Designer** whenever any reference point is lost or destroyed or requires relocation due to necessary changes in grades or locations; be responsible for the accurate replacement or relocation of any lost or destroyed reference points by professionally qualified personnel; and assume any resultant cost or delay.

2.4 Clerk of the Works:

2.4.1 A clerk of the Works may be engaged by the **City** for this Project. In the event that a Clerk of the Works is so engaged, he/she shall not have any authority to order any changes in the Work, nor to make any decision relating to arrangement, design or construction, or to the disposition of materials or workmanship, or to the conduct of the Work without the written authorization of the **Official**.

2.4.2 The Clerk of the Works shall have access to the premises and all areas of the Project at all times. The **Contractor** shall provide full cooperation to the Clerk in the performance of his/her duties.

2.5 Limitations on the City's Responsibilities

2.5.1 The **City** is not responsible for the **Contractor's** means, methods, techniques, sequences or procedures applicable to the Work; nor for safety precautions and programs related to safety. The **City** is not responsible for the **Contractor's** failure to execute the Work in accordance with the Contract Documents; nor for the acts or omissions of the **Contractor** or of any Subcontractor, any Supplier or anyone for whose acts the **Contractor** or any of the Subcontractors or Suppliers may be liable.

2.5.2 Neither the **City** nor the **City's** consultants are responsible for the acts or omissions of the **Contractor** or of any Subcontractor, any Supplier, or anyone for whose acts the **Contractor** or any of the Subcontractors or Suppliers may be liable.

2.5.3 The **City's** authority to review any of the **Contractor's** Progress Schedules, or the **City's** decision to raise or not to raise any objections about such Progress Schedule Submittals, shall not impose on the **City** any responsibility for the timing, planning, scheduling or execution of the Work, nor in any way give rise to any duty or responsibility on the part of the **City** to exercise this authority for the benefit of the **Contractor**, any

Subcontractor or Supplier, or any other party.

2.5.4 Neither the **City's** authority to review the **Contractor's** certificates and policies of insurance as set forth in the Instructions to Bidders, nor the **City's** decision to raise or not to raise any objections about those certificates and policies, shall in any way give rise to any duty or responsibility on the part of the **City** to exercise this authority for the benefit of the **Contractor**, any Subcontractor or Supplier, or any other party.

2.6 No Waiver of Legal Rights:

2.6.1 The **City** reserves the right to correct any error in any progress payment that may have been paid. The **City** reserves the right, should proof of *defective* Work be discovered after final payment, to claim, and recover from the **Contractor** and his surety, or either of them, sufficient sums to correct, or remove and replace, the *defective* Work.

2.6.2 Any waiver by the **City** or the **Official** of any provision of the Contract Documents shall be in writing, and shall apply only to the particular matter concerned and not to other similar or dissimilar matters. Any waiver of any breach of this Contract shall not be held to be a waiver of any other or subsequent breach.

2.7 Miscellaneous Provisions:

2.7.1 Written communications from the **Official** to the **Contractor** will in general be issued directly to the **Contractor** with copy to the **Designer**. Written communications from the **Contractor** to the **Official** shall be issued to the **Official** with copy to the **Designer**.

2.7.2 Any written direction or interpretation issued by the **Designer** to the **Contractor** must contain the formal endorsement thereon by the **Official**, or the **Official's** representative, for it to be considered valid or effective.

2.7.3 If the **City** retains another person for the Project or the Work who is not the **Designer's** agent or employee, the duties, responsibilities and limitations of authority of that person will be provided in the Supplementary Conditions.

2.7.4 The **City** shall make payments to the **Contractor** as provided in the Contract Documents, and as required by Law.

2.7.5 The **City** may issue unilaterally, or negotiate, at the **City's** discretion, Change Orders and Change Authorizations as provided in Article 11 of the General Conditions. Except as recognized under paragraph 11.1.3, only the **City** is empowered under the Contract Documents to order or cause changes in the Work.

2.7.6 The **City** may unilaterally delay all or any part of the Work and correspondingly adjust or negotiate adjustments in Contract Price or Contract Time, as provided in Article 11 of the General Conditions. Except as recognized in paragraph 7.5, only the **City** is empowered under the Contract Documents to order or cause **City**-caused delays to all or any part of the Work.

2.7.7 Decisions for which the **City** is responsible under the Contract Documents shall be made promptly and, in any event,

within thirty (30) days after receipt of written submission but if a decision requires extended investigation and study, it will be made as permitted by M.G.L. Chapter 30, Section 39P.

2.8 Rights to Data

2.8.1 All data consisting of, but not limited to plans, drawings designs, specifications, computer programs, technical reports and operating manuals delivered, developed or produced or paid under the requirements of the Contract Documents shall be the property of the **City**. The **City** maintains all rights to such data including the right to use, duplicate, and disclose, it in whole or in part, in any manner and for any purpose. The **City** reserves a royalty-free, nonexclusive and irrevocable license to use, duplicate, publish and disclose such data, in whole or in part, and to authorize others to do so.

ARTICLE 3 - THE DESIGNER-GENERAL PROVISIONS

3.1 General:

3.1.1. In the event of the termination of the employment of the **Designer**, the **City** may appoint an **Designer** whose status under the Contract Documents shall be that of the former **Designer**. Nothing in these Contract Documents shall create a contractual relation between the **Designer** and the **Contractor**.

3.1.2. The **Designer** will make on-Site observations at appropriate intervals to observe the quality of in-progress and completed Work, and to determine whether the Work is being executed so that the Work, when completed, will be in accordance with the Contract Documents. Based on those on-Site observations, the **Designer** will endeavor to guard the **City** against *defective* Work and will keep the **Official** informed of the progress of the Work.

3.1.3. The **Designer** will have authority to disapprove or reject Work that the **Designer** believes to be *defective* Work. When the **Contractor** has been notified by the **Designer** of rejection of *defective* work, the **Contractor** shall take prompt action to correct the *defective* work.

3.1.4 On-Site observations by the **Designer** or any project representatives of the **City** shall not relieve the Contractor from the obligation to perform the Work in accordance with the Contract Documents, or represent acceptance of defective work, nor give rise to any duty on their part to make the observations for the benefit of the **Contractor** or any other person.

3.2 Interpretations: Time for Decisions, Approval:

3.2.1. The **Designer** will be the initial interpreter of the requirements for the Contract Documents, and in such capacity will render determinations as to the acceptability of Work performed. Unless otherwise provided in the Contract Documents, notices, proposals, or other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents shall be referred initially to the **Designer** in writing with a request for a written

decision, which the **Designer** will render within a reasonable time. Once given, the **Designer's** determination shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written notice of a claim within thirty (30) days after receipt of such determination, in which case the provisions of Article 15 will apply.

3.2.2. When functioning as interpreter and making determinations the **Designer** will not be liable for any interpretation or determination rendered in good faith. The rendering of an interpretation or other determination by the **Designer** about any notice, request or other matter will be a requisite to the exercise by the **Contractor** of any rights or remedies the **Contractor** may otherwise have under the Contract Documents or by Law concerning any claim, dispute or other similar matter.

3.2.3 A decision on interpretation of the Specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty (30) days after the written submission for decision; but if such decision requires extended investigation and study, the **Official** or **Designer** shall, within thirty (30) days after the receipt of the submission, give written notice of the reasons why the decision cannot be made within the thirty (30) day period and the date by which the decision will be made.

3.2.4 In giving instructions, the **Designer** shall not have the authority to direct any change in the Work, whether or not involving extra cost, without the prior written authorization of the **Official** in each instance.

3.3 Limitations on the Designer's Responsibilities

3.3.1 Neither the **Designer's** authority to act under this Article 3 or elsewhere in the Contract Documents nor any decision made by the **Designer** in good faith to exercise or not to exercise such authority shall give rise to any duty or responsibility of the **Designer** to the **Contractor**, any Subcontractor, or any Supplier, any surety for any of them, or any other person.

3.3.2 The **Designer** is not responsible for the **Contractor's** means, methods, techniques, sequences or procedures applicable to the Work, or safety precautions and programs concerning safety. The **Designer** is not responsible for the **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents. Nor is the **Designer** responsible for the acts or omissions of the **Contractor** or of any Subcontractor, any Supplier, or of anyone for whose acts any of them may be liable.

3.4 Clarifications and Interpretations; Unit Price Work:

3.4.1 The **Designer** will issue, within a reasonable period of time, written clarifications or interpretations of the requirements of the Contract Documents, as the **Designer** may determine necessary, which shall be consistent with or reasonably inferable from the intent of the Contract Documents.

3.4.2. The **Designer**, subject to a prior review with the **Official**, will make determinations about the actual quantities and

classes of Unit Price Work done by the **Contractor**.

3.4.3. Any clarification, interpretation or determination by the **Designer** under this paragraph 3.4 shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **City** written notice of a change as provided in paragraph 11.1.3 within thirty (30) days after receipt of that decision.

ARTICLE 4 -THE CONTRACTOR -GENERAL PROVISIONS

4.1 General Responsibility

4.1.1. The **Contractor**, all Subcontractors, and all parties employed on the Work, shall perform their Work in a good and workman like manner and in accordance with the Contract Documents.

4.1.2. The **Contractor** shall not assign the whole or any part of the work under this Contract or any monies due or to become due hereunder without prior written consent of the **Official**. In the event that the **Contractor** assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the **Contractor** shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in this Contract.

4.1.3. The **Contractor** shall conform to all determinations and directions of the **Official** in accordance with provisions of the Contract Documents concerning all questions which may arise relating to the Work.

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

4.2 Review of the Contract Documents:

4.2.1. Before undertaking each part of the Work, the **Contractor** shall study and compare the Contract Documents with each other, verify pertinent figures and applicable field measurements, and coordinate related requirements for dependent Work such as location, dimensions, fit, completeness, consistency, etc.

4.2.2. The **Contractor** shall notify the **Official** in writing of any conflict, error or omission in the Contract Documents the **Contractor** recognizes, and shall obtain a written interpretation or clarification from the **Official** before proceeding with any affected Work. Unless authorized by the **Official** in writing, any work done by the **Contractor** prior to obtaining that interpretation or clarification which is directly or indirectly affected by same, will be at the **Contractor's** risk and the **Contractor** shall bear all resulting costs and delays. The **Contractor** shall be responsible for any costs or delays resulting from any unnecessary requests for clarification submitted to the **Official** by the **Contractor** that can be determined from the Contract Documents.

4.2.3. If the **Contractor** performs Work which involves a conflict, error or omission, he shall assume responsibility for that performance and shall bear all resulting costs and delays, as long as he actually recognized the conflict, error, or omission or if he should have reasonably have recognized it by reason of, but not limited to, the **Contractor's** Bid estimate or usage of the trade.

4.3 Supervision and Project Management:

4.3.1. The **Contractor** shall supervise and direct the Work competently, applying the skills, expertise and attention necessary to perform the Work in accordance with the Contract Documents. The **Contractor** shall be solely responsible for any means, methods, techniques, sequences and procedures applicable to the Work, unless a specific means, method, techniques, sequence or procedure is indicated in or required by the Contract Documents. The **Contractor** shall be responsible to the **City** for acts and omissions of the **Contractors'** employees, subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the **Contractor** or any of its subcontractors. The **Contractor** shall be responsible to see that the finished Work complies accurately with all of the Contract Documents and all approved Submittals.

4.3.2. The **Contractor** shall at all times keep on the Site a competent resident superintendent, properly licensed, for the entire Work and a competent foreman for each specialty trade. The superintendent shall not be assigned or replaced without written notice to the **Official**. If the **Official** objects to the **Contractor's** superintendent, whether initially or otherwise, the **Contractor** shall submit a replacement superintendent at no increase in Contract Price or Contract Time. The superintendent shall be the **Contractor's** representative at the Site and have authority act on his behalf.

4.3.3. The **Contractor's** project superintendent and similar authorized representatives of any Subcontractor, Supplier or other person or organization shall attend all meetings, as requested by the **Official** or the **Designer** at no increase Contract Price.

4.3.4. The **Contractor** shall, upon written request of the **Official**, remove from **City** premises and replace all individuals in the **Contractor's** employ whom the **Official** determines to be disorderly, careless or incompetent or to be employed in violation of the terms of the Contract Documents.

4.4 Personnel, Materials and Equipment:

4.4.1 The **Contractor** shall provide competent, properly licensed, suitably qualified and reliable personnel to survey and lay out the Work and furnish and perform the Work as required by the Contract Documents. The **Contractor** shall at all times enforce strict discipline and maintain good order at the Site.

4.4.2. Unless otherwise provided in the Contract Documents, the **Contractor** shall furnish, pay for and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel,

power, light, heat, telephone, water (including water for testing, flushing, and construction), sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

4.4.3. All materials and equipment shall be of good quality and new, unless otherwise allowed, and the **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to their kind and quality. Materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned following the manufacturer's and Suppliers instructions, unless otherwise provided in the Contract Documents. All materials and equipment shall be properly protected against damage throughout the furnishing and performance of the Work so that they remain of good quality and in the as-new condition. For each item, the **Contractor** shall furnish complete information as to preventive maintenance and operating requirements, parts lists in sufficient detail to facilitate ordering replacements, and any applicable special condition. Should the manner or method of installation, specified performance or test results be contrary to the manufacturer's recommendations, the **Contractor** shall promptly notify the **Designer** in writing of that conflict before proceeding with that Work; otherwise, he shall be deemed to have certified that Specifications will be met by the materials or equipment.

4.5 Wage Rates:

4.5.1. The rate per hour of the wages to be paid to mechanics and apprentices, teamster, chauffeurs, and laborers in the Work to be performed under this Contract shall be not less than the rate of wages in the schedule contained in Section 00 73 46 - Supplementary Conditions entitled "Minimum Wage Rates", as determined by the Department of Labor and Workforce Development of the Commonwealth of Massachusetts. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract. The **Contractor** shall keep posted on the Site of the Work a legible copy of said schedule of Minimum Wage Rate and Health and Welfare Fund and Pension Fund Contributions. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council. Wherever rates for journeymen or apprentices are not listed, and if any other labor is not included in this list, the **Contractor** shall insert the rates of all those employed on the Work.

4.5.2. The **Contractor** shall pay to any reserve police officers employed by him, if any, the prevailing wage rate paid regular City of Boston police officers. Such police officers shall be covered by Worker's Compensation Insurance and Employer's Liability Insurance by the **Contractor**.

4.5.3. The **Contractor** shall keep on file at the Site the wage rates and classifications of all labor employed in the work in order that they may be available for inspection by the **Official** or the **Designer**.

4.6 Working Hours:

4.6.1. No laborer, workman, mechanic, foreman, or inspector

working within the Commonwealth in the employ of the **Contractor**, Subcontractor, or others shall be required or permitted to work more than 8 hours in any one day, or more than 48 hours in any one week, or more than 6 days in any one week, except in cases of emergency.

4.6.2. Unless otherwise required under the Contract Documents, or directed in writing by the **Official**, all Work shall be performed during the regular working hours. However, if the **Contractor** desires to carry on the work outside of regular working hours or on Saturdays, Sundays, federal legal holidays, or City recognized holidays, he may submit application to the **Official** but shall allow ample time to enable satisfactory arrangements to be made for inspecting work in progress and shall bear all costs with respect thereto, including the cost of the **City's** Clerk of the Works. Any approval by the **Official** of the **Contractor's** request for carrying out Work outside of regular working hours, overtime or shift Work, or any schedule acceleration measures will not be grounds for any increase in Contract Price or an extension in Contract Time.

4.7 Equal Employment Opportunity:

4.7.1. The **Contractor** shall assume, and shall require each Subcontractor to assume, the obligation to take whatever affirmative actions are necessary to ensure that employees and applicants for employment under this Contract, are treated equally irrespective of race, color, religious creed, national origin, sex, age or ancestry. The term "treated" shall mean and include without limitation the following: recruited, whether by advertising or other means; compensated, whether in the form of rates of pay or otherwise; selected for training including apprenticeship; promoted; upgraded; demoted; downgraded; transferred; laid-off; and terminated.

4.7.2. Neither the **Contractor** nor any Subcontractor shall discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, sex, age, or ancestry.

4.7.3. The **Contractor** and all Subcontractors shall carry out the requirements pertaining to equal employment with the diligence that they apply to any other part of the Contract.

4.8 Lodging, Boarding, and Trading of Employees:

4.8.1. Every employee in the Work shall be allowed to lodge, board and trade where and with whom he/she elects and the **Contractor** shall not directly or indirectly require as a condition of employment in the Work that an employee shall lodge, board, or trade at a particular place or with a particular person.

4.9 Preference in Employment:

4.9.1. The **Contractor** and each Subcontractor shall give preference in the employment of mechanics and apprentices, teamsters, chauffeurs and laborers, first to the citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment, and who are veterans as defined in M.G.L. Chapter 4, Section 7, clause 43, and who are qualified to perform the Work to which the employment relates; and

secondly, to citizens on the Commonwealth generally, and if they cannot be obtained in sufficient numbers, then to citizens of the United States; and shall give preference to veterans and citizens who are residents of the City of Boston.

4.10 Substitutes or "Or-Equal" Items:

4.10.1. Whenever materials or equipment are described in the Contract Documents by using a brand name, make, manufacturer, supplier or specification, the naming or specification of the item is intended to denote the essential characteristics of the item desired pursuant to M.G.L. Chapter 30, Section 39M(b). Unless words indicating that no substitution is permitted are used, items from prospective suppliers may be accepted by the **Official** if sufficient information is submitted by the **Contractor** in his written application for the substitution to allow the **Official** to determine whether the material or equipment proposed (1) will perform at least equally well the functions and achieve the results called for by the general design concept, (2) is at least of equal materials of construction, quality and necessary essential design features, (3) is suited to the same use as that named or specified, (4) conforms substantially to the desired detailed requirements for that item, including but not limited to, durability, strength, appearance, aesthetics (where aesthetics are essential), safety, service, useful life, reliability, economy of operation and ease of maintenance, (5) evidences a proven record of performance, (6) will yield net savings to the **City**, and (7) will not impact the Construction Progress Schedule and will not extend any Contract Time(s).

4.10.2. Each application for a substitution shall certify that the proposed substitute will meet each of the first seven (7) criteria itemized in paragraph 4.10.1. Each application shall certify whether or not acceptance of the substitute will require a change in any of the Work or any of the means, methods, techniques, sequences or procedures applicable to the Work indicated in or required by the Contract Documents, or in work performed by the **City** or others, and whether or not incorporation or use of the substitute is subject to payment of any license fee or royalty. All variations of the substitute from the item named or specified shall be identified (operation, materials, or construction finish, thickness or gauge of material, dimensions, loads, tolerances, deleted/added features, etc.), and information regarding available maintenance, repair and replacement service will be indicated. The **Contractor** shall provide all engineering calculations and analysis, performed by an architect or engineer registered in the Commonwealth of Massachusetts, that are required by the **Designer** or the **Official** who must provide their written prior approval of the calculations or analysis before a substitution application will be allowed.

4.10.3. The application shall contain an itemized estimate of all costs that will result directly or indirectly from evaluation and acceptance of the proposed substitute, including, but not limited to costs and delays of redesign, or claims of other contractors affected by the substitute, and changes in operating, maintenance, repair, replacement or spare part costs. The **Contractor** is solely responsible for verifying that substitutes are in accordance with the Contract Documents, and that dimensions, arrangement, design and construction details, and all other features of substitutes are suited to the

specified purpose. The **Contractor** assumes full responsibility for the time and cost required to make substitute items conform to the requirements of the Contract Documents, or to implement any changes in the Work or in other work which may be required because of or to accommodate the substitute, or both.

4.10.4. If a substitute item differs from that named or specified, and that difference was not expressly identified in the **Contractor's** written application, or it results in changes to the Work or in the function or general design concept, the **City** has authority to require removal and replacement of the substitute.

4.10.5. The **Official's** decision regarding a substitution will be made within the time allowed in M.G.L. Chapter 30, Section 39P. A proposed substitute will be accepted as equivalent or "or-equal" to that named or specified if it meets the substitution criteria and if the deduction proposed by the Contractor reflects the net difference in cost, provided, however, that one hundred percent (100%) of the net savings benefits the **City**. No substitute will be utilized, ordered, or installed without the **Official's** prior written acceptance. Whether or not the **Official** accepts a proposed substitute, the **Contractor** shall reimburse the **City** for any associated extra costs of the **City** resulting from the substitute, including but not limited to, related charges of the **Designer** made necessary by the evaluation and acceptance (or rejection) of each proposed substitute.

4.10.6. An item will be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally well the function imposed by the general design for the Work; and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the Specifications, pursuant to M.G.L. Chapter 30, Section 39M (b).

4.11 Schedule Submittals:

4.11.1. The **Contractor** shall submit to the **Designer** "Revision 0" of the Progress Schedule in fulfillment of the **Contractor's** obligations to commence, prosecute and complete the Work within the Contract Time. The **Contractor** shall submit with the first Application for Payment "Revision 0" of the **Contractor's** Progress Schedule and the **Contractor's** schedule of Shop Drawing submissions.

4.11.2. The **Contractor** shall correct, adjust or modify those schedules returned as "Revise and Resubmit", and shall resubmit Revision "0" schedules within the times specified. The **Contractor's** Revision "0" Progress Schedule shall be utilized to the fullest extent when making proposals or claims for changes in Contract Time or Contract Price.

4.11.3. The **Contractor** shall keep the **Official** informed of progress of the Work by submitting monthly Progress Schedules, which shall stay current with the **Contractor's** approach to Work remaining, be employed when reporting on progress or schedule recovery actions and facilitate the evaluation of payments. The **Contractor** shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with the **City**. No Work shall be delayed or postponed pending resolution of any disputes or disagreements. The **Contractor** shall exercise reasonable

precautions, efforts and measures to avoid or mitigate situations that would cause delays.

4.11.4. After checking and verifying that an issue of revision of the Progress Schedule complies with the applicable requirements and procedures in the Contract, the **Contractor** shall, within the times specified, submit to the **Designer** four (4) copies, or in the alternative, five (5) copies for use by the **Official** and the **Designer** plus additional copies as required by the **Contractor** of that Submittal bearing the **Contractor's** stamp of approval as representation to the **City** that the **Contractor** has determined or verified all data on that Progress Schedule, and that the **Contractor** and the Subcontractors and Suppliers have reviewed and coordinated the sequences in that Progress Schedule with the requirements of the Work.

4.11.5. Early Dates in the Progress Schedules shall be based on proceeding with all or part of the Work exactly on the date when the Contract Time for the Work, or designated part of the Work, commences to run. Late Dates shall be based on completing all or part of the Work exactly on the corresponding Contract Time, unless the **Contractor** anticipates early completion of all or part of the Work (subject to those provisions governing use of Contract Float by the **City**). Where sequences of Work are indicated in or are required by the Contract Documents, the Progress Schedule shall disclose in detail the **Contractor's** approach to conforming with those sequences of Work.

4.11.6. Progress Schedule Submittals are intended to show the overall priority and sequencing of Activities with which the **Contractor** intends to accomplish the Work or Work remaining to comply with the Contract Times and those sequences of Work indicated in or required by the Contract Documents; show how the **Contractor** anticipates foreseeable events or Site conditions that may in any manner affect the cost, progress, schedule, performance, and furnishing of the Work; reflect the means, methods, techniques, sequences, and procedures applicable to the Work chosen by the **Contractor**; and accurately record how completed Work was performed as to sequencing and timing.

4.11.7. The **Official's** and **Designer's** review of a Progress Schedule may result in comments relating to: conformance with the Contract Time(s) and those sequences of Work indicated in or required by the Contract Documents, selection of Milestones and recording of Milestone Times, and conformance with the requirements of Section 01 32 17 and any other information given in the Contract Documents which may have a significant bearing on the use of the Progress Schedule to resolve issues affecting Contract Price or Contract Time. However, whether or not any objections are noted, no such review or objections shall be effective to change the duties or responsibilities of the **City** or **Designer** or to impose on either of them a responsibility for the accuracy of any such Progress Schedule details, the correctness of all of which shall remain the sole responsibility of the **Contractor**.

4.12 Project Photographs:

4.12.1. Before the **Contractor** commences any work at the Site, and on the first work day of each month thereafter until

Substantial Completion of the Work, the **Contractor** shall, at his expense, have digital photographs with disc storage taken by a competent commercial photographer from different viewpoints, as directed by the **Official** or **Designer**. The **Official** and **Designer** shall have the right to increase or decrease the number of photographs required at each period, maintaining an overall average number of exposures per period.

4.12.2. All prints of digital photographs shall be "8 x 10" size. The prints shall bear the date and time of day of the exposure, name of project, the specific location, description of view, and name and address of the photographer. The digital photo disc and one glossy print shall be submitted to the **Official** and one glossy print of each shall be delivered to the **Designer**, all within fifteen (15) days after the exposures are made.

4.12.3. If the **Contractor** fails to provide the photographs as required by the Contract Documents, the **City** shall be entitled to a corresponding cost set-off against the **Contractor's** next Application for Payment, or may choose to have the photograph taken by another photographer, and correspondingly charge those associated costs to the **Contractor**.

4.13 Shop Drawing, Samples and Printed Data:

4.13.1. The **Contractor** shall submit to the **Designer** within fifteen (15) days after the Date for Commencement of Contract Time, his Shop Drawing Log and completed Shop Drawing Submission Schedule, in the form specified by the **Official**, and shall update, and resubmit this Schedule each month to the **Designer** in accordance with the requirements of the Contract Documents.

4.13.2. Submissions of Shop Drawings, samples and printed data shall state the Project name, Specifications Sections, and paragraph numbers which apply to the items submitted. The **Contractor** shall submit Shop Drawings, samples, and printed data in sufficient time to permit checking, resubmission, rechecking, approval and subsequent fabrication and delivery. Failure on the **Contractor's** part to do so will not justify an increase in Contract Time.

4.13.3. Submittals made by the **Contractor** which are not required by the Contract Documents may be returned without action, in the **Designer's** sole discretion.

4.13.4. The **Designer's** review and approval of a technical Submittal will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The **Designer's** review and approval of a technical Submittal shall not extend to means, methods, techniques, sequences or procedures applicable to the Work except where a specific means, method, technique, sequence or procedure is indicated in or required by the Contract Documents or to safety precautions or programs related to safety, nor shall the **Designer's** review impose on the **Designer** any responsibility for the accuracy of engineering design(s) furnished by the **Contractor**, including but not limited to dimensions, quantities, performance of equipment and systems, or any other similar matters, the correctness of all of which shall remain the sole responsibility of the **Contractor**.

Approval of a separate item, or partial Submittal, shall not mean approval of the item's assembly or Submittals not yet reviewed.

4.13.5. Shop Drawings or other technical Submittals consisting of drawings and specifications involving architecture, professional engineering, land surveying or landscape architecture, shall only be prepared by a registrant within the specific discipline involved.

4.13.6. The **Designer** shall be entitled to rely upon the accuracy or completeness of any designs, calculations or certifications made by licensed or certified professionals accompanying a specific Submittal, whether or not that stamp or written certification is required by the Contract Documents.

4.14 Shop Drawing Submittals:

4.14.1 After complying with the requirements in paragraph 4.14.4 and 4.14.5 and all applicable procedures in the Specifications, the **Contractor** shall, in accordance with the Progress Schedule, submit to the **Designer** four (4) copies, or in the alternative, five (5) copies for use by the **Official** and the **Designer** plus additional copies as required by the **Contractor** of all Shop Drawings, which shall bear a stamp or specific written indication (called "written approval") that the **Contractor** has satisfied his responsibilities under the Contract Documents with respect to the review of the submission. Shop Drawings without the **Contractor's** written approval will be returned for resubmission. All submissions shall be identified as the **Designer** may require.

4.14.2. The **Contractor** shall also submit to the **Designer** with such diligence so as to not delay the Work, all other technical Submittals such as samples, test results, test procedures, etc. that are required by the Contract Documents. All samples shall have been checked and be accompanied by a specific written indication that the **Contractor** has satisfied his responsibilities with respect to the review of the submission, and by a certificate guaranteeing that the item complies with the Contract Documents. Additional provisions governing the submission of other technical Submittals are given in the technical Specifications.

4.14.3. At the time of each submission, the **Contractor** shall give the **Designer** specific written notice of each variation of the Submittal from the requirements of the Contract Documents and in addition, shall cause a specific notation of each variation to be made on each Shop Drawing, sample or other technical Submittal submitted for review and approval.

4.14.4. The **Contractor** shall check, stamp with his approval, and submit to the **Designer**, until approved by the **Designer**, with such promptness as to cause no delay in the Work, all Shop Drawings and all other Submittals required by the Contract Documents. At the time of submission, the **Contractor** shall inform the **Designer** in writing of any deviation in the Shop Drawings from the requirements of the Contract Documents, or on resubmitted Shop Drawings, to revisions, other than the corrections requested by the **Designer** on previous submissions.

4.14.5. Before each submission, the **Contractor** shall

determine and verify all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers and other similar data as to correctness and completeness, and he shall have reviewed and coordinated each technical Submittal with other technical Submittals and with the requirements of the Contract Documents.

4.14.6. Shop Drawings that are received from the **Contractor** will be the only Shop Drawings considered for review by the **Designer**. By approving and submitting Shop Drawings, the **Contractor** thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalogue numbers and other similar data, and that he has checked and coordinated each Shop Drawing with the requirements of the work and of the Contract Documents. Shop Drawings not so checked and approved will be returned to the **Contractor** without being examined by the **Designer**.

4.14.7. A technical Submittal will be returned within thirty (30) days, or later if Total Float is available in the Progress Schedule, as either "Approved", "Approved as Noted", "Revise and Resubmit" or an appropriate combination. If a Submittal cannot be returned within that period, the **Designer** shall within fifteen (15) days after receipt, give written notice of the date by which that Submittal will be returned. The **Contractor** shall revise and correct Submittals returned as "Correct and Resubmit", and resubmit them to the **Designer** for his review and return - directing specific attention in writing to any revisions other than the corrections called for by the **Designer** on previous Submittals.

4.14.8. The Shop Drawings shall be clear, complete, and accurate, and shall give all information necessary or requested in individual Sections of the Specifications, and also show adjoining work and details of connections thereto.

4.14.9. Shop Drawings shall be submitted in a proper sequence reflecting the logical sequence and relative priority of the various phases of Work to ensure the preparation of a properly coordinated set of Shop Drawings.

4.14.10. The **Contractor** shall, at his expense, prepare and submit compoSite Shop Drawings showing the work under all affected trades, upon request of the **Designer**, with no change in Contract Price or Contract Time.

4.14.11. The **Designer** will review and return Shop Drawings with reasonable promptness after his receipt of same, but only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The **Designer's** review and approval of Shop Drawings will not extend to the accuracy of other matters that may be contained in the Submittals, including but not limited to such matters as dimensions, quantities, performance of equipment and systems designed by the **Contractor**, engineering design(s) furnished by the **Contractor**, the **Contractor's** means, methods, techniques, sequences or procedures applicable to the Work except where a specific mean, method, technique, sequence, or procedure is indicated in or required by the Contract Documents or to safety precautions or programs related to safety, the correctness of which shall remain the sole responsibility of the **Contractor**.

Approval of a separate item, or partial Submittal, shall not mean approval of the item's assembly or Submittals not yet received.

4.14.12. The **Designer** will make comments, if any are required, directly on the reproducible transparency and return the transparency to the **Contractor**. The **Contractor** shall incorporate the **Designer's** corrections onto the original drawings and resubmit a new reproducible transparency and two prints thereof to the **Designer** for his approval. This procedure shall be repeated until all corrections are made to the satisfaction of the **Designer**.

4.14.13. No review, return or approval of Submittals shall relieve the **Contractor** of responsibility for any variation from the requirements of the Contract Documents unless the **Contractor** has in writing called attention to each variation at the time of submission and the **Official** has given written approval of each such variation by a specific written notation incorporated in or accompanying the approval or returned Submittal. No review, return or approval of Submittals shall relieve the **Contractor** from responsibility for errors or omissions in the Submittals or for having complied with the provisions of this Article 4.

4.14.14 Where a Shop Drawing, sample or other technical Submittal is required by the technical Specifications, any related Work performed by the **Contractor** prior to the **Official's** approval of the pertinent Submittal will be at the sole expense and responsibility of the **Contractor**.

4.14.15 Submittals are not Contract Documents. Technical Submittals are intended to demonstrate how the **Contractor** intends to conform to the design concept of the Project and the information given in the Contract Documents.

4.15 Samples:

4.15.1. The **Contractor** shall submit for the written approval of the **Designer** all samples required in the individual Sections of the Specifications. Samples shall be submitted in a proper sequence reflecting the logical sequence and relative priority of the various phases of the Work. Unless otherwise specified in the individual Specification sections, three (3) specimens of each sample shall be submitted.

4.15.2. Samples shall be of sufficient size to permit proper evaluation of material. Where variations in color or other characteristics are to be expected, samples showing the minimum range of variation shall be submitted. Materials exceeding the range of variation of the approved samples will not be approved on the Work.

4.15.3. Samples which can be conveniently mailed or delivered shall be sent directly to the **Designer**, accompanied by a transmittal notice stating the name of the Project, Specifications Section and Article number to which the sample refers and description of the item being submitted. The **Contractor** shall mail a copy of the transmittal notice to the **Official**.

4.15.4. All other samples shall be delivered at the field office of the Clerk of the Works, with sample identification tags attached

and properly filled in. A transmittal notice of listing the delivered samples shall be submitted to the **Designer** and to the **Official** by the **Contractor**.

4.15.5. Costs associated with the delivery of samples shall be paid by the **Contractor**.

4.15.6. The **Designer** will with reasonable promptness review and give written approval of samples but only for conformance with the design concept of the Project and with the information given in the Contract Documents.

4.16 Printed Data:

4.16.1 The **Contractor** shall submit to the **Designer** six (6) copies of printed data as required in the Specifications. All such printed data shall be specific and identification of material or equipment submitted shall be clearly made in ink.

4.16.2 The **Contractor** shall resubmit six (6) copies of such data until approved and, after approval, shall provide and distribute such number of copies as required for the **Contractor's** use.

4.17 Responsibilities for Repeat Submittals:

4.17.1 All costs incurred by the **City** and the **Designer** made necessary by the review of a particular Submittal after the second time review shall be borne by the **Contractor** without any increase in Contract Price or Contract Time, and shall either be reimbursed by the **Contractor** to the **City**, shall be deducted by the **City** from amounts which may become due to the **Contractor**, or will result in a credit Change Order to the **City**.

4.17.2 All time consumed by the resubmission and re-reviews of a particular Submittal shall not meet the requirements for increases in Contract Time or Contract Price.

4.18 Operating and Maintenance Instructions and Stock Items:

4.18.1 The **Contractor** shall collect all operating, service and maintenance instructions of all mechanical, electrical and manually operated equipment required by them under the Contract Documents, bind them into four (4) complete sets properly formatted and indexed, and submit them to the **Designer** when the Work has reached 90% completion. Failure by the **Contractor** to provide these instructions will prevent subsequent Applications for payment from being approved.

4.18.2 Four (4) copies of all operating and maintenance instructions shall be submitted. These instructions shall be arranged in loose-leaf notebooks of not more than 2" thickness and organized by trade. Each notebook shall be indexed and sorted by building feature or piece of equipment to make all information easily accessible. Each equipment section shall be prefaced by a summary sheet including an equipment description, manufacturer, manufacturer's representative, model number and all nameplate information, and location .

4.18.3 Upon the date of Substantial Completion, the

Contractor shall provide verbal instructions and demonstrations to the **Official** and other **City** representatives at the Site concerning maintenance of all equipment.

4.18.4 Upon the date of Substantial Completion, all maintenance stock items required to be supplied under this Contract shall be delivered to the job Site by the **Contractor**. All maintenance stock shall be delivered to the job Site in unopened containers and stored properly in accordance with manufacturer's instructions. The **Contractor** shall provide the **Official** with storage instructions for all spare maintenance stock supplied.

4.19 Record Documents:

4.19.1 From the sets of Contract Documents furnished by the **Official**, the **Contractor** shall reserve one set for record purposes. From this set, the **Contractor** shall detach and furnish the drawings of their Work for their record purposes at no charge to the mechanical and electrical Subcontractors.

4.19.2 The **Contractor** shall maintain at the Site one (1) record copy of all Drawings, Specifications, Addenda, Change Orders, Change Authorizations, field orders, test records, construction photos, and written interpretations/clarifications, in good order and annotated in a neat and legible manner using a contrasting, reproducible color to show all revisions made and dimensions noted during execution of the Work. These record documents together with a properly annotated record copy of all approved Submittals shall be available to the **Designer**, the **Official** and the Clerk of the Works for reference. Upon completion of the Work, these record documents and annotated Submittals shall be delivered to the **City**.

4.19.3 Upon Substantial Completion, the **Contractor** shall return the complete set of record documents to the **Designer**. The **Designer** will review these documents and return them to the **Contractor** with any necessary comments. The **Contractor** shall revise the same with no change in Contract Price until satisfactory to the **Designer**, as evidenced by his approval endorsed thereon.

4.19.4 Upon receipt of the **Designer's** approval, the **Contractor** shall, at no increase in Contract Price, make reproducible transparencies of record drawings on .004 mil polyester base Mylar. The **Contractor** shall ensure that all as-built information shown on the record drawings is transferred onto said transparencies. In addition, the Contractor shall provide an electronic copy of as-built drawings in an AUTO CAD version acceptable to the Official. The drafting shall be done by experienced drafters and shall match the original drawings.

4.19.5 The **Contractor**, shall also, at his expense, prepare one complete set of black line prints, and submit the transparencies and these prints thereof to the **Designer** before the **Contractor** shall be entitled to Final Payment.

4.19.6 Each week, the **Contractor** shall submit to the **Designer** daily reports recording: the labor work force and equipment utilized by the **Contractor** and Subcontractors; materials and equipment received; visits by Suppliers and others; specialty trade Work performed for each significant

aspect of in-progress or completed Work within each major area of Work; the status of the Work at the Site; and other similar pertinent information.

4.20 Instruction Relating to Existing Conditions:

4.20.1 The **Contractor** represents that he has read the Contract Documents and is fully informed in regard to all provisions thereof, including without limitation, the drawings, Contract Time and the provisions for liquidated damages, and that he has visited the premises described in the Contract Documents and made his own examination of the place where the Work is to be performed and of all conditions pertaining to the Work and has made his own estimates. The **Contractor** agrees that he shall not hold the **City**, its agents or employees responsible for or bound by any schedule, time period, estimate, sounding, boring, or any plan of any thereof and shall assume all liability for the prosecution of the Work and shall bear all losses resulting to him in such prosecution of the Work. No claim for an increase in Contract Price or other damages or any other claim other than for an extension in Contract Time shall be made or asserted against the **City** by reason of any delays unless specifically allowed by the Contract Documents or required by law. The **Contractor** shall not be entitled to an increase in the Contract Price or to compensation of any kind from the **City**, including extended Site and home office overhead, for direct, indirect, consequential impact or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption or interference from any cause whatsoever. This provision shall not preclude recovery of damages by the **Contractor** for hindrances or delay due solely to fraud or bad faith on the part of the **City** or its agents. Otherwise, the **Contractor** shall be entitled only to a non-compensable extension to the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent provided above.

4.20.2 Pursuant to M.G.L. Chapter 30, Section 39N, if, during the progress of the Work, the **Contractor** or the **City** 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 **City** may request an equitable adjustment in the Contract Price applying to Work affected by the differing Site condition. 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 **City** 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 or 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 **City** shall make an equitable adjustment in the Contract Price and the Contract shall be modified in writing accordingly.

4.21 Removal of Existing Work:

4.21.1 The following requirements shall apply to existing conditions which are located within the Limit of Contract Lines indicated on the Drawings:

4.21.2 On and above existing grades, unless designated in the Contract Documents to be reused, remain, or be altered, all existing items shall become the property of the **Contractor** and shall be completely removed from the Site by the **Contractor**, at no change in Contract Price.

4.21.3 Below existing grades, unless designated in the Contract Documents to remain, be reused, be altered, or to be paid for on a unit price basis, as stipulated in the Section entitled "Unit Prices", all subsurface materials shall be excavated to the lines specified in the Contract Documents and completely removed from the Site by the **Contractor**, at no change in the Contract Price.

4.22 Marks and Lines:

4.22.1 The **Contractor** shall furnish, at his expense, the services of a Land Surveyor registered to practice in the Commonwealth of Massachusetts, who shall, for the **Contractor**, establish and maintain on-Site permanent bench marks, and determine from them the various levels of work, and place the levels, and the lines of the buildings, on substantial batter boards and stakes, as required for the proper execution of the Work.

4.22.2 The **Contractor** shall employ a person with sufficient engineering background and experience in the type of work required hereunder who shall, for the **Contractor**, do other engineering work which shall include, without limitation, leveling, checking, and verifying wall and main partition lines.

4.22.3 The **Contractor** shall be fully responsible for the accuracy of all lines and levels established by or for him. The **Contractor** shall furnish to the **Official** a certificate signed by said Land Surveyor, registered in the Commonwealth of Massachusetts, certifying that the location of the principal lines, levels and dimensions are accurately established in accordance with the Contract Drawings.

4.23 Materials, Inspection, Disposition and Suitable Storage:

4.23.1 Unless otherwise stated in the Specifications, or noted on the Drawings, all materials and equipment shall be new and in manufacturer's original containers, clearly marked as to contents. Upon delivery of materials, copies of the delivery receipts shall be given to the Clerk of the Works.

4.23.2 The **Contractor** shall allow the Clerk of the Works and/or any other designated representative of the **Official** or the **Designer** to examine materials, and he shall furnish labor and equipment to assist in such examination with no change in Contract Price.

4.23.3 The **Contractor** shall store all delivered materials in proper locations which will not interfere with the Work. If any stored materials are rejected, a notice of rejection will be given

to the **Contractor** by the **Official** or the **Designer** in writing. Upon receipt of a rejection notice, the **Contractor** shall, within twenty-four (24) hours thereafter, proceed to remove all such rejected materials from the Site, and completely remove such materials within five (5) working days.

4.23.4 Should the **Contractor** or any Subcontractor install, or permit the installation of, any materials which have not been inspected prior to installation, the **Contractor** shall be held fully responsible therefor, and if such installed materials are rejected after inspection by the **Designer** or **Official**, the **Contractor** shall, take down all portions of the Work containing rejected materials, remove all such materials from the Site, and replace the rejected materials accordingly at no increase in Contract Price.

4.23.5 The **Contractor** shall provide for the protection and orderly keeping of materials, and shall provide sufficient heat and cooling to prevent damage to said materials.

4.23.6 No determination by the **Official** or the **Designer** regarding materials and/or equipment which are not incorporated in the Work, but are suitably stored on the Site, or at some other location approved in writing by the **Official**, for the purposes defined under Article 8, whether or not payment by the **City** to the **Contractor** on behalf of all or any part of said materials and/or equipment has been made, shall relieve the Contractor of his obligation to bring the work to Final Completion, at no change in the Contract Price.

4.23.7 In no event shall materials and/or equipment be considered delivered and suitably stored at the Site, or some other location approved in writing by the **Official**, for the purposes defined under Article 8 unless in the judgment of the **Official**, the materials and/or equipment are actually scheduled for prompt use, meet the requirements of the Contract Documents, and that the **Contractor** can and will, at his expense, adequately protect and insure the materials and/or equipment until they are incorporated in the Work. No payment will be made by the **City** for related storage charges, insurance and/or costs and expenses.

4.24 Cutting and Patching:

4.24.1 The **Contractor** shall, except as specifically noted otherwise under other Sections of the Contract Documents, perform all cutting and patching of the Work for all Subcontractors and trades, using whatever materials are needed, wherever necessary or required.

4.24.2 The **Contractor** shall be responsible for the location and performance of all cutting and patching for the Work.

4.25 Existing Utilities:

4.25.1 If existing utility lines, which are indicated in the Contract Documents are damaged by the **Contractor** or any Subcontractor, including without limitation, cables, ducts, conduits and piping, they shall be immediately repaired, protected, and maintained in use until relocation of same has been completed, or shall be cut or capped or prepared for service connections, as the Contract Documents require, unless they are to be abandoned in accordance with the

Contract Documents.

4.25.2 The **Contractor** shall be responsible for locating all Underground Utilities in advance of excavating whether shown in the Contract Documents or indicated by exposed components; scheduling excavation and uncovering in advance, unless it prejudices Work already uncovered; shoring, blocking, and protecting all Underground Utilities; whether shown or indicated or newly-discovered; repairing any damage done to Underground Utilities to the satisfaction of the **Official** or their owner(s); promptly notifying the **Official** and the **Designer** of any newly discovered Underground Utility; and the safety and protection of, and repairing of any damage done to, any affected Work. The **Contractor** shall not, except in an emergency, make an excavation unless written notice of the proposed excavation is given to the owner of any affected Underground Utilities at least two (2) business days before such excavation is to be made.

4.25.3 All costs involved and time required to perform the responsibilities in paragraph 4.25.2 shall be deemed as within the Contract Price and the **Contractor's** schedule for performing the Work within the Contract Time.

4.25.4 The **Contractor** shall notify the **Official** in writing, not less than three (3) business days in advance of the proposed time for shutting down or interrupting of any utilities, services, or facilities which may affect the operation of other buildings, services or facilities of the **City** or the **City's** other contractors. In no case shall any shutdown or interruption of any utilities, services, or facilities be made without the prior written approval by the **Official**. Unless otherwise authorized in writing by the **Official**, the Contractor shall so schedule and coordinate his work that such interruption will occur on weekends, holidays, or before or after the normal working day of the **City's** Facilities. All costs and expenses, including outage costs and back charge costs, shall be borne by the **Contractor**.

4.26 Maintenance of Site:

4.26.1 At all times prior to Final Completion, the **Contractor** shall keep the Site free from accumulation of waste materials or rubbish.

4.26.2 The **Contractor** shall be responsible for the protection of all completed Work, and for repairing, replacing or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in perfect condition in accordance with the Contract Documents at the time of Substantial Completion.

4.26.3 At the end of each work week, the **Contractor** shall thoroughly clean the Site of all rubbish and debris of any nature, and remove such from the Site. The **Contractor** shall thoroughly clean the entire Project and Site. Specific cleaning requirements, prior to final inspection, shall be as set forth in Section 0170 00 Contract Closeout.

4.26.4 Immediately prior to final inspection by the **Designer** and the **Official**, the **Contractor** shall thoroughly clean the entire Project and Site. Specific cleaning requirements, prior to final inspection, shall be as set forth in Section 01 70 00 Contract Closeout.

4.26.5 The **Contractor** shall confine construction equipment, the storage of materials and equipment, and the operations of workers to those lands, rights-of-way and easements identified in and permitted by the Contract Documents, and shall not unreasonably encumber the premises with construction equipment, materials or equipment. The **Contractor** shall assume full responsibility for any damage to those lands including properties and fixtures, rights-of-way and easements or to the owners or occupants of any adjacent lands or access, resulting from execution of the Work. The **Contractor** shall defend, indemnify and hold harmless the **Owner** and **Designer** from and against all claims arising out of or resulting from any damage to any such land, or to any adjacent lands, including loss of use.

4.26.6 The **Contractor** shall keep the premises free accumulations of waste materials, rubbish and other debris. Upon the completion of the Work, the **Contractor** shall remove waste and surplus materials, rubbish, debris, tools and construction equipment, and shall leave the Site clean and ready for occupancy by the **City**. The **Contractor** shall restore to original condition all property not designated for alteration by the Contract Documents including, but not limited to walks, roadways, paved or landscaped areas used during prosecution of the Work. If the **Contractor** fails to comply with this requirement, the **City** may do so, in which case the **Contractor** shall reimburse the **City** for all costs incurred by the **City**.

4.26.7 The **Contractor** shall not load or permit any part or any structure to be loaded in any manner that will endanger the structure. The **Contractor** shall not subject any part of the Work or adjacent property to stresses or pressures that will damage and endanger the Work or adjacent property, or both.

4.27 Inspection and Testing of the Work:

4.27.1 All materials, equipment and workmanship shall be subject to inspection and testing by the **Official**, the **Designer** and their authorized representatives, for conformance with the requirements of the Contract Documents.

4.27.2 If the Contract Documents, laws, codes, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the **Contractor** shall give the **Designer** and the **Official** timely written notice of its readiness and of the date arranged so the **Designer** and the **Official** may observe such inspection, testing or approval. The **Contractor** shall bear all costs of such inspections, tests and approvals unless otherwise provided in the Contract Documents.

4.27.3 Inspection and testing by the **City**, the **Designer**, or their representative, or by any other person, shall in no event reduce or remove the **Contractor's** responsibility for compliance with the full intent and requirements of the Contract Documents.

4.27.4 The **Contractor** must anticipate any and all time required for the testing, inspection and approval of material before incorporation into the Work. No increases in Contract Price or Time will be permitted for losses or delays attributable thereto.

4.27.5 After testing or inspection should any materials or portion of the Work be found *defective* and not conforming to the Contract Documents, such materials or portion of the Work shall be promptly removed, replaced and made to conform to the requirements of the Contract Documents by the **Contractor** at no increase in Contract Price or Contract Time.

4.27.6 Reasonable cost for travel, room and board, incurred by the **Official** or his authorized representative, for the inspection of materials required in the performance of the Work, which are fabricated outside the limits of the City of Boston will be deducted from amounts otherwise due or to become due to the **Contractor**.

4.27.7 If after Commencement of the Work, the **Official** or the **Designer** determines, in their sole discretion, that any of the Work requires special inspection, testing or approval, not otherwise provided for in the Contract Documents, the **Designer** may with the approval of and upon the written order of the **Official**, instruct the **Contractor** in writing to order such special inspection, testing or approval. The **Contractor** shall give the **Official** and the **Designer** seventy-two (72) hours advance written notice of the time and place of such inspection, testing or approval. In the event that such special inspection or testing shows that the Work or part of the Work does not conform to the requirements of the regulations or orders of any public authority having jurisdiction, the **Contractor** shall pay all costs of such inspection, testing or approval, otherwise the **City** shall bear such costs.

4.27.8 Examinations of questioned Work may be ordered at any time and from time to time by the **Official** and/or the **Designer**, and if so ordered, the **Contractor** shall uncover the Work. If such Work is found to be in accordance with the Contract Documents, the **City** will pay the reasonable costs of examination and replacement. If such Work is found to be not in accordance with the Contract Documents, the **Contractor** shall pay all costs of examination, replacement, and all related testing.

4.28 Claims by the Contractor for Loss or Injury:

4.28.1 If the **Contractor** claims any loss or injury resulting to him from any act, omission, or neglect of the **City**, its agents or employees, the **Contractor** shall in strict compliance with all of the requirements of Article 15, and in any event no later than thirty (30) days after the loss or injury that gives rise to the claim, deliver to the **Official** a written statement of the loss or injury in the form of a clearly marked Notice of Claim. Under no circumstances will any reimbursement be made to the **Contractor** unless the **Contractor** shall have delivered the timely written Notice of Claim in accordance with the requirements of this paragraph and Article 15.

4.28.2 The **Contractor** shall have no right to recover damages for any claims or any loss or injury resulting from Work not being performed in conformance with the Contract Documents.

4.28.3 The **Contractor** shall bear all losses resulting from any cause both before Final Completion, and after Final Completion if the Work or any part of the Work fails to conform to the Contract Documents.

4.29 Responsibility for Labor, Material and Equipment Costs:

4.29.1 The **Contractor** shall pay and be exclusively responsible for all debts for labor and material contracted for by the **Contractor**, for the rental of any appliance or equipment hired by the **Contractor** and/or for any expense incurred on account of the Work.

4.30 Conflict of Interest:

4.30.1 The **Contractor's** attention is called to M.G.L. Chapter 268A the Conflict of Interest Law. The **Contractor** shall not act in collusion with any **City** officer, agent, employee or any other party, nor shall the **Contractor** make gifts regarding this Contract or any other matter in which the **City** has a direct and substantial interest.

4.31 Emergencies:

4.31.1 In emergencies affecting the safety or protection of persons or the Work or property at or adjacent to the Site, the **Contractor**, without special instructions or authorization from the **Designer** or the **Official**, is obligated to act to prevent threatened damage, death, injury, or loss. The **Contractor** shall give the **Official** written notice within forty-eight (48) hours of any changes in the Work resulting from the action taken. If the **Official** concurs, the **Official** shall authorize the required changes in accordance with Articles 11 and 12, and, unless the emergency was due in whole or in part to the fault or negligence of the **Contractor**, correspondingly adjust the Contract Price or the Contract Time.

4.32 Miscellaneous Provisions:

4.32.1 The **Contractor** shall inspect Work already in-place to verify that it is in proper condition to receive dependent Work. The **Contractor** shall be responsible for all cutting and patching which may be necessary to complete the Work and to make its several parts fit together properly, whether or not that Work is expressly specified in the Contract Documents.

4.32.2 The **Contractor** shall initiate, maintain and supervise all weather precaution programs applicable to the Work. In the event of severe weather, the **Contractor** shall immediately inspect the Work and the Site, and take all necessary actions to insure that public access and safety are maintained.

4.32.3 The **Contractor** shall perform Work and operate vehicles and equipment so as to cause the least practicable interference with traffic and without becoming a hazard to the public or interfering with any overhead utilities. When transporting materials, vehicles shall not be loaded beyond the capacity recommended by the manufacturer of the vehicle or set by Law. When crossing curbs or sidewalks, the **Contractor** shall protect them from damage. Safe and adequate pedestrian and vehicular access shall be provided and maintained to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, hospitals, fire and police stations, and like establishments.

4.32.4 The **Contractor** shall give seventy-two (72) hours

advance notice of Work on or across private driveways to the owners of the private driveways and the **Designer**. The interference from such Work shall be minimized by restoring service as soon as possible. Except as otherwise provided in the technical Specifications, open excavations shall be bridged with steel plates.

4.32.5 Whenever the prosecution of the Work requires that certain operations be carried out beyond the limits of the Site designated in the Contract Documents or the indications of temporary fences or barricades, the **Contractor** shall schedule trenching, utility Work, Site development, and landscaping so as to occasion a minimum of disturbance to or interfere with the normal operation of the **City** or others.

4.32.6 Pumping, draining and control of surface and groundwater shall be done so as to not endanger the Work or any adjacent facility or property, nor interrupt, restrict or interfere with the use of any such adjacent facility or property.

4.32.7 If a specific means and method is indicated in or required by the Contract Documents, the **Contractor** may furnish or utilize a substitute means and method, if the **Contractor** submits to the **Designer** sufficient information, in accordance with the applicable requirements for substitutions, to allow the **Designer** to determine whether the substitute is equivalent to that indicated or required by the Contract Documents.

4.32.8 Any damaged Work corrected by the **Contractor** shall be corrected so as to be equal in all respects including quality, appearance, function, finish, etc. to non-damaged like Work.

4.32.9 The **Contractor** shall, prior to final inspection, mark in a permanent and readily identifiable manner, all reference points provided by the **City** through the **Designer**.

4.32.10 The **Contractor** shall take whatever steps, procedures or means are required to prevent any dust nuisance due to his operations, and he shall maintain dust control measures at all times in accordance with the requirements of the **City** and any public governmental body with jurisdiction. Dumping of spoil or waste material on land or property obtained by the **Contractor** shall be in strict conformance with all applicable Laws.

4.32.11 The **Contractor** shall not obstruct access to municipal structures, hydrants, valves, manholes, fire alarms, etc., nor shall he make any connections to, operate valves or otherwise interfere with the operation of the water system without first securing the necessary approvals and permits.

4.32.12 The **Contractor** shall prosecute Work in the manner which will cause the least practicable interference with and avoid prolonged interruption of or damage to existing facilities, including underground utilities and overhead utilities. The **Contractor** shall obtain written approval from the **Official** prior to performing any Work involving connection to or interruption of existing facilities, and shall perform that Work during those periods of time which cause the least interference or annoyance.

4.33 Quality Control:

4.33.1 The **Contractor** shall establish a quality control system and submit the procedure to the **Official** to insure sufficient supervision, inspection and testing of all items of Work, and to control conformance to the applicable Specifications and Drawings with respect to product, workmanship, construction, maintenance while idle, finish, functional performance and identification. The **Contractor's** quality control system shall include checking, approval and coordination of Submittals and the surveillance of all specified tests. Nothing contained in these quality control requirements shall be construed as limiting the obligations of the **Contractor** under the Contract Documents.

4.33.2 The **Contractor's** quality control system shall specifically incorporate the responsibility for checking all aspects of the Work including, but not limited to the **Contractor**-established elevations, the location of all underground pipelines and electrical conduits before covering begins, all reinforcing steel before pouring concrete, and any other items of Work which cannot be located and inspected without uncovering once the particular part of the Work is complete. Data so obtained shall be recorded on the record documents.

4.34 Incidents with Historic Property Deposits:

4.34.1 The **Contractor** shall at once cease operations in the affected areas and notify in writing the **Official** of any historic property deposits, as determined by the City of Boston Landmarks Commission or the Massachusetts Historical Commission, which are encountered or unearthed during the execution of the Work. The **Contractor** shall provide for the protection of the deposits in a proper and satisfactory manner, and no further disturbance of the deposits shall be permitted until the **Contractor** has been notified by the **Official** that Work can be resumed in the affected areas.

4.34.2 If any such incident with historic properties causes or will cause delay, extension or acceleration that postpones, extends or any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to the provisions in Articles 11 and 12, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any delay, extension or acceleration, from an incident with historical properties, which is reasonable under the Contract Documents.

4.35 Related Work at Site:

4.35.1 The **City** may perform other work at the Site with the City's own forces or have other work performed by other persons. If the Contract Documents did not note that other work is to be performed, written notice will be given to the **Contractor** prior to starting that other work.

4.35.2 The **Contractor** shall afford each other person or the **City** when performing other work proper and safe access to the Site and a reasonable opportunity for the handling, unloading and storage of materials and equipment and the execution of their work, and shall properly connect and coordinate the Work with theirs. The **Contractor** shall do all

cutting, fitting, patching and interfacing of the Work that may be required to make its several parts come together properly and integrate with other work. The **Contractor** shall not cut, excavate or otherwise alter any other work without the written consent of the other person and the **Designer**. The **Contractor** shall afford each other person prompt written notice whenever Work interfacing with the person's work has been performed.

4.35.3 If any part of the Work depends for proper execution or results on the work of the **City** or another person, the **Contractor** shall inspect and promptly report to the **Designer** in writing conditions in that work which render it unavailable or unsuitable for proper execution and results. The **Contractor's** failure to do so will constitute an acceptance of other work as fit and proper for integration with the Work except for latent or non-apparent defects and deficiencies in the other work.

4.35.4 Wherever Work to be performed by the **Contractor** is dependent upon the work of others; the **Contractor** shall coordinate his Work with the dependent work. Installation of Work by the **Contractor** in any given area shall constitute acceptance by the **Contractor** or that Subcontractor of all previously placed dependent work.

4.35.5 If the **City** contracts with others for other work, the person or organization who will have the authority and responsibility for coordinating the activities of the **Contractor** and those others will be identified in the Supplementary Conditions. Unless otherwise specifically stated, neither the **City** nor the **Designer** shall have any authority or responsibility for coordination of the activities of the **Contractor** and those others.

4.35.6 Unless otherwise so provided in the Supplementary Conditions, the **Contractor** shall coordinate the preparation and checking of Submittals with those other persons whose work in any way relates or depends upon the Work, or vice versa, and the **Contractor** shall so represent it in the **Contractor's** Submittal to the **Designer**. Upon receipt of approval of those Submittals from the **Designer**, or receipt of a Submittal as "Re-submittal Not Required" from the **Official**, the **Contractor** shall promptly furnish prints of those Submittals to those other parties.

4.36 Mutual Duties and Responsibilities:

4.36.1 If the **Contractor** causes damage to the work or property of others, or if a claim arising out of the **Contractor's** execution of Work is made by a person against the **Contractor**, the **City**, or the **Designer**, the **Contractor** shall promptly attempt to settle with that person by agreement or otherwise resolve the claim. The **Contractor** shall defend, indemnify and hold harmless the **City** and the **Designer** from and against all claims, causes of action, lawsuits, damages, losses and expenses, whether direct, indirect or consequential, including but not limited to charges of engineers, attorneys and other professionals and costs of both defense and appeal, if any, arising out of or resulting from damage by the **Contractor** to the work or property of others or from the **Contractor's** execution of the Work.

4.36.2 If another person causes damage to the Work or

property of the **Contractor**, or if the performance of other work results in any other claim by the **Contractor**, the **Contractor** shall promptly attempt to settle with that person by agreement or otherwise resolve the claim. The **Contractor** shall not institute any action against the **City** or **Designer**, their consultants, agents or any of their directors, officers, shareholders, agents or employees, or permit any action against them to be maintained in the **Contractor's** name or for his benefit in any court or before any tribunal, which action seeks to impose liability or recover damages from the **City** or **Designer** for such claim.

4.36.3 If another person performing other work causes delay, extension or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to Articles 11 and 12, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any delay, extension or acceleration caused by other work which is reasonable under the Contract Documents.

4.36.4 If another person performing other work is granted an extension in Contract Time on account of causes warranting said extension but without compensation, and said Contract Time is coterminous with a Contract Time under this Contract, and if the **City** concludes that said extension requires a change in the coterminous Contract Time, the **Official** shall authorize the necessary change in Contract Time only.

4.37 The Contractor's Responsibility for City Costs:

4.37.1 If the **Contractor** becomes involved in settling or otherwise resolving claims with other persons performing other work arising out of events covered under paragraphs 4.36.1 or 4.36.2, or because of any other related controversy, including damage to the Work or other work or a dispute about responsibility for clean-up or any other issue, neither the **City**, the **Designer**, nor any of their consultants, agents nor any of their directors, officers, stockholders nor employees will be involved in any way in such actions unless ordered to do so by a court of competent jurisdiction. If the **City** incurs costs contrary to the provisions of this Article, the **Contractor** shall reimburse those cost to the **City**.

ARTICLE 5 - SUBCONTRACTORS AND SUPPLIERS

5.1 Use of Subcontractors:

5.1.1 The **Contractor** shall not assign, delegate, subcontract or in any way transfer any interest in this Contract without prior written consent of the **Official**.

5.2 Relation Between Subcontractors and Contractor:

5.2.1 In the event that a suspension, delay, interruption or failure to act of the **City** increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the **Contractor** for payment of an increase in the cost of his performance as provided for the **Contractor** under M.G.L. Chapter 30, Section 390, paragraphs (a) and (b).

Nothing in these paragraphs (a) and (b) shall in a way change, modify, or alter any other rights the **Contractor** or the Subcontractor may have against each other.

5.3 The Contractor's Continuing Responsibilities:

5.3.1 The **Contractor** shall be fully responsible to the **City** and the **Designer** for all acts and omissions of all the Subcontractors and Suppliers, at any tier, to the same extent as the **Contractor** is responsible for the **Contractor's** own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between the **City** or the **Designer** and any Subcontractor or Supplier, nor create any express or implied duty or obligation on the part of the **City** or the **Designer** to any Subcontractor or Supplier or the **Contractor's** sureties, to pay or to see to the payment of any monies owed to any of them.

5.4 Subagreements:

5.4.1 Work performed by a Subcontractor or Supplier shall be through an appropriate sub-agreement which expressly binds the Subcontractor or Supplier to the requirements of the Contract Documents for the express benefit of the **City** and the **Designer**, requires each of them to assume toward the **Contractor** all the obligations which the **Contractor** assumes toward the **City** and the **Designer**, and contains waiver provisions as required by paragraph 10.9.

5.4.2 Within seven (7) days after receipt of a written request from the **Official**, the **Contractor** shall submit an exact copy of each sub-agreement identified in the request. Such request shall not constitute approval of any Subcontractor by the **Official**.

ARTICLE 6 - PROJECT COORDINATION

6.1 General Coordination:

6.1.1 The **Contractor** shall be responsible for the entire Project operations and shall properly coordinate the work of all trades and give all customary and proper assistance to all Subcontractors.

6.2 Subcontractor Coordination and Communications:

6.2.1 All communications and information to and from Subcontractors shall be through the **Contractor**.

6.2.2 If Work to be performed by the **Contractor** directly or through a Subcontractor, is dependent upon previously placed Work, the **Contractor** shall supply and/or install items to be built into the dependent Work, examine dependent Drawings or Specifications, and examine, check and verify dependent dimensions of previously placed Work. The **Contractor** shall notify the **Designer** of previously placed dependent Work which is unsatisfactory or will prevent a satisfactory installation of other Work. Installation of Work by the **Contractor** directly or through a Subcontractor, in any given area, shall constitute acceptance by the **Contractor** of all previously placed dependent Work.

6.3 Coordination of Electric Service:

6.3.1 The **Contractor** shall coordinate the installation of the permanent primary electrical service with the appropriate power company, to assure availability of sufficient power for all Project requirements so as not to cause any delay in the Work.

6.4 Coordination with other Contractors:

6.4.1 The **Contractor** shall coordinate his operations with those of the **City's** other contractors if they are on, about, or adjacent to, the Project Site. Cooperation will be required with respect to access to the Project Site in the arrangement for the storage of materials, and in the detailed execution of the Work.

ARTICLE 7 - PROSECUTION AND COMPLETION

7.1 Progress and Completion:

7.1.1 The Date for Commencement of the Contract Time shall be the date of execution of the Contract by the **Official**, unless otherwise directed in writing by the **Official**.

7.1.2 The **Contractor** shall commence the Work no earlier than the date of execution of the Contract by the **Official**, and shall prosecute and complete the Work regularly, diligently, and uninterruptedly at such rate or progress as will ensure Substantial Completion and Final Completion within the Contract Time(s).

7.1.3 Neither the **Contractor** nor the **City** shall be liable for any damages sustained by either party due to a failure to perform the Work under the terms of this Contract if such failure is in fact caused by the occurrence of a contingency the nonoccurrence of which was a basic assumption under which this Contract was made, including but not necessarily limited to a natural disaster (flood, hurricane, or earthquake); a state of war, an imminent security threat, acts of enemies, embargoes, labor strikes, provided that the **Contractor** has notified the **Official** in writing of such cause within fourteen (14) days after its occurrence.

7.1.4 Before any Work is started, the **Contractor** shall deliver to the **Official** all of the licenses, permits, certificates of insurance, and bonds required by the Contract Documents. All certificates of insurance shall clearly state **ON THE FACE OF THE CERTIFICATE** that: the **City** and any other entity required by the Contract are Additional Insureds on all required policies except Workers' Compensation for the covered project; that Waiver of Subrogation is included with respect to all policies and coverages listed above; that the above insurance is primary and non-contributory over any other insurance available to the **City**; that such insurance extends to contractual liability; and that should any of the above policies be cancelled before the expiration thereof the issuing insurer will mail written notice to the **City** as certificate holder thirty (30) days in advance. The following statement affirming that coverage completely complies with the contract requirements shall be included in the Special Items section of the certificate of insurance or in an attached Special Items Addendum Page: **"The aforementioned insurance coverages completely**

comply with **General Conditions Article 10 insurance requirements, Paragraphs 10.5 through 10.13, and with the insurance requirements in Section 00 73 16.** Refer to Article 10, Paragraphs 10.5 through 10.11 for additional insurance requirements. Refer to Section 00 73 16 Supplementary Conditions for specific types of coverage and minimum policy limits for this Contract.

7.1.5 The **Contractor** shall start performance and furnishing of the Work on the Date of Commencement of the Contract Time. No Work shall be done at the Site prior to the date on which the corresponding Contract Time starts to run.

7.1.6 Within ten (10) days after the **City** executes the Agreement, a pre-construction meeting will be held to record twenty-four hour emergency telephone numbers for key personnel; to review the qualifications of key **Contractor** personnel, the **Contractor's** plans for lay-down, staging, construction traffic, access to the Site, parking and other similar matters; to review procedures for Change Orders, Change Authorizations and Submittals; and to establish and understanding among the parties as to the Work.

7.2 Compliance with Contract Time Requirements:

7.2.1 The **Contractor** shall prosecute the Work with the diligence necessary to ensure its completion within the Contract Time. The **Contractor** shall provide sufficient labor, materials and equipment, and shall promptly undertake appropriate action to recover schedule, as may be necessary to comply with the Contract Time requirements. Except as otherwise may be permitted by the Contract Documents, all Work at the Site shall be performed during normal working hours, unless the **Contractor** has obtained the **City's** prior written consent.

7.2.2 Normal working hours shall be as per local Laws, or based on a schedule beginning no earlier than 7:00 A.M. and ending no later than 6:00 P.M. excluding Work on non-business days, but not exceeding forty-eight (48) hours per week, or as stated in the Supplementary Conditions. If Work during other than normal working hours is scheduled by the **Contractor**, he shall reimburse the **City** for all of the **City's** associated extra costs; such costs to include, but not necessarily limited to, the **Designer's** related charges to the **City** and other costs assessed against or incurred by the **City** as designated in the Contract Documents, and if not designated, which the **Contractor** could reasonably have been expected to be aware of.

7.2.3 Given the Contract Time requirements of the Contract Documents, Early Dates in the Progress Schedule shall be based on proceeding with all or part of the Work exactly on the date when the Contract Time for the Work, or designated part of the Work, commences to run. Late Dates shall be based on completing the Work, or specified part of the Work, exactly on the corresponding Contract Time.

7.2.4 No Work shall be performed in other than daylight conditions unless adequate lighting has been provided by the **Contractor** after securing all required written approvals.

7.2.5 The **Contractor** shall carry on the Work and adhere to

the Progress Schedule during all disputes or disagreements with the **City**. No Work shall be delayed or postponed pending resolution of any disputes or disagreements. The **Contractor** shall exercise reasonable precautions, efforts and measures to avoid or mitigate situations that would cause delays.

7.3 Substantial Completion; Partial Completion:

7.3.1 When the **Contractor** considers that (a) the entire Work, or (b) a portion of the Work, for which a Contract Time for Substantial Completion has been specified in the Contract Documents, has progressed to the point where it is sufficiently complete, in accordance with the Contract Documents, the **Contractor** shall notify the **City** and **Designer** in writing that the **Contractor** certifies the Work has been substantially completed, or that portion of the Work substantially completed as the case may be. Within a reasonable time after receipt of any such notice from the **Contractor** and **Designer** shall inspect the Work or designated portion of the Work to determine the status of completion. If the **Designer** does not consider (a) the Work substantially complete, or (b) the portion of the Work inspected substantially complete, the **Official** will, within twenty-one (21) days after the inspection, present in writing to the **Contractor** an itemized list of incomplete and unsatisfactory Work sufficient to demonstrate the basis for that determination.

7.3.2 If the **City**, with the advice of the **Designer**, considers the Work substantially complete, the **City** will, within twenty-one (21) days of receipt of the **Contractor's** certification, present to the **Contractor** a written declaration that the Work has been substantially completed. Such declaration shall fix a date of Substantial Completion and may attach a preliminary list of minor incomplete or unsatisfactory items not impairing the usefulness of the Work as the **City**, with the advice of the **Designer**, believes justifiable which shall be completed or corrected by the **Contractor** before the **City** considers the Work acceptable and ready for final payment.

7.3.3 In the event that the **City** fails to respond, by presentation of a written declaration or itemized list, to the **Contractor's** certification within the twenty-one (21) day period, the **Contractor's** certification shall take effect as the **City's** declaration that the Work has been substantially completed. The term "substantially complete" as applied to any Work refers to Substantial Completion.

7.3.4 At the time of delivery of the **City's** written declaration of Substantial Completion of the Work or part of the Work under Partial Utilization, the **City** will attach the **Designer's** written recommendation as to division of responsibilities between the **City** and the **Contractor** for security, operation, safety, maintenance, heat, utilities, insurance, and warranties and guarantees, pending final payment or Substantial Completion of the entire Work. If approved by the **City**, such written recommendation shall become binding upon the **City** and the **Contractor**, unless they have otherwise agreed in writing and so informed the **Designer**, prior to the **Official** issuing the Certificate of Substantial Completion.

7.3.5 If the **Designer** and **City** consider, or if after consideration of the **City's** objections, the **Designer** considers the entire Work substantially complete, or the portion of the

Work inspected substantially complete, the **Designer** will deliver to the **City** and **Contractor** a Certificate of Substantial Completion with a Punch List fixing a date of Substantial Completion, a date for completion of the Punch List to the satisfaction of the **Designer** and, in the case of Substantial Completion of the Work or Partial Utilization under paragraph 7.4, a recommendation as to the division of responsibilities between the **City** and **Contractor**. If after considering the **City's** objections, the **Designer** determines that the entire Work is not substantially complete, or the portion of the Work inspected is not substantially complete, the **Designer** will notify the **Contractor** in writing stating the reasons.

7.4 Partial Utilization:

7.4.1 Utilization by the **City**, of any part of the Work, prior to Substantial Completion of the Work shall not affect the times of Substantial or Final Completion.

7.4.2 The **Contractor** agrees to permit the Partial Utilization of any part of the Work, by the **City** prior to Substantial Completion, in accordance with the following terms:

7.4.3 The **City** will, prior to any such Partial Utilization, give written notice to the **Contractor** indicating the areas intended to be used and the commencement date(s) of such use.

7.4.4 Upon receipt of such notice of intent from the **City**, the **Contractor** shall promptly secure and submit to the **Official** endorsement from the **Contractor's** insurance carrier(s) and written consent from the **Contractor's** surety, permitting occupancy and use of the part of the Work, by the **City**.

7.4.5 The **Contractor** shall maintain all insurance required under the Contract Documents for all portions of the Work used or occupied by the **City**. Such occupancy shall not affect the various guarantee periods called for by the Contract Documents.

7.4.6 The utilization of any part of the Work, by the **City** shall not be construed as final acceptance of Work, nor relieve the **Contractor** of the **Contractor's** obligation to perform any Work required by the Contract Documents, but not completed prior to Substantial Completion in, and with respect to, the areas to be occupied prior to the stipulated date Substantial Completion of the Work.

7.4.7 The **Contractor** shall not be required to maintain or clean the portion(s) of the Work so occupied, nor shall the **Contractor** be responsible for wear and tear or damage resulting solely from such occupancy.

7.4.8 It is understood and agreed that when any portion of the Work is in a reasonable condition, in the opinion of the **Official**, to receive any fittings or furniture or other property of the **City** not included in the Contract Documents, the **Contractor** shall provide all necessary facilities and protection.

7.5 City-Caused Delay:

7.5.1 The **City** 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 **City**; provided however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the **City** to act within the time specified in this Contract, the **City** shall make an adjustment in the Contract Price for any increase in the cost of performance of this Contract but shall not include any profit to the **Contractor** on such increase; and provided further, that the **City** shall not make any adjustment in the Contract Price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which the Contract provides for an equitable adjustment of the Contract Price under any other Contract provisions.

7.5.2 The **Contractor** must submit the amount of a claim under provision 7.5.1 to the **City** in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this Contract and, except for costs due to a suspension order, the **City** shall not approve any costs in the claim incurred more than twenty (20) days before the **Contractor** notified the **City** in writing of the act or failure to act involved in the claim. The **City** and the **Contractor** agree that it is both reasonable and practicable for any Notice of Claim under the provisions of paragraph 7.5.1 to be filed in writing with the **Official** no later than thirty (30) days after the end of the suspension, delay, interruption or failure to act that gives rise to the claim

7.5.3 No **City**-caused delay is unreasonable unless it exceeds the time specified or contemplated for the act (or failure to act) in the Progress Schedule for Work involved or affected by the **City**-caused delay.

7.5.4 Except as provided in this paragraph, no order or act, or failure to act, of the **City** or **Designer** shall constitute an unreasonable **City**-caused delay, or a **City**-caused delay which justifies an increase in Contract Price or Contract Time. No claim for an increase in Contract Price or other damages or any other claim other than for an extension in Contract Time shall be made or asserted against the **City** by reason of any delays unless specifically allowed by the Contract Documents or required by law. The **Contractor** shall not be entitled to an increase in the Contract Price or to compensation of any kind from the **City**, including extended Site and home office overhead, for direct, indirect, consequential impact or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption or interference from any cause whatsoever. This provision shall not preclude recovery of damages by the **Contractor** for hindrances or delay due solely to fraud or bad faith on the part of the **City** or its agents. Otherwise, the **Contractor** shall be entitled only to a non-compensable extension to the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent provided above.

7.6 Division of Responsibilities:

7.6.1 At the time of Substantial Completion of the Work, or Substantial Completion of a portion of the Work under Partial Utilization, the **Designer** will attach a written recommendation as to division of responsibilities between the **City** and **Contractor** for security, operation, safety, maintenance,

utilities, insurance, and warranties and guarantees, pending final payment (or Substantial Completion of the Work), which shall be binding upon the **City** and **Contractor**, unless the **City** and **Contractor** have otherwise agreed in writing and so informed the **Designer**.

7.6.2 Any **Designer's** recommendation as to division of responsibilities under Partial Utilization shall bind the **City** and **Contractor** at the time when the **City** starts that Partial Utilization following receipts of evidence of compliance with the requirements of paragraph 10.8 regarding property insurance.

7.7 Unreasonable Delay, Extension or Acceleration:

7.7.1 For the purposes of justifying increases in Contract Price, no delay or extension (or acceleration in lieu of any such delay or extension) for which the **City** is responsible under the Contract Documents shall be unreasonable under the circumstances, however caused, unless it extends completion of all or a specified part of the Work beyond the time specified or contemplated for all or a part of the Work in the Progress Schedule.

7.8 Use of Float:

7.8.1 Total Float and Contract Float, whether expressly disclosed in the Progress Schedule or implied by the use of float suppression techniques, are not for the exclusive benefit of the **Contractor** or **City**, and shall be available to the **City**, **Designer** and **Contractor** to offset delays which postpone, extend or in any other manner alter the schedule or completion of all or part of the Work.

7.8.2 Adjustment or removal by the **Contractor** of any float suppression techniques used, e.g. preferential sequencing, crew movements, equipment use, form reuse, etc., extended duration, imposed dates, scheduling Work not required for a Contract Time as required Work anyhow, and others will be a prerequisite to an increase in Contract Price or Contract Time.

ARTICLE 8 - PROGRESS PAYMENTS, FINAL PAYMENT & ACCEPTANCE

8.1 Schedule of Values; Application for Payment

8.1.1 The Schedule of Values shall subdivide the Work into component parts in sufficient detail to facilitate and serve as the basis for progress payments, as specified in these General Conditions, and if not specified, by further detailing of the **Contractor's** bid breakdown. For each item, the Schedule of Values shall include quantities; direct craft labor man hours, labor cost and material/equipment cost. Labor costs shall include an appropriate amount of construction equipment costs, supplemental costs, administrative expenses, contingencies and profit.

8.1.2 Pursuant to M.G.L. Chapter 30, section 39K, within fifteen (15) days after receipt from the **Contractor**, of an Application for Payment, the **City** 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 other location approved in writing by the **Official** to which the **Contractor** has title or to which a Subcontractor has title and has authorized the **Contractor** to transfer title to the **City**, less (1) a retention based on its estimate of the fair value of its claims against the **Contractor**, and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of M.G.L. Chapter 30, Section 39F, and less (3) a retention not exceeding five percent (5%) of the approved amount of the periodic payment. Payment for materials and equipment stored on or off the Site shall be conditioned on compliance by the **Contractor** with procedures satisfactory to the **City** to establish the **City's** title to such materials or equipment or otherwise protect the **City's** interest, at a minimum to include a fully executed Transfer of Title Form.

8.1.3 The **Contractor's** Application for Payment shall be delivered on the day of each month established by the **Official**, by hand or by registered or certified mail, with return receipt requested, to the office of the **Designer**. The **Designer** shall mark the Application with the date of receipt. The date of receipt of an Application for Payment received on a Saturday shall be the first working day thereafter.

8.1.4 Such Application for Payment shall be in accordance with the Schedule of Values and made on a form approved by the **Official** and shall be arithmetically correct and shall show (a) the value of labor and materials used in the work, and (b) the value, quantity of each item of materials not incorporated in the work but delivered and suitably stored at the Site or elsewhere in accordance with this Article, and shall be accompanied by receipted bills for or other acceptable evidence of the ownership of, and satisfactory authority to transfer title to the **City** of, the materials not incorporated in the Work, and in addition, on a form satisfactory to the **Official**, an instrument transferring to the **City** title to the aforesaid materials. In addition, all Applications for Payment shall contain a separate item for each filed Subcontractor as of the date the Application is filed.

8.1.5 The **Designer** will submit the **Contractor's** Application for Payment, as checked and approved by the **Designer**, together with the **Designer's** certificate, to the **Official** not later than five (5) working days from the date the **Designer** receives an Application in the proper form from the **Contractor**.

8.1.6 The **Contractor** shall also submit, when requested by the **Official** or the **Designer**, vouchers and such other information showing payments already made by him for labor and materials used in the Work.

8.1.7 The **Designer** shall issue certificates for payments monthly, based on the **Contractor's** monthly Application for Payment. All orders and certificates shall be approved by the **Official** and shall not be binding on the **City** until so approved.

8.1.8 An Application for Payment covering Work of Subcontractors or Suppliers shall exclude amounts the **Contractor** or a Subcontractor does not intend to pay to Subcontractors or Suppliers for any reason.

8.2 Intent of Review of Application for Payment:

8.2.1 The **Designer's** recommendation of any payment requested constitutes a representation to the **City**, based on on-Site observations and on the **Designer's** review of the Application for Payment and the accompanying data and schedules, that the Work has progressed to the point indicated, that, to the best of the **Designer's** knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents subject to an evaluation of the Work for conformance with the Contract Documents as a functioning whole prior to and upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work, and to any other qualifications stated in the recommendation, and that the **Contractor** is entitled to payment of the amount recommended.

8.2.2 In the case of final payment, the **Designer's** recommendation that the Work is acceptable shall be an additional representation by the **Designer** to the **Owner** that the conditions governing final payment to the **Contractor** have been met.

8.3 Review of Applications for Payment:

8.3.1 The **Official's** review of an Application for Payment will be based on on-Site observations by the **Designer**, and on the **Designer's** review of the Application for Payment and of the accompanying data and schedules, and shall indicate that, to the best of the **Designer's** knowledge, information and belief, the Work has progressed to the point indicated, and that the quality of the Work is in accordance with the Contract Documents, subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests specified in the Contract Documents, a final determination of quantities and classifications for Unit Price Work, and any other qualifications so stated.

8.3.2 The **Official** may make changes in any Application for Payment submitted by the **Contractor**, and the payment due on said Application shall be computed in accordance with the changes so made, but such changes or any requirement for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment shall be computed in accordance with the changes made as provided herein; provided that the **Official** may, within seven (7) days after receipt, return to the **Contractor** for correction any Application which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such Application shall be the date of receipt of the corrected Application in the proper form and with arithmetically correct computations.

8.3.3 No certificate given or payment made shall be evidence of the performance of this Contract, either wholly or in part and no payment, whether made upon the final certificate or otherwise, shall be construed as an acceptance of *defective* work or materials.

8.3.4 No payment will be made for General Conditions by the **City** to the **Contractor** until the 1) Schedule of Values; 2) Progress Schedule; 3) Schedule of Shop Drawings Submittals and Shop Drawing Log; 4) all other technical submittals, including but not limited to a Schedule for Samples, Test Procedures, Test Results and other Printed Data have all been submitted, reviewed and determined to be in accordance with the requirements of the Contract Documents. In addition, no payment will be made for General Conditions by the **City** to the **Contractor** unless Record Drawings in the required format are provided, maintained and regularly updated by the **Contractor** in accordance with the requirements of the Contract Documents. The City may withhold such amounts from progress payments or from the final payment due or to become due to the **Contractor** as are necessary to satisfy any obligations of the **Contractor** under the Contract, or to satisfy other obligations of the Contractor not related to the Contract which the **City** is ordered to satisfy by a court of competent jurisdiction or is required to satisfy by law. Obligations of the **Contractor** under the Contract that may result in withholding all or part of a payment if, in the discretion of the **City**, are not satisfactorily provided include but are not limited to: obtain all required permits and licenses; provide the required temporary facilities; security of the Site; maintenance and weekly cleaning of the Site; fire protection; wind protection; noise/pollution control; establishment of a quality control system; coordination of sub-trades and suppliers; provide a full-time licensed superintendent and competent foreman; payment of police detail and fire watch accounts; payment of **City** costs for evaluation of substitution requests; payment for Site utilities; payment for all labor and materials; compliance with the Boston Resident Jobs Policy requirements; correction of defective work; provide project photographs; establish and maintain on-Site permanent benchmarks; provide operating, service and maintenance instructions; delivery of warranties and guarantees and follow all required close-out and commissioning procedures.

8.4 Refusal to Recommend or to Make Payment:

8.4.1 The **City** may withhold from any payment an amount based on the **Official's** estimate of the fair value of its claims against the **Contractor**, including but not limited to, any liquidated damages that would become or have been determined to be due; claims made against the **City** on account of the **Contractor's** performance or furnishing of the Work; direct payments due to Subcontractors in accordance with the provisions of M.G.L. Chapter 30, §39F; subsequently discovered evidence or other items entitling the **City** to a withholding or set-off against the amount recommended; or because of the **Designer's** refusal to recommend payment. The **Official** will give the **Contractor** immediate written notice stating the reasons for such action.

8.4.2 The **Designer** may refuse to recommend the whole or any part of any payment, or because of subsequently discovered evidence or inspection or test results, nullify any such payment previously recommended, as may be necessary in the **Designer's** opinion, to protect the **City** from loss because: the Work is *defective*, or completed Work has been damaged requiring correction or replacement; the Contract Price has been reduced by Change Order; the **City** has been required to correct *defective* Work or to complete Work;

reasonable evidence exists that the Work, or specified part, cannot be completed for the Contract Price or will not be completed within the Contract Time; third party claims filed or reasonable evidence indicating the probable filing of such claims; failure of the Contractor to make payments properly to Subcontractors for labor, materials or equipment; persistent failure to carry out the Work in accordance with the Contract Documents.

8.5 Payment Upon Substantial Completion:

8.5.1 Within sixty-five (65) days after the date of Substantial Completion, the **Official** shall send to the **Contractor** for acceptance a Substantial Completion estimate for the quantity and price of the Work done and all but one percent (1%) retainage on that Work, including the quantity, price and all but one percent (1%) retainage for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory items and less the total progress payments made to date for the Work. The **Official** also shall deduct from the Substantial Completion estimate an amount equal to the sum of all demands for direct payment filed by Subcontractors and not yet paid to Subcontractors or deposited in joint accounts pursuant to M.G.L. Chapter 30, Section 39F, but the **Official** shall not deduct any amount by virtue of claims asserted against the **Contractor** by Subcontractors or Suppliers.

8.5.2 Within fifteen (15) days after the effective date of declaration of Substantial Completion, the **Official** shall send to the **Contractor** by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory Work items, and, unless delayed by causes beyond his control, the **Contractor** shall complete all such items within forty-five (45) days after the receipt of such list or before the date for final payment and acceptance, whichever is later. If the **Contractor** fails to complete the Work items within such time, the **Official** may, subsequent to seven (7) days written notice to the **Contractor** by certified mail, return receipt requested, terminate the Contract and complete the incomplete or unsatisfactory items and charge the cost of same to the **Contractor**.

8.5.3 If the **Official** fails to prepare and send to the **Contractor** any Substantial Completion estimate required by this paragraph on or before the date specified, the **City** shall pay to the **Contractor** interest on the amount which would have been due pursuant to such Substantial Completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the **Official** sends that Substantial Completion estimate to the **Contractor** for acceptance or to the date of payment, whichever occurs first. The **Official** shall include the amount of such interest in the Substantial Completion estimate.

8.5.4 Not later than the sixty-fifth (65th) day after each Subcontractor substantially completes his Work in accordance with the Contract Documents, the entire balance due under the Subcontract, less amounts retained by the **Official** as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the **City**

shall pay that amount to the **Contractor**. The **Contractor** shall pay to the Subcontractor the full amount received from the **City** less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

8.5.5 If, within seventy (70) days after the Subcontractor has substantially completed his 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 **City** as the estimated cost of completing the incomplete and unsatisfactory items of Work, the Subcontractor may demand direct payment of that balance from the **City**. The demand shall be by a sworn statement delivered to or sent by registered mail to the **Official**, and a copy shall be delivered to or sent by registered mail to the **Contractor** at the same time. The demand shall contain a detailed breakdown of the balance due under the Subcontract and 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 (70th) day after the Subcontractor has substantially completed the Work. Within ten (10) days after the Subcontractor has delivered or so mailed the demand to the **Official** 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 registered mail to the **Official** and a copy shall be delivered to or sent by registered 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 the amount due for each claim made by the **Contractor** against the Subcontractor.

8.5.6 Within fifteen (15) days after receipt of the demand by the **Official**, but in no event prior to the seventieth day after Substantial Completion of the Subcontract Work, the **Official** 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 **City** 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 **Official** 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 paragraph 8.5.5 above. The **City** 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 paragraph.

8.5.7 The **City** shall deposit the amount deducted from a direct payment as provided in part (iii) of paragraph 8.5.6 in an interest-bearing joint account in the names of the **Contractor** and Subcontractor in a bank in Massachusetts selected by the **Official** 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 and appropriate venue.

8.5.8 All direct payments and deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant in a paragraph 8.5.7, shall be made out of amounts payable to the **Contractor** at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the **Contractor** and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the **City** to the **Contractor** to the extent of such payment.

8.5.9 The **Official** shall deduct from payments to the **Contractor** amounts which, together with the deposits in interest-bearing accounts pursuant to paragraph 8.5.7, are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be designated for such direct payments, and the Subcontractors all have a right in such deductions prior to any claims against such amounts by creditors of the **Contractor**.

8.6 Payment to Subcontractors (Chapter 30 §39F):

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

8.6.2 Each payment made by the **City** to the **Contractor** 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 **Official** shall take reasonable steps to compel the **Contractor** to so pay such Subcontractor, however the **City** shall have no obligation to pay or to see to the payment of money to any Subcontractor or Supplier, except as may otherwise be required by law or by a court of competent jurisdiction. If the **Official** 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, the **Official** shall act upon the demand as provided in this Article.

8.6.3 Any assignment by a Subcontractor of the rights under this paragraph 8.6 to a surety company furnishing a bond

under the provisions of M.G.L. Chapter 149, §29 shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the **City** or which are on deposit pursuant to paragraph 8.5.7 shall be subordinate to the rights of all Subcontractors who are entitled to be paid under this Section and who have not been paid in full.

8.6.4 A **Contractor** or Subcontractor shall enforce a claim to any portions of the amount of a demand for direct payment deposited as provided in this Article, by a petition in equity in the Superior Court against the other and the bank shall not be a necessary party. A Subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in this Article by a petition in equity in the Superior Court against the **City** and the **Contractor** shall not be a necessary party.

8.6.5 "Subcontractor" as used in this paragraph 8.6 shall mean a person who is approved by the **Official** in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the **Contractor**.

8.7 Final Application for Payment:

8.7.1 Upon written notice from the **Contractor** that the entire Work or a specified part is complete and ready for final payment, the **Designer** will make final inspection with the **Official** and the **Designer** will notify the **Contractor** in writing of all instances of incomplete or *defective* Work revealed by the final inspection. The **Contractor** shall immediately undertake any necessary measures to correct the deficiencies.

8.7.2 After the **Contractor** has completed all such corrections to the satisfaction of the **Designer** and delivered all maintenance and operating instructions, guarantees, bonds, certificates of inspection, marked-up record documents (revised to reflect any changes or corrections made after Substantial Completion) and all other required documents, and after the **Designer** has consented to review the Work to determine whether it is acceptable, the **Contractor** may make application for final payment. The application for final payment shall enclose: affidavits certifying that the bonds and insurance are in effect and that insurance coverage will not be canceled, adversely changed or renewal refused except as provided under paragraph 10.5.5; AIA document G707 certifying that the surety agrees that final payment shall not relieve the surety of any of its obligations under the Bond; affidavits of compliance; complete and legally effective waivers acceptable to the **Official** from all persons holding payment claims against the Work, or if any Subcontractor or Supplier refuses or fails to furnish such waiver, a bond or other security acceptable to the **Official** to indemnify the **City** against any such payment claim; and a list of all property damage and injury insurance claims arising due to Work performed handled by the **Contractor** and the **Contractor's** insurer identifying the claimant, the nature and the action taken.

8.8 Final Payment and Acceptance:

8.8.1 If, on the basis of the **Designer's** observation of the Work and final inspection, and his review of the final Application for Payment, the **Designer** is satisfied that the Work, or specified

part of the Work, has been completed and the **Contractor's** other obligations under the Contract Documents have been fulfilled, the **Designer** will, within thirty (30) days after receipt of the final Application for Payment, furnish to the **Official** and the **Contractor** the **Designer's** recommendation of acceptance. If not satisfied, the **Designer** will return the Application to the **Contractor** indicating in writing the reasons for not recommending final payment and acceptance, in which case the **Contractor** shall make the necessary corrections and resubmit the Application.

8.8.2 After the receipt of an Application for final payment, and within sixty-five (65) 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 **Official**, less than one percent (1%) of the original Contract Price, or (b) the **Contractor** substantially completes the Work and the **City** takes possession for occupancy, whichever occurs first, the **City** shall pay the **Contractor** the entire balance due on the Contract less (1) a retention based on its estimate of the fair value of its claims against the **Contractor** and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of M.G.L. Chapter 30, §39F, 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 §39F.

8.8.3 If the **City** fails to make payment as provided for in Paragraph 8.8.2, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the **Contractor**; provided, that no interest shall be due, in any event, on the amount due on an Application for final payment until fifteen (15) days after receipt of such an Application from the **Contractor**. The **Contractor** agrees to pay to each Subcontractor a portion of any such interest paid in accordance with the amount due each Subcontractor.

8.8.4 If the **City** fails to prepare and send to the **Contractor** the final estimate within thirty (30) days after receipt of notice of completion, the **City** shall include in the final estimate interest on the amount which would have been due to the **Contractor** at the rate specified in paragraph 8.5.3 from the thirtieth (30th) day after such completion until the date on which the **Official** sends the final estimate to the **Contractor** for acceptance or the date of payment, whichever occurs first, provided that the **Official's** inspection shows that no Work items required by the Contract Documents remain incomplete or unsatisfactory. Interest shall not be paid under this provision on amounts for which interest is to be paid under paragraph 8.4.

8.8.5 In consideration of execution of this Contract by the **City**, the **Contractor** agrees that simultaneously with the acceptance of what the **City** tenders as the final payment by it under this Contract, he will execute and deliver to the **City** an instrument under seal releasing and forever discharging the **City** of and from any and all claims, demands, and liabilities

whatsoever of every name and nature both at law and in equity arising from growing out of, or in any way connected with this Contract, save only such claims, demands, and liabilities as are expressly excepted in said instrument. It is agreed that the person who in fact executes and delivers said instrument shall be deemed to be authorized and empowered to execute and deliver the same on behalf of the **Contractor**.

8.8.6 If the **City** does not concur with the **Designer's** determination, the **City** will return the application to the **Contractor** indicating in writing the reasons for refusing final acceptance, in which case the **Contractor** shall make the necessary corrections and resubmit the application. The **City's** written determination will be binding upon the **Contractor**, unless he delivers to the **City** a written Notice of Claim within thirty (30) days after receipt of the determination in compliance with Article 15.

8.8.7 If through no fault of the **Contractor** final completion of the Work is significantly delayed and if recommended by the **Designer**, the **City** may, upon receipt of the **Contractor's** Final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the balance to be held by the **City** for Work not fully completed or corrected is less than the retainage on that Work, the affidavits specified in paragraph 8.7.2 and the releases or waiver, or bonds, shall be furnished as required and submitted by the **Contractor**. Payment of the balance due shall be made under the provisions for final payment, but it shall not constitute a waiver of claims.

8.9 Payment for Labor and Materials by Contractors and Subcontractors:

8.9.1 The **Contractor** agrees that he and all Subcontractors performing the Work shall pay for all Labor performed or furnished and materials used or employed in the performance of the Work including lumber so employed which is not incorporated in the Work and is not wholly or necessarily consumed or made so worthless as to lose its identity, but only to the extent of its purchase price less its full salvage value, and including also any material specially fabricated at the order of the **Contractor** or Subcontractor for use as a component part of the Work so as to be unsuitable for use elsewhere, even though such material has not been delivered and incorporated into the Work, but only to the extent that such specially fabricated materials is in conformity with the Contract Documents, or any charges for materials used or employed therein which are consigned to the **Contractor** or to a Subcontractor who has a direct contractual relationship with the **Contractor**, and shall pay all sums due for the rental or hire of vehicles, steam shovels, roller propelled by steam or other power, concrete mixers, tools, and other appliances and equipment employed in the Work; and shall pay the transportation charges directly related to such rental or hire; and shall pay all sums due trustees or other persons authorized to collect such payments from the **Contractor** or Subcontractors based upon the labor performed or furnished as aforesaid for a maximum of one-hundred twenty (120) consecutive calendar days, for health and welfare plans and other fringe benefits which are payable in cash, and provided for in collective bargaining agreements between organized

labor and the **Contractor** or Subcontractors.

8.9.2 In the event that the Contract Documents provide for reimbursement by the **City** to the **Contractor** for travel or other expenses, the **Contractor** shall submit such proposed expenses to the **Official** for approval prior to the incurrence of such expenses.

8.10 Penalties for False Claims:

8.10.1 The attention of the **Contractor** is directed to each of the following sections of the M.G.L. regarding penalties for presentation to the **City** of what the **Contractor** or Subcontractor knows to be a false claim or claims.

8.10.1.1 M.G.L. Chapter 266, §67B provides for criminal penalties of a fine of not more than Ten Thousand Dollars (\$10,000.00) or for imprisonment for not more than five years in State Prison or for not more than two and one half years in the House of Correction, or both; M.G.L. Chapter 12, §5B provides for civil penalties of not less than Five Thousand Dollars (\$5,000.00) and not more than Ten Thousand Dollars (\$10,000.00) per violation, plus three times the amount of damages sustained by the City as well as the cost to recover said damages; and M.G.L. Chapter 29, §29F provides for debarment from bidding on all public work for a specified period of time that may be imposed for willfully supplying materially false information incident to performing any public contract or subcontract.

8.11 Contractor's Continuing Obligation:

8.11.1 The **Contractor's** obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following constitutes acceptance of Work not in accordance with the Contract Documents or a release of the **Contractor's** obligation to perform the Work in accordance with the Contract Documents: (a) a recommendation of any progress or final payment by the **Designer**, (b) the issuance of a certificate of Substantial Completion, (c) any payment by the **City** to the **Contractor**, (d) any Partial Utilization by the **City**, (e) any act of acceptance by the **City** nor any failure to do so, (f) any review and approval of a Shop Drawing, sample, test procedure, or other Submittal, (g) any review of a Progress Schedule, (h) any inspections, tests or approvals, (i) the issuance of a notice of acceptability by the **Designer**, (j) any correction of *defective* Work by the **Official**.

8.12 Waiver of Claims:

8.12.1 The making and acceptance of final payment will not constitute a waiver by the **City** of any rights in respect of the **Contractor's** continuing obligations under the Contract Documents, nor will it constitute a waiver of (a) any claims by the **City** against the **Contractor** still unsettled, (b) any claims arising from unsettled payment claims, *defective* Work appearing after final inspection or failure by the **Contractor** to comply with the Contract Documents or the terms of any special warranties or guarantees provided by the Contract Documents or by Law.

8.12.2 The making and acceptance of final payment will constitute a waiver of all claims by the **Contractor** against the **City** other than those previously made on a timely basis in writing and still unsettled.

ARTICLE 9 - PROTECTION OF PERSONS AND PROPERTY

9.1 General:

9.1.1 The **Contractor** shall be responsible for all Site security and he shall protect everything on, in, or at the Site from injury by water, frost, wind, fire, accident, theft, vandalism or other cause, and any interference; take charge of, protect, and be liable for any loss of or damage to the materials for use under this Contract delivered at or in the vicinity of the Site, and whether or not suitably stored at the Site, or at some other location agreed upon in writing by the **Official**, pursuant to this Section by whomever furnished; take all proper precautions to protect the **City's** property or adjoining property from damage or unnecessary interference; provide proper means of access to the property and replace or put in a good condition every public or private way, conduit, catch basin, fence, trees, or other things damaged by the **Contractor** in performing the Work, unless permanently done away with on approval of the **Official**, for the proper performance of the Work; take all proper precautions to protect persons from injury, unnecessary interference or inconvenience, and be responsible for the results of any failure in doing so; leave an obstructed way along public and private places for pedestrians and vehicular traffic and leave direct access to hydrants; provide proper walks over and around any obstruction made in public places in the performance of the Work; maintain from the beginning of twilight through the whole of every night, on or near the obstruction, sufficient lights and guards to protect travelers from injury thereby; when the Work is suspended keep all roadways and sidewalks in proper condition, and put and leave the same in safe condition at the completion of the Work, all to the satisfaction of the **Official**.

9.1.2 Any additional requirements for protection of persons and property shall be as set forth in these General Conditions and in the Supplementary Conditions.

9.2 Safety and Protection:

9.2.1 The **Contractor** shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs. The **Contractor** shall take all necessary precautions for the safety of, and shall erect and maintain all necessary safeguards and provide the necessary protection to prevent damage, injury or loss to: (a) all employees on the Work, (b) other persons who may be affected, (c) all the Work and materials and equipment to be incorporated into the Work whether in storage on or off the Site and (d) other property at or adjacent to the Site including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Utilities not designated for removal, relocation or replacement. Unless otherwise stated in writing by the **Contractor** to the **Official**, the **Contractor's** safety representative at the Site shall be the superintendent.

9.2.2 The **Contractor** shall, and shall require all

Subcontractors to comply with all Laws including **City** ordinances and regulations governing the safety and protection of persons or property, including but not limited to (a) the Occupational Safety and Health Act and the Hazard Communication Act, as promulgated by the Federal Government and as adopted by the Commonwealth of Massachusetts, and (b) all applicable State health and safety requirements. The **Contractor** shall be responsible for all fines and penalties imposed for any related violation(s) of Federal, State and **City** health and safety requirements.

9.2.3 The **Contractor** shall notify owners of adjacent property, including Underground Utility owners, in writing seventy-two hours in advance when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to that property caused, directly or indirectly, in whole or in part, by the **Contractor**, any Subcontractor or Supplier shall be remedied by the **Contractor**, except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of the **City** or the **Designer**, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the **Contractor**. The **Contractor** shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to the Site. These **Contractor's** duties and responsibilities shall continue until the **Designer** has issued written notice to the **City** and the **Contractor** that the Work is acceptable.

9.2.4 Blasting operations, if any are specifically approved by the **Official**, shall be conducted by competent and suitably trained and qualified persons and in strict accordance with the rules and regulations of the Massachusetts Department of Public Safety governing the keeping, storage, use, manufacturer, sale, handling, transportation or other disposition of explosives, and such other rules and regulations as may be promulgated from time to time by authorities having jurisdiction. The **Contractor** shall obtain all required permits prior to the use of explosives, and shall furnish a copy of those permits to the **Official** prior to their use. When using other hazardous materials or equipment, the **Contractor** shall exercise the utmost care and shall carry on such activities under the supervision of competent and properly qualified persons.

9.2.5 The **Contractor** is fully responsible for initiating, maintaining and supervising all safety precautions and programs related to safety on the Site. The **Contractor** shall submit to the **Official** no later than fifteen (15) days after the Date for the Commencement of Work, his written plan for Site Safety and Accident prevention. This plan must be submitted to the **Official** prior to the **Contractor's** submittal of the first Application for Payment.

9.2.6 Except as otherwise may be provided in the technical specifications, if the **Contractor** encounters material at the Site reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the **Contractor** shall immediately stop all affected Work, report the condition to the **Official** in writing and take appropriate health and safety precautions. Upon receipt of any such notice, the **Official** will investigate the conditions. If in fact the material is asbestos or PCBs which have not been rendered harmless, the **Official**

shall suspend all affected Work and proceed to have the asbestos or PCB material removed or rendered harmless by either negotiating a Change Order or Change Authorization with the **Contractor**, by means of separate contract or as the **Official** may otherwise deem expedient, or in the alternative, terminate the affected Work or the entire Agreement for convenience, as provided in Article 14.

9.2.7 Once the material has been removed or rendered harmless, the affected Work shall be resumed as directed by the **Official**. If any such incident causes or will cause delay, extension or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Owner** shall, pursuant to the provisions in Articles 8 and 11, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** actual documented cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension or acceleration that is reasonable under the Contract Documents.

9.3 Accident Prevention:

9.3.1 The **Contractor** shall comply with all recommendations and requirements for accident prevention of the Associated General Contractors of America and the provisions for accident prevention included in the Commonwealth of Massachusetts, 454, CMR 10.0 "Construction Industry Rules and Regulations." The **Contractor** should note that these aforementioned recommendations and requirements are the minimum standards that are to be adhered to.

9.3.2 Neither the **City** nor the **Designer** nor any officer, agent or employee of either of them shall be responsible for providing safe working places, safety measures, means or techniques for the **Contractor**, Subcontractors or their employees or any individual.

9.4 Fire Protection and Prevention:

9.4.1 The **Contractor** will ensure that the requirements in the Contract Documents and any and all permits issued regarding Fire Protection and Prevention, including firewatch, are strictly adhered to during the entire Contract Time, until Final Completion of the Work.

9.5 Wind Protection:

9.5.1 The **Contractor** shall take every precaution to minimize danger to persons, damage to the Work, and damage to adjacent properties resulting from winds. These precautions shall include, but not limited to, removing all loose materials, tools and/or equipment from exposed locations, and removing or securing scaffolding or other temporary work.

9.6 Insurance Inspection:

9.6.1 The **Contractor** shall provide for periodic inspections by his insurance underwriters and shall submit written evidence of the same to the **Official**. The **Contractor** shall, at his expense, promptly carry out their recommendations.

9.7 Watchmen:

9.7.1 The **Contractor** shall provide, at no increase in Contract Price, a sufficient number of watchmen at the Site at all times when the **Contractor's** personnel are not present for the protection of all Work, materials, equipment, and property at the Site, from the Commencement of the Work until Substantial Completion of the Project. If the **Contractor** elects, in addition, to use dogs for such purpose, each dog shall at all times be accompanied by an adult handler.

9.7.2 If the **Contractor** fails to provide such watchmen as called for in paragraph 9.7.1, the **Official** may elect to provide such watchmen as required, and charge the associated costs to the **Contractor**.

9.8 Welding and Cutting:

9.8.1 All welding and cutting shall be in accordance with Boston Fire Department regulations. Torch cutting and/or welding operations by Subcontractors shall have the approval of the **Contractor** prior to start of such operations. In addition to the requirements of this Article, wherever electric or gas welding or cutting work is done in the vicinity of combustible material, or over areas where persons may be found, interposed shields of fireproof material shall be used to protect against fire damage or injury. Personnel with suitable fire extinguishing equipment shall be stationed near welding and cutting operations to prevent the sparks from lodging in floor cracks or passing through floor or wall openings and from lodging in combustible materials. Chemical extinguishers shall be available and ready for use in all locations where torch cutting and/or welding operations are in progress.

9.9 Overloading:

9.9.1 The **Contractor** shall neither cause nor allow the design live load of any or all parts of the structure to be exceeded at any time during the performance of the Work.

9.10 Noise and Pollution Control:

9.10.1 All Work performed under the Contract Documents shall conform to the requirements of M.G.L. Chapter 111, §§ 31C and 142D, Rules and Regulations adopted by the Commonwealth of Massachusetts Department of Public Health, Division of Environmental Health, Metropolitan Boston Air Pollution Control District, and the City of Boston Environment Department, Inspectional Services Department, Boston Public Health Commission and all other regulatory agencies having jurisdiction.

9.11 Weather Protection:

9.11.1 The **Contractor** shall be responsible for initiating, maintaining and supervising all weather protection precautions and programs in connection with the Work. As part of this responsibility, the **Contractor** shall provide temporary enclosures and heat to permit construction work to be carried on during the months of November through March, and shall furnish, if required by the **Official**, one (1) accurate Fahrenheit thermometer with daily high and low readings for every 2,000 square feet of floor space where the work areas exceed 2,000 square feet.

9.11.2 "Weather Protection" shall mean the temporary protection of that Work adversely affected by moisture, wind and cold, by covering, enclosing and/or heating. This protection shall provide adequate working areas during the months of November through March as determined by the **Official** and consistent with the approved Progress Schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The **Contractor** shall furnish and install all "weather protection" material and be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees Fahrenheit at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials or the applicable general conditions set forth in the Contract Documents with added regard to performance obligations of the Contract, the **Contractor** shall submit to the **Official** the required number of copies of his proposed methods for "Weather Protection."

9.11.3 Weather protection and heating devices shall comply with safety regulations, including provisions for adequate ventilation and fire protection devices. Heating devices that may cause damage to finish surfaces shall not be used.

ARTICLE 10 - LEGAL REQUIREMENTS AND INSURANCE

10.1 Laws; Permits and Licenses:

10.1.1 The **Contractor** shall become familiar with and comply with all applicable Laws, and shall give all notices required by laws, ordinances, rules, regulations and lawful orders of public authorities applicable to the performance of the Work. Unless otherwise expressly stated, references in the Contract Documents to Laws shall mean the current version or edition of the Law. Unless expressly required by Law, neither the **City** nor **Designer** shall be responsible for monitoring the **Contractor's** compliance with any Laws. If the **Contractor** believes the Contract Documents deviate from the requirements of any permits, codes or Laws, the **Contractor** shall give the **Designer** and the **City** prompt written notice. If the **Contractor** performs any Work knowing or having reason to know it is contrary to any permits, codes or Laws, the **Contractor** shall bear responsibility for all resulting cost and delay. Except as provided in paragraph 10.1.3, the **Contractor** shall bear responsibility for all costs and delays arising from these obligations.

10.1.2 The **Contractor** shall obtain and pay for all legally required permits and licenses, and the **Contractor** shall pay all governmental charges, impact fees, inspection fees and other fees necessary for the prosecution of the Work including Work involved in a Change Order, Change Authorization or claim, and submit copies to the **Designer**. The **Contractor** shall meet all requirements of those permits, licenses and fees. If the **Official** has obtained any permits or licenses, the **Contractor** shall meet all requirements of those permits and licenses. The **Contractor** shall pay all charges of utility Officials for connections to the Work. Except as provided below, the **Contractor** shall bear all costs and delays arising from these responsibilities.

10.1.3 If the requirements of any issued permit or license, or of any Laws applicable to the Work, differ from those specified in the Contract Documents, or if not specified, enacted before the date of Bid opening, the **Contractor** shall, promptly after becoming aware, notify the **Designer** in writing. If the **Official**, with the advice of the **Designer**, concludes that the Contract Documents require changing because of that variance, the **Official** shall authorize the required changes together with any adjustment in Contract Price necessitated solely by the variance. If the variance causes or will cause delay, extensions or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to the provisions in Articles 11 and 12, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension or acceleration under the Contract Documents.

10.1.4 If the **Contractor** observes that the Contract Documents are at variance with the requirements of any permits, licenses, or Laws, the **Contractor** shall give the **Designer** prompt written notice. If the **Contractor** performs any Work knowing or having reason to know that it is contrary to permits or licenses, or Laws, the **Contractor** shall assume all resultant costs and delays.

10.1.5 If the **Contractor** delays the progress of any related work at the Site let by the **City** under a separate contract apart from this Contract so as to cause loss for which the **City** becomes liable, then he shall reimburse the **City** for such loss based on actual costs incurred by the **City**.

10.2 Patent Fees and Royalties:

10.2.1 The **Contractor** shall pay all license fees and royalties and bear all costs incident to the use, in the performance of the Work or the incorporation into the Work, of any invention, design, process, product or device covered by patent rights or copyrights. If a particular item is specified in the Contract Documents or is selected by the **Contractor** for use in the performance of the Work, and its use is subject to patent rights or copyrights calling for the payment of any license fees or royalties, it shall remain the responsibility of the **Contractor** to assume all costs incident to its use. Whenever the **Contractor** is required or elects to use any such item, the right for its use shall be provided for by suitable agreement(s) with the patentee or owner, and copies of the agreement(s) shall be filed with the **Designer**. However, whether or not agreement(s) is/are made or filed as noted, the **Contractor** and his surety shall in all cases defend, indemnify and hold harmless the **Owner** and **Designer** from and against all claims, causes of action, lawsuits, damages, losses and expenses, whether direct, indirect or consequential, including but not limited to charges of engineers, attorneys and other professionals and costs of both defense and appeal, if any, in the remainder of this Article 10 referred to collectively as "claims", arising from patent rights or copyrights infringements.

10.3 Taxes:

10.3.1 Except as otherwise provided in the Instructions to

Bidders, the **Contractor** shall pay all sales, consumer, use and other taxes assessed against the **City** or the **Contractor** in accordance with Laws covering the Work. The **Official** shall make an adjustment in Contract Price for any increased taxes covering the Work paid by the **Contractor**, provided that those increases in taxes were enacted after the date of Bid opening. The **City of Boston** is exempt from Massachusetts Sales Tax. The Certificate of Exemption Number is E-046-001-380.

10.3.2 M.G.L. Chapter 64, §6(f) exempts, from Massachusetts sales tax, materials and supplies consumed, employed or expended in the Work, materials and supplies physically incorporated in the Work, and rental charges for construction vehicles and equipment rented specifically for use on the Work or while being used exclusively for the transportation of materials for the Work.

10.4 Performance, Payment and Other Bonds:

10.4.1 The **Contractor** shall furnish Performance and Payment Bonds with good and sufficient surety, each in an amount equal to the Contract Price, as the security required by the Contract Documents. All bonds shall be in the forms specified in the Contract Documents, and shall only be issued by a surety currently licensed to do business by the Commonwealth of Massachusetts Division of Insurance and appearing on the current U.S. Treasury Circular 570 List of Approved Sureties and remain in effect until the end of the Correction Period. Attorneys-in-Fact who sign Bonds shall attach a certified copy of their Power of Attorney to conduct business in the Commonwealth of Massachusetts.

10.5 The Contractor's Insurance-General:

10.5.1 The insurance the **Contractor** shall purchase and maintain at his expense shall include the coverage required by the laws of the Commonwealth of Massachusetts as well as that specified in this Article and the Supplementary Conditions, and be written for not less than the limits of coverage required in the Supplementary Conditions. Deductible amounts shall be reduced or eliminated upon the **Official's** written request. The insurer's costs of providing the insured(s) a defense and appeal, including attorney's fees, may not be included in, and shall be in addition to, the limits of the policy coverages. Certificates of Insurance must be delivered to the **Official** before any work is started, and shall be in the form required by Paragraph 7.1.4 and in the coverages and minimum policy limits required in Section 00 73 16 Supplementary Conditions

10.5.2 The **Contractor** shall not start or continue to perform any Work unless he has in full force and effect all required insurance; nor shall he allow any Subcontractor or Supplier to perform any Work until that Subcontractor or Supplier has in full force and effect all required insurance or the **Contractor's** insurance has been endorsed to add that Subcontractor or Supplier as an additional insured.

10.5.3 Insurance shall only be provided by insurers licensed to transact business in the Commonwealth of Massachusetts.

10.5.4 Deductible amounts shall be reduced or eliminated upon the **Official's** written request. The insurer's costs of providing the insureds a defense and appeal, including

attorney's fees, may not be included, and shall be in addition to, the limits of the coverage provided.

10.5.5 All the policies of insurance shall be endorsed to provide that the coverage afforded will not be canceled, adversely changed or renewal refused until the expiration of at least thirty (30) days prior written notice to the **Official** by registered mail. Should any coverage approach expiration during the period in which it is to remain in full force and effect, it shall be renewed prior to its expiration, and a renewal certificate filed with the **Official** at least fifteen (15) days prior to expiration.

10.5.6 If any of the **Contractor's** sureties or insurers is declared bankrupt or placed into receivership, ceases to meet the requirements of the Contract Documents, or its license to do business in the Commonwealth of Massachusetts is terminated, the **Contractor** shall immediately substitute other bonds/sureties or insurers/policies, which shall conform to the requirements of the Contract Documents, and shall file the appropriate bonds or certificates of insurance with the **Official**.

10.5.7 The required insurance coverages shall be placed with insurance companies licensed by the Commonwealth of Massachusetts Division of Insurance to do business in the Commonwealth of Massachusetts and having a Best's rating of "A"; shall be taken out before the Contract Time commences and be kept in full force and effect throughout the term of the Contract; shall be primary and non-contributory to any coverages maintained by the **City**; and shall require that the **City** be given thirty (30) days advance notice in the event of any cancellation or any materially adverse change in coverage. All such insurance, with the possible exception of Pollution Liability Insurance, shall be written on an occurrence basis form as opposed to a claims-made basis form. The **City** shall be named as an additional insured under the Commercial General Liability, Umbrella, Automobile Liability, Pollution Liability and Builders Risk policies. Additional insured form ISO CG 20-10 11/85 or equivalent is required under the General Liability and Umbrella policies. The Workers' Compensation and Employers' Liability policies shall include a waiver of subrogation in favor of the **City**. All such insurance as is required of the **Contractor** shall be provided by or on behalf of all Subcontractors to cover their operations. The **Contractor** shall be held responsible for any modifications, deviations or omissions in compliance with these requirements by the Subcontractors. At the inception of the Contract and throughout the term of the Contract the **City** shall be provided with certificates of insurance evidencing that such insurance policies are in place and provide the coverages required.

10.6 The Contractor's Liability Insurance:

10.6.1 The **Contractor** shall purchase and maintain commercial general liability and other insurance appropriate for the Work and which will provide protection from claims itemized below which may arise out of or result from the **Contractor's** performance and furnishing of the Work and the **Contractor's** other obligations under the Contract Documents, whether the Work and other obligations will be performed or furnished by the **Contractor**, any Subcontractor or Supplier:

10.6.1.1 Claims under worker's compensation, disability benefits, and other applicable similar employee benefits acts; claims for damages because of bodily injury, occupational sickness or disease, or death of the **Contractor's** employees.

10.6.1.2 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the **Contractor's** employees; claims for damages insured by personal injury liability coverage sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by the **Contractor**, or (b) by any other person for any other reason; claims for damages because of injury to or destruction of tangible property wherever located, including loss of use resulting from any such injury or destruction.

10.6.1.3 Claims arising out of operation of laws for damages because of bodily injury or death of any person or for damage to property.

10.6.1.4 Claims for damages because of bodily injury or death of any person, or property damage arising out of ownership, maintenance, operation, use or loading and unloading of any owned, hired or non-owned motor vehicle used in the Work, including employee non-ownership use.

10.6.2 The **Contractor's** liability insurance shall include contractual liability coverage sufficient to cover to the **Contractor's** indemnification obligations under the Contract Documents. The **Contractor** agrees to pay on behalf of the **Official**, and to provide and pay a defense for all claims covered by the **Contractor's** obligations under the indemnification provisions.

10.6.3 The **Contractor's** liability insurance shall be endorsed to include the **Official** as an additional insured, and the **Designer**, the **Official's** and **Designer's** consultants, any of their subsidiaries or affiliates, and each of their respective directors, officers, shareholders, agents or employees as additional insureds. The insurance afforded to the **Official** and those other parties shall be primary insurance, and neither the coverage nor the amount of insurance provided under the **Contractor's** policies shall be reduced or prorated by the existence of any other insurance applicable to any loss the **Official** or those other parties may have sustained.

10.6.4 The **Contractor's** liability insurance shall remain in effect until the end of the Correction Period and at all times after that when the **Contractor** may be correcting, or removing and replacing *defective* Work. The Products and Completed operations insurance shall be maintained for two (2) years after final payment. Evidence of insurance shall be furnished to the **Official** upon request and no less frequently than yearly.

10.6.5 These requirements shall not be construed to limit the liability of the **Contractor** or his insurers. The **City** does not represent that the specified coverages or limits of insurance are sufficient to protect the **Contractor's** interests or liabilities.

10.6.6 If the **City** or the **Contractor** suffers injury or damage to person or property because of error, omission or act of the other, any of the other's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first

observation of that injury or damage. This provision is not and shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or statute of repose.

10.7 The Owner's Liability Insurance:

10.7.1 The **Contractor** shall purchase and maintain owners' contractor's protective liability insurance specifically for and appropriate for the Work and which will provide protection for the **City** against those claims which may arise out of or result from operations under the Contract; or the **Contractor** shall be required to endorse the **Contractor's** commercial liability insurance to show that the limits of liability apply per project and per location. If the **Contractor** furnishes owner's and contractor's protective liability insurance, the parties designated in paragraph 10.6.3 shall be included as additional insureds by endorsement.

10.8 Property Insurance:

10.8.1 The **Contractor** shall purchase and maintain Property Insurance written on a Builders Risk "all risk" completed value completed Work and Work in progress insurance, or equivalent policy form, and shall include, without limitation, insurance against the perils of flood and earthquake, fire, physical loss or damage including theft, vandalism, malicious mischief, collapse, windstorm and demolition occasioned by enforcement of any applicable legal requirements covering the Work at the Site in the amount of its full replacement cost. The insurance shall include the interests of the **City**, **Contractor**, Subcontractors and Suppliers, **Designer** and the **City's** and **Designer's** consultants, all of whom shall be listed as additional insureds, and shall be endorsed to include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, Designers, attorneys and other professionals). If not covered under the all risk insurance, the **Contractor** shall purchase and maintain property insurance on any Work stored on and off the Site in transit when that Work is included in an Application for Payment. The property insurance may have a deductible not exceeding \$25,000.00 which shall be borne by the **Contractor**, and shall comply with the requirements in paragraph 10.9.

10.9 Waiver of Rights:

10.9.1 The **City** and the **Contractor** waive all rights against each other for all losses and damages caused by any of the perils covered by the insurance provided in response to paragraphs 10.6, 10.7 and 10.8 and any other insurance applicable to the Work and also waive all such rights against the **City**, and all other persons named as insureds or additional insureds in such policies for losses and damages so caused. Each Sub-agreement shall contain similar waiver provisions by the Subcontractor or Supplier in favor of the **City**, the **Designer**, and all other parties named as insureds or additional insureds. None of these waivers shall extend to the rights that any of the insured may have to the proceeds of insurance held by the **City** as trustee or otherwise payable

under a policy so issued.

10.9.2 The **City** and the **Contractor** intend that any policies of insurance shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered. Accordingly, all such policies shall be endorsed to provide that in the event of payment of any loss or damage the insurer will have no rights of subrogation or other recovery against any of the parties named as insured or additional insured, and if the insurers require separate waiver forms to be signed by the **Designer** or the **City's** and the **Designer's** consultants, the **City** will obtain separate waiver forms, and if such forms are required of any Subcontractor or Supplier, the **Contractor** will obtain them.

10.10 Receipt and Application of Proceeds:

10.10.1 Any insured loss under the policies of property insurance required by paragraph 10.8 will be adjusted with the **City** and made payable to the **City** as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 10.10.2. The **City** shall deposit in a separate account any money so received, and shall distribute it in accordance with any agreement that the parties in interest may reach. If no other distribution agreement is reached the damaged Work shall be repaired or replaced, the monies so received applied for that purpose, and the Work and the associated costs covered by Change Order.

10.10.2 The **City** as trustee shall have power to adjust and settle any loss with the insurers, unless one of the parties in interest objects in writing within fifteen (15) days after the occurrence of loss to the **City's** exercise of this power. If an objection is made, the **City** as trustee shall settle with the insurers pursuant to any agreement the parties in interest may reach.

10.11 Indemnification:

10.11.1 To the fullest extent permitted by law the **Contractor** shall assume the defense of and hold the **City**, **Designer**, their officers, agents and employees harmless from all suits and claims against them, or any arising from the use of any invention, patent or patent right, and by or from any act or omission or neglect of the **Contractor**, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

10.11.2 For any and all claims against the **City** or the **Designer** or any of their officers, agents, or employees by an employee of the **Contractor**, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation of the **Contractor** shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the **Contractor** or any **Contractor** under Worker's Compensation Acts, disability benefit acts or other employee benefit acts.

10.11.3 To the fullest extent permitted by law the **Contractor**

shall defend, indemnify and hold harmless the **City** and **Designer** from and against all claims for bodily injury, sickness, disease, or death, or injury to or destruction of property, including loss of use, which claims arise out of, relate to, or are in any way connected with: the Work; the failure of the **Contractor** or any Subcontractor to provide a safe work place; or noncompliance with Law by the **Contractor**, any Subcontractor or Supplier. With respect to all claims against the **City** or **Designer** by any employee of the **Contractor**, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the **Contractor**, any Subcontractor or Supplier under worker's compensation, disability benefit or other employee benefit acts.

10.11.4 The obligations of the **Contractor** under paragraph 10.11.3 shall not extend to the liability of the **Designer** arising out of or resulting from (a) the preparation or approval of maps, drawings, opinions, reports, surveys, designs or specifications, or (b) the giving or failure to give directions or instructions by the **Designer**, but only if such giving or failure to give is the sole cause of the injury or damage.

10.11.5 The **Contractor** shall defend, indemnify and hold harmless the **City** and **Designer** from and against all claims as referred to in this paragraph, claims for damages to the Work itself, and claims for any other costs which any of them may incur arising from (a) failure, neglect or refusal of the **Contractor** to faithfully perform the Work and other obligations under the Contract Documents, or (b) the failure of the **Contractor**, any Subcontractor or Supplier to obtain or renew the insurance coverages required by the Contract Documents.

10.12 Partial Utilization-Property Insurance:

10.12.1 Any Partial Utilization by the **City** shall be subject to the insurers providing the property insurance having acknowledged receipt of notice and in writing effected the necessary changes in coverage. Those insurers shall consent by endorsement, but the property insurance shall not be canceled or lapse on account of any Partial Utilization.

10.13 Non-Conforming Bonds or Insurance:

10.13.1 If any of the **Contractor's** surety(ies) or insurer(s) is declared bankrupt, placed into receivership or otherwise becomes insolvent, or ceases to meet the requirements of the Contract Documents, or its license to do business in the Commonwealth is terminated, the **Contractor** shall at once substitute another bond and surety, or insurer and policy, which shall conform to the requirements of the Contract Documents.

10.14 Medical and Sanitary Requirements:

10.14.1 The **Contractor** shall promptly and fully comply with all sanitary and medical requirements as may from time to time be promulgated so that the health of all workers, local communities and persons residing on or near the Work may be preserved and safeguarded. The **Contractor** shall dismiss, and shall not rehire, any person who violates sanitary and medical requirements.

10.14.2 The **Contractor** shall rigorously prohibit the committing of nuisances upon the lands of the **City** or upon adjacent property. Structures for the sanitary necessities of all persons employed on the Work shall be provided and maintained by the **Contractor**.

10.14.3 As to health and sanitation, the **Contractor** shall promptly and fully comply with the Laws and Regulations of the State Department of Public Health, and those of all other local Authorities. The **Contractor** shall provide all articles necessary for first aid, and he shall make proper and satisfactory provisions for the transportation of sick and injured employees to, and their care at, established hospitals in the vicinity of the Work.

10.15 Required Provisions, Chapter 30, §39R:

10.15.1 The **Contractor** shall make, and keep for at least six (6) years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the **Contractor**, and until the expiration of six (6) years after final payment, the Office of the Commonwealth's Inspector General and the Deputy Commissioner of Capital Asset Management and Maintenance shall have the right to examine any books, documents, papers or records of the **Contractor** or of any Subcontractor that directly pertain to, and involve transactions relating to, the **Contractor** or that Subcontractor. The **Contractor** shall describe any change in the method of maintaining records or recording transactions that materially affect any statements filed with the **Official**, and the date of the change and reasons for the change, and shall accompany the description with a letter from the **Contractor's** Independent Certified Public Accountant approving or otherwise commenting on the changes. The **Contractor** certifies that prior to executing the Contract, the **Contractor** has filed a statement of management of Internal Accounting Controls and an audited financial statement for the most recent completed fiscal year, and he will continue to file such statements annually.

10.15.2 The **Contractor** shall file with the **Official** a statement of management as to whether his and his subsidiaries system of Internal Accounting Controls reasonably assures that: (1) transactions are executed in accordance with management's general and specific authorization; (2) transactions are recorded as necessary (i) to permit preparation of financial statements in conformity with generally accepted accounting principles, and (ii) to maintain accountability for assets; (3) access to assets is permitted only in accordance with management's general or specific authorization; and (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any difference.

10.15.3 The **Contractor** shall also file with the **Official** a statement prepared and signed by an Independent Certified Public Accountant, stating that s/he has examined the statement of management of internal accounting controls and expressing an opinion as to whether: (1) the representations of management in response to this paragraph 10.15 are consistent with the result of management's evaluation of the system of internal accounting controls; and (2) such representations of management are, in addition, reasonable

with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

10.15.4 The **Contractor** shall annually, during the term of the Contract, file with the Deputy Commissioner of Capital Asset Management and Maintenance a financial statement prepared by an Independent Certified Public Accountant based on an Audit by that Accountant. The final statement filed shall include the date of final payment. All statements shall attach an Accountant's report, and shall be made available to the **Official** upon request.

10.15.5 Failure by the **Contractor** to satisfy any of the requirement of M.G.L. Chapter 30, §39R, or to comply with any such rules, regulations and guidelines as may be promulgated from time to time, may be grounds for debarment pursuant to M.G.L. Chapter 149, §44C.

10.15.6 Records and statements required to be made, kept or filed under these provisions shall not be public records as defined in M.G.L. Chapter 4, §7, and shall not be open to public inspection; provided, however, that such records and statements shall be made available as stated in paragraph 10.14.1.

10.16 No Conflict with Laws or Regulations:

10.16.1 The duties, obligations, criteria or procedures imposed by these General Conditions and the rights and remedies made available are in addition to, and not in any way a limitation of, any rights and remedies which are otherwise made available or imposed by Laws or Regulations, except that in the event a specific part or detailed requirement of a provision, criterion or procedure in these General Conditions and a specific part or detailed requirement of a provision, criterion or procedure imposed or available by Laws or Regulations conflict, the specific part or detailed requirement of such provision, criterion or procedure imposed or available by Laws or Regulations in conflict shall govern. All other specific parts or detailed requirements in the provisions, criteria or procedures of the applicable Laws or Regulations and these General Conditions not in conflict shall remain in full force and effect and be read with the controlling specific part or detailed requirement. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

10.17 Notice and Service:

10.17.1 Unless otherwise specified in the Contract Documents, any notice or communication shall be in writing, and shall be deemed to have been given as of the time of actual receipt.

10.17.2. Any notice or other communication to the **Contractor** shall be sufficiently given if delivered to the intended individual, officer or partner of the **Contractor** in person or at the office of the **Contractor** designated in the Contract.

10.17.3 All notices or other communication to the **Official** shall, unless otherwise specified in writing to the **Contractor**, be sufficiently given if delivered to the intended individual in

person or at the office designated in the Contract.

ARTICLE 11 - CHANGES IN THE WORK

11.1 Changes in the Work:

11.1.1 Without invalidating the Agreement and without notice to any surety, the **City** may, at any time, by Change Order or Change Authorization signed by the **City**, order changes in the Work (a) consisting of additions, deletions or other revisions within the scope of the Work in the requirements of the Specifications and Drawings, the means, methods, techniques or sequences applicable to the Work, the **City**-furnished lands, equipment, materials, or services, or (b) directing acceleration of the Work, and unilaterally make or provide the basis for making an adjustment in Contract Price or Contract Time. Upon receipt of any such unilateral order, the **Contractor** shall promptly proceed or continue with the Work involved as directed. Any such unilateral adjustment in Contract Price or Contract Time made by Change Order, or authorized by Change Authorization, shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written Notice of Claim, in strict compliance with all of the requirements of Article 15, within thirty (30) days after receipt of the unilateral order.

11.1.2 The **Official** reserves the right to negotiate with the **Contractor** changes in the Work by delivering to the **Contractor** an unsigned Change Authorization describing the change under consideration and requesting that the **Contractor** submit a proposal for an adjustment in Contract Price or Contract Time.

11.1.3 Any other written or oral order from the **Official** or the **Designer**, including instruction, interpretation, determination, or approval that causes a change shall be treated as a change in the Work; but only if the **Contractor** or the **Official** gives prompt written notice to the other by means of an unsigned Change Authorization detailing the circumstances, and the scope and character of the Work involved.

11.1.4 If after evaluation of an unsigned Change Authorization received under paragraph 11.1.3, the **Official**, with the advice of the **Designer**, concludes that changes in the Work have been ordered, the **Official** shall by Change Order or Change Authorization signed by the **City** correspondingly amend the Contract Documents. If the **Official**, on the other hand, concludes that a change has not been ordered, the **Official's** determination shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written Notice of Claim that complies with Article 15 within thirty (30) days from receipt of that decision.

11.1.5 Except as provided in this paragraph, no written or oral order from the **Official** or the **Designer**, shall be treated as a change in the Work or entitle the **Contractor** to an increase in Contract Price or Contract Time under this paragraph.

11.1.6 Adjustments in Contract Price or Contract Time made necessary by changes in the Work ordered or negotiated under this paragraph shall be based on changes, as specified in Articles 7 and 12, in the **Contractor's** cost or the time required

to perform any part of the Work, except that no increase in Contract Price or Contract Time shall be due under this paragraph if excluded by another provision of the Contract Documents.

11.1.7 No proposal nor claim by the **Contractor** on account of changes under paragraph 11.1.3 shall be allowed for any costs or delay incurred more than twenty (20) days before the **Contractor** gives written notice as required.

11.2 Changes Due to Differing Site Conditions:

11.2.1 If, during the progress of the Work, the **Contractor** or the **Official** 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 on the Contract Documents, either the **Contractor** or the **Official** may request an equitable adjustment in the Contract Price applying to the 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.

11.2.2 Upon receipt or delivery of such a claim from a Contractor or upon its own initiative, the **Official** shall investigate such physical conditions, and if they do materially or substantially differ, 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 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 **City** shall make an equitable adjustment in the Contract Price and the Contract shall be modified in writing accordingly.

11.2.3 If the **Official** decides that the Contract Documents do not need amending or decides to make or not to make a change in Contract Price or Contract Time, or that a change in reference points is not required, any such decision shall be final and binding on the **Contractor** unless he delivers a written Notice of Claim that complies with Article 15 within thirty (30) days of receipt of that decision.

11.2.4 Except in the case of newly-discovered underground utilities, all costs involved and time required to perform the specified **Contractor's** responsibilities for underground utilities shall be considered as having been included in the Contract Price and in the **Contractor's** schedule for performing the Work within the Contract Time.

11.2.5 If Underground Utilities cause or will cause delays which postpone, extend or in any other manner alter the schedule or the completion of all or part of the Work, the **Contractor** shall assume all of the **Contractor's** related delay, extension or acceleration costs, however caused; except that, if the **Official** believes that the delays require a change in Contract Time, the **Official** shall authorize the necessary change in Contract Time only.

11.2.6 At least thirty (30) days, plus the time required by the

Contractor to deliver a proposal shall be allowed to the **Official** to resolve any report of differing Site conditions.

11.2.7 No proposal or claim by the **Contractor** due to differing Site conditions shall be allowed unless the **Contractor** has given written notice as required by this Article or Article 15.

11.3 Changes Due to Overruns or Underruns in Quantities:

11.3.1 For all Unit Price Work the Contract Price includes an amount equal to the sum of the unit prices Bid for each item of Unit Price Work times its estimated quantity. Each unit price will be deemed to include an amount sufficient to cover all costs, including supplemental and administrative costs, and profit. Prior to final payment, a Change Order will be issued as recommended by the **Designer** to reflect actual quantities for Unit Price Work, and to correspondingly adjust the Contract Price.

11.3.2 The **Contractor** shall promptly, before proceeding with any affected Work, notify the **Official** in writing whenever the actual quantity for a significant item of Unit Price Work, differs materially from its estimated quantity, and request a re-evaluation of that item's unit price or the Contract Time, or inform the **Official** that a re-evaluation is not warranted. Promptly after receipt of the notice, the **Designer** will review conditions about that item of Work and evaluate their effect on the unit prices and the Contract Time(s). If the **Official** consents to quantities so varying from those estimated, or does not make written objection, the **Contractor** shall proceed with the affected Unit Price Work as directed by the **Designer**.

11.3.3 If the **Official** determines that the additional or reduced quantities for such an item of Unit Price Work justify an adjustment in the unit price, or in Contract Time, or both, the **Official** shall authorize a revised unit price applicable to actual quantities for that item above one hundred twenty-five percent (125%) or below seventy-five percent (75%) of the estimated quantity, or a change in Contract Time, or both; except that, no adjustment shall be provided unless the variation between actual and estimated quantities for all Unit Price Work results in an increase or decrease in the Contract Price by more than ten percent (10%). If the **Official** decides that the unit prices are valid even for the additional or reduced quantities, or that no adjustment in the Contract Time is warranted, solely due to the variation in quantities, or both, that decision shall be final and binding on the **Contractor** unless he delivers to the **Official** a written Notice of Claim within thirty (30) days from receipt of that decision pursuant to the requirements of Article 15.

11.3.4 In evaluating unit prices, or changes in Contract Time due to quantity variations, the **Contractor** and the **Official** shall take into account increases or decreases in the **Contractor's** costs to perform the Work involved solely as result of the variation in quantities, as opposed to the **Contractor's** fault or negligence, errors in the **Contractor's** Bid, or other similar factors.

11.4 Change Orders; Change Authorizations:

11.4.1 A Change Order or Change Authorization executed by the **City** and also by the **Contractor** without a **Contractor's**

notice of reservation of rights to claim additional adjustments constitutes an all inclusive settlement for all changes and for all direct, supplemental, indirect, consequential and cumulative costs and delays, including the Contractor's overhead and profit, and the **Contractor's** signature represents a waiver of any and all rights to file a claim on account of that instrument, the Work or the Work involved in that instrument and all prior Change Orders.

11.4.2 A Change Order or Change Authorization, signed by the **City**, and also by the **Contractor**, with a notice of reservation of rights to claim additional compensation, shall become final and binding on the **Contractor**, without consideration of his reservation of rights, unless the **Contractor** delivers to the **Official** a clearly marked written Notice of Claim within thirty (30) days after the date when a Notice of Claim on account of the Change Order or Change Authorization executed by the **City** becomes due in strict compliance with the requirements of Article 15, and in any event no later than thirty (30) days after the date the **Contractor** signs the Change Order containing a notice of reservation of rights to claim additional compensation.

11.4.3 The **City** and the **Contractor** shall sign Change Orders with reasonable promptness covering changes in the Work including any necessary adjustments in Contract Price or Contract Time ordered or agreed to by the parties, changes in Contract Price or Contract Time which are agreed to in total or in part or previously executed Change Authorizations. Amounts for Work involved in a Change Order may be included in Application for Payment only after it has been completely executed by the **City**.

11.4.4 When signed by the **City**, the **City** may use Change Authorizations to order changes in the Work, provide the basis for a subsequent adjustment in Contract Price or Contract Time, order changes not warranting an adjustment in Contract Price or Contract Time, or authorize minor deviations. Amounts for Work involved in a Change Authorization are not allowable for payment until that Change Authorization has been incorporated into a Change Order that has been signed by the **Official**, approved as to form by the Corporation Counsel and approved to have a sufficient appropriation by the City Auditor.

11.4.5 The **City** reserves the right to decrease the adjustments made in any Change Order if, upon an audit of the **Contractor's** records including but not limited to records pertaining to all cost and pricing data used by the **Contractor** in estimating the **Contractor's Bid** for the work and in monitoring costs incurred, that audit reveals that the **Contractor** provided false or inaccurate cost and pricing data in negotiating that Change Order.

11.5 Deviations:

11.5.1 In accordance with M.G.L. Chapter 30, §39I, every **Contractor** having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the Commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the Plans and Specifications contained therein. No willful and substantial deviation from said Plans and Specifications shall be made

unless authorized in writing by the **Official** or by the **Designer** in charge of the work who is duly authorized by the **City** to approve such deviations. In order to avoid delays in the execution of the work, such deviation from the Plans and Specifications may be authorized by a written order of the **Official** or **Designer** so authorized to approve such deviation. Within 30 days thereafter, such written order shall be confirmed by a certificate of the **Official** stating: (1) if such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination and, if the deviation is of any other nature, the reason for such deviation giving justification therefor; (2) that the specified deviation does not materially damage the Project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the **Official** and the **Contractor**, and the amount in dollars of said adjustment; and (4) that the deviation in the best interest of the **City**. Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the Work. Whoever violates any provision of this paragraph willfully and with intent to defraud shall be punished by a fine of not more than \$5,000 or by imprisonment for not more than 6 months, or both.

11.6 Delay and Waiver Provisions:

11.6.1 At least twenty (20) days plus the time required by the **Contractor** to deliver a proposal shall be allowed to the **Owner** to negotiate and resolve any changes in the Work, any changes in unit prices or any report of differing Site conditions.

11.6.2 If a change in the Work, a case of differing Site conditions or a case of variation in quantities causes or will cause delay, extension or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to Articles 8 and 11, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increase in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension or acceleration caused by or resulting to the **Contractor**.

11.6.3 No proposal nor claim by the **Contractor** on account of changes in the Work, differing Site conditions or variation in quantities shall be allowed if made after final payment.

ARTICLE 12 - CHANGES IN CONTRACT PRICE OR CONTRACT TIME

12.1 Changes in Contract Price or Contract Time:

12.1.1 The Contract Price or Contract Time shall be changed only by Change Order. The basis for a subsequent change in Contract Price or Contract Time may also be authorized by a Change Authorization signed by the **Official**.

12.1.2 Contract Time whether stated in the Agreement or changed by Change Order shall not be changed due to a delay in a **Contractor's** early completion date until all Contract Float

is used and performance of the specified Work extends necessarily beyond that Contract Time.

12.1.3 Contract Price whether stated in the Agreement or changed by Change Order shall not be changed due to a delay in a **Contractor's** early completion date until half of the Contract Float available in the Progress Schedule at the time of the start of the delay is used and performance of the specified Work is necessarily extended.

12.2 Proposals or Claims Substantiating Adjustments:

12.2.1 All **Contractor** proposals must at a minimum contain the reasons for the proposed change; the effect of the proposed change on the Progress Schedule; the effect on the Contract Time and the proposed price for the change, all in sufficient detail to be evaluated by the Official. All **Contractor** proposals shall be due within twenty (20) days after receipt of the **Official's** written notice requesting a proposal or delivery to the **Official** of the **Contractor's** written notice of the occurrence of an event which the **Contractor** believes justifies a change in Contract Price or Contract Time. Any delay in the submittal of a **Contractor's** proposal will not justify or constitute basis for an increase in Contract Price or Contract Time. Proposals shall not be subject to change for at least sixty (60) days from their receipt by the **Official**. If no Contractor proposal has been received by the **Official** within the twenty (20) day period allowed by this Article, or if the **Contractor's** proposal does not contain the information required, then the **Official**, in his sole discretion, will use any of the methods described in Article 12.3 to determine the adjustment, if any, in the Contract Price.

12.2.2 Contractor proposals shall be documented on a completed Public Facilities Department Change Order Pricing Form and shall cover all aspects of the Work involved, and shall be fully documented and itemized as to all costs, as specified in this Article, quantities, and Fee which shall segregate percentages for profit and administrative costs. Proposals shall certify in writing that the amounts would be or were necessarily incurred despite reasonable mitigation efforts. Amounts for Subcontractors or Suppliers shall be equally supported, and must be reviewed by the Contractor before being submitted to the **Official**.

12.2.3 Where the change in Contract Price arises from changes in the time required to perform any Work, or where a change in Contract Time is sought, the **Contractor's** itemized estimates shall include a detailed analysis of the Progress Schedule.

12.3 Methods for Determining Adjustments in Contract Price:

12.3.1 The methods to be used to determine an adjustment in Contract Price necessitated by changes ordered or under negotiation, delay ordered, caused or under negotiation or Work covered by any proposal or claim, all pursuant to these General Conditions are referred to collectively as "the Work involved", and are limited to the following:

12.3.2 Where the Work involved is covered by lump sum prices or unit prices in the Contract Documents, on the basis of those

lump sum prices or unit prices, respectively;

12.3.3 Where the Work involved is not covered by lump sum prices or unit prices, by mutual acceptance of a lump sum price negotiated on the basis of the **Contractor's** itemized good faith estimate of the anticipated cost of the Work involved as specified in this Article plus a fee for the Work involved calculated per paragraph 12.11;

12.3.4 Where the Work involved is not covered by either of the first two methods, and **Official** and the **Contractor** cannot agree, on the basis of the **Official's** estimate of the cost of the Work involved plus a fee for the Work involved of eighty-five percent (85%) of the maximum fee allowed in paragraph 12.11;

12.3.5 Where the **Official** and the **Contractor** cannot agree, and the **Official** directs the **Contractor** to proceed with the Work involved with payments to be made per actual costs, on the basis of an itemized breakdown of the actual cost of the Work involved as specified in this Article plus a fee for the Work involved of seventy percent (70%) of the maximum fee allowed in paragraph 12.11. Where the **Official** and the **Contractor** agree and the **Official** directs the **Contractor** to proceed with the Work involved with payment to be made per actual costs on a time and materials basis, on the basis of an itemized breakdown of the actual cost of the Work involved as specified in this Article, plus a fee for the Work involved of one hundred percent (100%) of the maximum fee allowed in paragraph 12.11;

12.3.6 Where the Work involved is not covered by any of the preceding methods, and if payment is to be determined by a court of competent jurisdiction and appropriate venue, it is agreed that the actual cost and fee methods in paragraph 12.3.5 shall be the only appropriate method for determining the cost and the fee of the Work involved.

12.3.7 In computing the cost of the Work involved, costs shall be in amounts no higher than those prevailing in the locality of the Project, and include only the appropriate items for labor, material or equipment, construction equipment, and supplemental costs specified in this Article.

12.4 Labor, Subcontract and Material/Equipment Costs:

12.4.1 The cost of the Work involved includes payroll costs for craft labor including foremen in the direct employ of the **Contractor** assigned to the Site and engaged in furnishing and incorporating materials or equipment in the Work involved. Payroll costs shall include wages at the minimum wage rates for Contractor's personnel established for this Contract pursuant to M.G.L. Chapter 149, §§ 26-27H plus labor burdens, e.g. social security, unemployment, workers' compensation, health and retirement benefits, vacation and holiday pay, etc. When determining actual payroll costs per paragraph 12.3.5, daily time sheets certified by the **Contractor** and verified by the **Designer** will be the record upon which payroll costs shall be based. When determining actual payroll costs per paragraph 12.3.6, daily time sheets shall be valid only if they expressly correlate to the Work involved, and if developed when the Work involved was performed for the purposes of establishing payroll. When determining labor burden costs as referenced under this provision, the total

amount of allowable labor burden costs in excess of the prevailing wage or base wage (wage exceeding prevailing wage), as applicable, shall not exceed 30%.

12.4.2 The cost of the Work involved includes payments by the **Contractor** to Suppliers for material and equipment used in the Work involved, including transportation, storage, and necessary Supplier's field services. All trade discounts, rebates and refunds and all returns from sale of surplus items shall accrue to the **Official**, and the **Contractor** shall make provisions so that they may be obtained. If required by the **Official**, the **Contractor** shall obtain bids for designated items of materials or equipment and nominate at least two (2) suppliers for selection by the **Official**. When determining actual material and equipment costs, invoices segregating items associated with the Work involved shall be the record upon which to base actual costs.

12.4.3 The cost of the Work involved includes payments made by the **Contractor** to Subcontractors for the Work involved performed by the Subcontractors. When determining Subcontractors' cost of the Work involved, the methods to be used shall be those used to determine the **Contractor's** costs, except that the term "Subcontractor" shall replace the term "the **Contractor**" if the context will permit. If required by the **Official**, the **Contractor** shall obtain detailed competitive bids and nominate at least two (2) Subcontractors for the performance of any Work involved, subject to selection by the **Official**.

12.5 Construction Equipment Costs:

12.5.1. The cost of the Work involved includes costs for individual construction equipment with replacement value in excess of \$500.00. Transportation, loading and unloading, installation, dismantling and removal costs shall be allowed only if prior consent is obtained from the **Designer**, and if the equipment is or was transported to the Site solely for the Work involved. Shipping costs will be allowed if the equipment requires the use of a carrier, and provided the travel distance does not exceed that for similar equipment available from sources in the Boston metropolitan area. Equipment costs shall cease when the equipment is no longer needed for the Work involved. Payroll costs for labor operating the equipment shall be as in paragraph 12.4.1. Equipment costs shall be computed using the same accounting and estimating rules, and prices, whether related to added or deleted items of Work.

12.5.2. When determining actual equipment costs under paragraph 12.3.5, daily records listing the equipment, operators, and actual usage, and verified by the **Designer** shall be the records upon which costs will be based. When determining actual equipment costs under paragraph 12.3.6, similar daily records shall be valid only if developed when the Work involved was performed.

12.5.3. Rented or owned equipment at the Site, idled solely by actions of the **Official** or the **Designer**, shall be paid at the rates for rented equipment, or on the basis of fifty (50%) percent of the rates for owned equipment, respectively, provided that the idle period exceeds that normally experienced for such equipment and occurs during normal working hours.

12.6 Rented or Leased Equipment:

12.6.1. Except as provided below, for equipment rented or leased, the **Contractor** or Subcontractors shall be entitled to amounts based on negotiated rental or lease rates, but in no event shall the amounts exceed the rates listed in the Rental Rate "Blue Book" published by Equipment Watch, Inc. for the region covering the Boston metropolitan area applicable to that equipment model number and year. The equipment rate for second or third shifts shall not exceed fifty percent (50%) of the base rate. Operating costs shall not exceed the hourly operation rate in the Blue Book. Hourly rates for equipment previously in use at the Site for at least a month (or a week) shall be based on the monthly rate divided by 176 hours (or the weekly rate divided by 40 hours). Equipment not previously in use at the Site shall not be billed to the **Official** at rates higher than:

Equipment Usage	Payment Category
Less than 8 hours	Hourly Rate
1 day but less than 7 days	Daily Rate
1 week but less than 30 days	Weekly Rate
30 days or more (when in use)	Monthly Rate

12.6.2 For equipment rented or leased from firms associated with or owned by the **Contractor**, costs shall be treated as though the equipment was owned equipment.

12.7 Owned Equipment:

12.7.1 For equipment owned by the **Contractor**, or by his affiliates, the **Contractor** shall be entitled to costs based on billings established by his normal accounting practices, but in no event shall those costs exceed the rates listed in the Custom Cost Evaluator published by Equipment Watch, Inc. for the region covering the Boston metropolitan area. The owned equipment hourly rate plus the estimated operation cost per hour from the Custom Cost Evaluator will be the basis for determining owned equipment costs. For shift Work, the equipment rate shall not exceed the shift Work hourly costs in the Custom Cost Evaluator.

12.8 Supplemental Costs:

12.8.1 The cost of the Work involved includes a proportion of necessary supplemental costs, to the extent those supplemental costs increase or decrease on account of (a) labor, material/equipment, Subcontract or equipment costs of the Work involved, or (b) an extension in Contract Time, including:

12.8.1.1 Payroll costs, and subsistence expenses, for the **Contractor's** full-time resident superintendent, and payroll costs for other personnel in the employ of the **Contractor** engaged in Site activities and listed in the schedule of indirect personnel classifications agreed to by the **Official**, if those costs arise solely from an extension in Contract Time.

12.8.1.2 Costs not exceeding two percent (2%) of the labor

costs under paragraph 12.4.1 excluding burdens of field supplies consumed in the performance of the Work involved, and purchase costs not exceeding two percent (2%) of the labor costs under paragraph 12.4.1, less burdens; tools individually valued at less than \$500.00 and not owned by the workers which are used and consumed in the performance of the Work involved, and purchase cost less market value if used but not consumed.

12.8.1.3 Costs of office and temporary facilities at the Site, inclusive of materials, supplies, equipment and appliances, if those costs arise solely from an extension in Contract Time;

12.8.1.4 The costs of utilities, fuel and sanitary facilities, long distance telephone calls, telephone service at the Site, if those costs arise solely from an extension in Contract Time;

12.8.1.5 Costs of consultants or Subcontractors not covered under paragraph 12.4.3; provided those costs were authorized by the **Official** prior to proceeding with the Work involved, and if not covered by paragraph 12.4 or are not excluded by paragraph 12.11.

12.8.1.6 Taxes related to the Work involved, and for which the **Contractor** is liable, and fees for permits and licenses, if they related solely to the Work involved.

12.8.1.7 Physical losses, damages and expenses to the Work involved not compensated by property insurance or otherwise, sustained by the **Contractor** in the performance and furnishing of the Work, except losses and damages within the deductible amounts of property insurance, but only if the losses, damages and expenses result from causes beyond the control and not due to the fault or negligence of the **Contractor**.

12.8.1.8 The actual documented cost of premiums for increases in bonds and insurance required solely because of the Work involved will be paid based on invoices from the surety.

12.9 Limitation on Equipment and Supplemental Costs:

12.9.1 The **Contractor** shall not be allowed to recover construction equipment or supplemental costs not attributable to the performance of the Work involved. Payroll costs for the full-time resident superintendent are an example of costs that are not recoverable.

12.10 Costs Covered by the Fee for the Work Involved:

12.10.1 The Cost of the Work involved shall not include any of the following costs that are considered administrative costs or contingencies covered by the Fee for the Work involved:

12.10.1.1 Payroll costs and other compensation of (a) the **Contractor's** executives, general and administrative managers, project managers, estimators, claim consultants, attorneys, accountants, labor relation coordinators, contract and subcontract administrators, purchasers, expeditors, and other administrative staff, whether employed at the Site or in his principal or branch offices, and (b) construction managers, engineers, schedulers, detailers, Designers, safety personnel, clerks and other administrative staff employed in his principal

or branch offices;

12.10.1.2 The market value of small tools used but not consumed.

12.10.1.3 Any part of the **Contractor's** capital expenses, including interest on capital for the Work involved, lost interest, on unpaid retainage, and charges for delinquent payments.

12.10.1.4 Costs associated with the preparation of Change Orders or Change Authorizations whether or not ultimately authorized by the **Official**, or the preparation or filing of claims.

12.10.1.5 Costs of consultants or attorneys, in the direct employ of the **Contractor** or otherwise, utilized for services related to the Work.

12.10.1.6 Other administrative expense(s), lost profits, lost interest on unpaid retainage, and the costs of any item not specifically and expressly included in this Article 12.

12.10.1.7 Expenses of the **Contractor's** principal and branch offices, including, but not limited to storage and yard facilities.

12.11 Fee for the Work Involved:

12.11.1 Any adjustment in Contract Price for Work involved shall also include a Fee for costs under paragraph 12.10 and negotiated profit, shall not exceed the following amounts:

12.11.1.1 For Work involved performed by the **Contractor**, the **Contractor's** Fee shall not exceed fifteen percent (15%) of the Cost of the Work involved, less supplemental costs. For Work involved performed by a Subcontractor, the Subcontractor shall receive a Fee of ten percent (10%) of the Cost of the Work involved, less supplemental costs.

12.11.1.2 In addition to the Fee(s) specified in paragraph 12.11.1.1, for Work involved that is performed by Subcontractors, the **Contractor** shall receive a mark-up Fee of five percent (5%) of the performing Subcontractors' costs. No Fee shall be payable to the **Contractor** on the basis of the performing Subcontractors' Fee or supplemental costs.

12.11.1.3 The credit to be allowed to the **City** for any adjustment in Contract Price yielding a net decrease in cost, *i.e.* the cost of the Work involved is negative, shall be the amount of the net decrease together with a Fee credit equal to one-third of the Fee which would be allowed under paragraphs 12.11.1.1 and 12.11.1.2.

12.11.1.4 When more than one individual adjustment in Contract Price, each resulting in a net increase or decrease in the Cost of the Work involved, is covered in one specific Change Order or Change Authorization or proposal or claim, the combined Fee shall be computed as the sum of the individual Fees.

12.12 Payment for Extension in Contract Time:

12.12.1 Subject to the applicable requirements of the Contract Documents, an extension in Contract Time may be combined with an increase in Contract Price to cover costs solely

associated with the time extension in the case of changes in the Work, differing Site conditions, or significant variation in quantities. No such adjustment in Contract Price shall be made to the extent that performance would have been extended by any other cause, including fault or negligence of the **Contractor**, Subcontractors, or Suppliers, or for which an adjustment is excluded by any other provision of the Contract Documents.

12.12.2 The cost of the Work involved arising from an extension in Contract Time, shall exclude amounts not solely related to the extension in Contract Time, such as: operating costs of construction equipment assigned to the Work on a continuing basis but primarily used in the furnishing and incorporating of materials and equipment into the Work; owned, or rental, costs plus operating costs of construction equipment used solely in the furnishing and incorporating of materials or equipment into the Work such as crane costs for specific lifts and concrete pump truck costs; supplemental costs unaffected by the increase in Contract Time, or otherwise allocable to Work other than the Work involved e.g. small tools, Site facilities fully paid for in previous payments, etc.

12.12.3 If delays entitling the **Contractor** to increase in Contract Price under the Contract Documents extend performance or completion of the entire Work beyond the Contract Time stated in Article 4 of Section 00 52 13 and if, upon a request from the **Contractor**, the **City** concludes that because of such extension a portion of the **Contractor's** costs itemized in paragraph 12.10 will be or were unabsorbed prior to the expiration of the Contract Time, the **Contractor** shall be allowed Fee to cover any such unabsorbed costs given by the portion of the Contract Price unbilled prior to the expiration of the Contract Time times the ratio of the **Contractor's** administrative costs to billings, not to exceed five percent (5%).

12.12.4 The **Contractor** shall not recover from the **City**: acceleration costs to keep progress despite **City**-caused delays or other delays which warrant extensions in Contract Time but exclude increases in Contract Price; escalation costs for any part of the Work not delayed beyond the Late Dates in the Progress Schedule; or delay costs not expressly allowed for in this Article.

12.13 Criteria for Determining Adjustments in Contract Time:

12.13.1 The criteria to be used to determine an adjustment in Contract Time necessitated by changes ordered or under negotiation as provided in these General Conditions, or Work covered by a proposal or a claim, are limited to the following:

12.13.2 An adjustment in a specified Contract Time will not be granted unless (a) the time required to perform or complete the furnishing or performance of Work controlling achievement of that particular Contract Time is extended pursuant to paragraph 12.13.3, and (b) all of the Total Float, and therefore Contract Float, in the Progress Schedule is used and consumed.

12.13.3 An extension in Contract Time will not be granted unless the **Contractor** can demonstrate through an analysis of the Progress Schedule that unforeseeable causes beyond the

control and without the fault or negligence of both the **Contractor** and the Subcontractors or Suppliers led to performance or completion of all or part of the Work beyond the corresponding Contract Time despite the **Contractor's** reasonable and diligent actions. Examples of such causes include: (1) acts of God or of the public enemy; (2) acts of the **City** in its sovereign or contractual capacity; (3) acts of the U.S. Government or another Public Authority or Agency; (4) acts of another party in the performance of a contract with the **City**; (5) fires, floods, epidemics, quarantine restrictions; (6) incidents with archaeological features; (7) strikes, freight embargo; (8) unusual weather and related adverse subsurface conditions, unusual meaning expectation, frequency, severity, or unseasonable; (9) a case of differing Site conditions or differing reference points; (10) a case of an emergency; (11) a case of a reasonable objection to a nominated Subcontractor; (12) unusually severe shortages of construction materials from such causes as area-wide shortages, an industry-wide strike, or a natural disaster affecting all feasible sources of supply; (13) variation in quantities of Unit Price Work as provided in Article 11; (14) delays, as itemized in this paragraph, to Subcontractors or Suppliers arising from unforeseeable causes beyond the control and without fault or negligence of both the **Contractor** and those Subcontractors or Suppliers; (15) work stoppages caused by or initiated by other **City** or public agencies.

12.13.4 An extension in Contract Time, if any granted, shall be the **Contractor's** sole and exclusive remedy for any delay, disruption, interference, or hindrance and associated costs, however caused, resulting from causes contemplated in paragraph 12.13.3.

12.14 Negotiating Changes in Contract Price or Contract Time:

12.14.1 In addition to the notice requirements in Articles 7 and 11, the **Contractor** shall give written notice to the **Official** of any written or oral order of the **Official** or the **Designer** which justifies a change in Contract Price or Contract Time by delivering a proposed Change Authorization itemizing in sufficient detail the related circumstances and the justification for the adjustments proposed. If the **Official**, with the advice of the **Designer**, concludes that a change in Contract Price or Contract Time is warranted, the **City** shall make or negotiate with the **Contractor** the appropriate adjustments. If the **Official** finds otherwise, the **Official's** decision shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** a clearly marked written Notice of Claim within thirty (30) days from receipt of that decision in strict compliance with the requirements of Article 15.

12.14.2 The **Official** may notify the **Contractor** of proposed changes in Contract Price or Contract Time by delivering to the **Contractor** an unsigned Change Authorization requesting that the **Contractor** signoff on the proposed changes in Contract Price or Contract Time or submit an alternate proposal.

12.14.3 If the **Official** makes the decision to order any changes in Contract Price or Contract Time, whether unilaterally or in negotiations with the **Contractor**, those changes in Contract Price or Contract Time shall be binding on

the **Contractor**, unless the **Contractor** delivers to the **Official** clearly marked written Notice of Claim within thirty (30) days from receipt of that decision in strict compliance with the provisions of Article 15.

12.14.4 If the **Contractor** is directed or ordered to stop the Work, or any part of the Work by any **City** or public agency, other than the **Official** the **Contractor** is required to so inform the **Official** within four (4) hours of such action.

ARTICLE 13 - GUARANTEES

13.1 General Guarantees:

13.1.1 In consideration of the execution of this Contract by the **City** and the Contract Price herein stipulated to be paid and received for the performance of the work, the **Contractor** binds and obligates himself, and his successors and assigns, jointly and severally, and agrees to bring all portions of the Work under this Contract to completion in accordance with the Contract Documents and within the Contract Time, free of all defects of material and workmanship, and guarantees that the Work shall remain free of all defects of material and workmanship for a period of one year from the date of Substantial Completion. The **Contractor** guarantees, on written notice from the **Official**, to immediately repair and make good, or cause to be repaired and made good, at the **Contractor's** expense, all defects of material or workmanship in the Work and to pay for or cause to be paid for any damage to other work resulting therefrom, or from the repair thereof which may develop during the period of one year from the date of Substantial Completion.

13.1.2 Warranties for all specified or substitute items of materials and equipment shall include a certification endorsed by the **Contractor** warranting their merchantability, and that they are functionally suitable and fit for their intended purpose.

13.1.3 The warranties, guarantees and obligations for correction of Work specified in this Article are in addition to and not in limitation of any other specific remedies provided in the Contract Documents or by Laws or Regulations.

13.2 Tests and Inspections:

13.2.1 The **Official**, the **Designer**, their representatives, testing agencies and Public Authorities or Agencies with jurisdiction shall be permitted access to the Work for their observation, inspection and testing. The **Contractor** shall provide proper and safe conditions for such access. The **Contractor** shall give the **Designer** and Clerk of the Works timely notice of readiness of, and access to, the Work for all required inspections, tests, or approvals. Test, inspections or approvals shall not in any way relieve the **Contractor** from his obligations to perform the Work in accordance with the Contract Documents, or to warrant and guarantee the Work as provided in the Contract Documents.

13.2.2 The **Contractor** shall assume full responsibility for any specific testing, inspection or approval required by Laws or Regulations, or indicated in or required by the Contract Documents including, but not limited to sufficient inspection

and testing of the Work to support the warranty and guarantee requirements. The **Contractor** shall pay all related costs, schedule related activities, and secure and furnish the **Designer** the required certificates of inspection, testing, or approval. The **Contractor** shall be responsible for and pay all costs of any inspection or testing required for the **Designer's** acceptance of a Supplier, or of materials or equipment submitted for approval by the **Contractor**. All inspections, tests or approvals other than those required by Laws and Regulations of a Public Authority or Agency shall be performed, subject to the **Official's** consent, by organizations acceptable to the **Designer** and the **Contractor**.

13.2.3 If a Public Authority or Agency enforces testing, inspection or approval differing from those specified, or if not specified, from those enacted on or before the date of Bid opening, necessitating an amendment to the Contract Documents, the **Official** shall authorize the required changes in the Work, together with any adjustment in Contract Price necessitated by the changes. If the changed testing, inspection or approval causes or will cause delays which postpone, extend or in any manner alter the schedule or the completion of all or part of the Work, the **Contractor** shall absorb all of the **Contractor's** related delay, extension or acceleration costs, however caused; except that if the **Official** and the **Contractor** believe that the delays require a change in Contract Time, the **Official** shall authorize the necessary change in Contract Time **only**.

13.2.4 If any testing, inspection or approval reveals failure of any part of the Work, the **Contractor** shall not be allowed to recover any associated costs, and he shall reimburse the **Official** for all of direct, indirect and consequential costs made necessary by that failure including those of repeated procedures and compensation for the **Designer's** additional services.

13.2.5 Tests, inspections or approvals shall not in any way relieve the **Contractor** from the **Contractor's** obligations to perform the Work in accordance with the Contract Documents and to warrant and guarantee the Work as provided in the Contract Documents

13.3 Special Guarantees:

13.3.1 It is expressly agreed and understood that the general guarantee set forth under this Article is in addition to and not in substitution of such guarantees as may be required under any other Section of the Contract Documents.

13.3.2 All guarantees required in the Contract Documents shall be in the form set forth by the **Official** and must be delivered to the **Official** before final payment to the **Contractor** will be made.

13.3.3 The **Contractor** and Subcontractors shall be jointly and severally liable to the **City** under the terms of all guarantees originating with any Subcontractor.

13.3.4 The failure to deliver a required guarantee shall be held to constitute a failure of the **Contractor** to fully complete his work in accordance with the Contract Documents.

13.3.5 The period of all special guarantees, unless otherwise specified, shall be one year from the date of Substantial Completion.

13.4 Correction or Removal, or Acceptance of Defective Work:

13.4.1 If required by the **Official** or **Designer**, the **Contractor** shall promptly, as directed, either correct all *defective* Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the **Designer** or if any testing, inspection or approval of all or part the Work reveals failure of that part of the Work to comply with the requirements of the Contract Documents, remove it from the Site and replace it at the **Contractor's** expense. If, instead of requiring correction or removal and replacement of *defective* Work, the **Official** prefers to accept it, the **Official** may do so, in which case the **Contractor** shall not be entitled to any increase in Contract Time or Contract Price, and he shall reimburse the **City** for all direct, indirect and consequential costs of the **City** incurred because of the correction or removal of or due to the **City's** evaluation and determination to accept *defective* Work.

13.4.2 If the **Official's** acceptance of *defective* Work occurs prior to the **Designer's** recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents; and the **City** shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after that recommendation, an appropriate amount shall be deducted from the final payment, or if the final payment has been made, an appropriate amount shall be paid by the **Contractor** to the **City**.

13.5 The City May Correct Defective Work:

13.5.1 If the **Contractor** fails within a reasonable time after written notice of the **Designer** to proceed to correct *defective* Work or to remove and replace rejected Work as required by the **Designer**, or if the **Contractor** fails to perform the Work in accordance with the Contract Documents, or if the **Contractor** fails to comply with any other provision of the Contract Documents, the **Official** may, after seven (7) days' written notice to the **Contractor**, correct and remedy any such deficiency. To the extent necessary to complete corrective action, the **Official** shall have full power and authority to exclude the **Contractor** from all or part of the Site, and to exercise all of the rights and remedies in paragraph 14.1 The **Contractor** shall allow the **Official**, the **Official's** representatives, agents and employees whatever access to the Site that may be necessary to enable the **Official** to exercise the rights and remedies under this paragraph. The **Contractor** shall not be allowed an extension in Contract Time or increase in Contract Price because of any delay in performance of the Work attributable to the exercise by the **City** of these rights and remedies, and he shall reimburse the **City** for all direct, indirect and consequential costs of the **City** in exercising such rights and remedies, such costs to include, but not be limited to, all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of defective Work, and a Change Order will be issued incorporating the necessary changes.

13.6 Uncovering Work:

13.6.1 If Work that is to be observed by the **Designer** or inspected, tested or approved is covered without written concurrence or contrary to the written request of the **Official** or the **Designer**, it shall when requested by the **Official**, be uncovered, exposed or otherwise made available for observation, testing, inspection or approval, as the **Official** may require and if necessary, replaced at the **Contractor's** expense.

13.6.2 The **Contractor**, at the **Designer's** request, shall uncover, expose or otherwise make available for observation, inspection or testing as the **Designer** may require, any covered Work if the **Designer** considers it advisable that such covered Work be observed by the **Designer** or inspected or tested by others.

13.6.3 The **Contractor** shall not be entitled to an increase in Contract Price or Contract Time, and he shall reimburse the **City** for all direct, indirect and consequential costs incurred by the **City** due to any uncovering or exposure, including but not limited to, the costs of that uncovering or exposure, observation, inspection, testing and satisfactory reconstruction, whenever Work covered without the written concurrence or contrary to the written request of the **Designer** or **Official** under paragraph 13.6.1 is uncovered, or whenever covered Work uncovered at the **Designer's** request under paragraph 13.6.2 is found to be *defective*. If Work is uncovered or exposed under paragraph 13.6.2 and not found to be *defective*, the **Contractor** shall be entitled to an increase in Contract Price or Contract Time, either or both, directly attributable to such uncovering.

13.7 Correction Period:

13.7.1 The Correction Period shall commence on the date of Substantial Completion of the Work, or a later date if so specified in the Contract, and last for one (1) year or such a longer period of time as may be specified in the Contract Documents.

13.7.2 If within the designated Correction Period, the Work, or any part of the Work is discovered to be *defective*, the **Contractor** shall promptly, without an adjustment in Contract Price and in accordance with the **Official's** written instructions, either correct that *defective* Work, or if it has been rejected by the **Official**, remove it from the Site and replace it with *non-defective* Work. If circumstances warrant it, including, but not limited to, in an emergency, the **Official** may have the *defective* Work corrected or the rejected Work removed and replaced. In that event, the **Contractor** shall not be allowed to recover any associated costs, and he shall reimburse the **City** for all of the **City's** reasonable direct, indirect and consequential costs so incurred. If that event takes place after final payment and the **Contractor** fails to pay such costs to the **City** within thirty (30) days after presentation for payment, the **City** will give written notice to the **Contractor** of a claim, in which case the provisions of Article 15 shall apply.

13.7.3 The specified warranties and guarantees and the **Contractor's** obligations for correction of Work specified in this Article are in addition to and not in limitation of any other

specific remedies provided in the Contract Documents or by Law. Nothing contained in this paragraph or this Article shall be construed as establishing a period of limitation for or limiting the obligations of the **Contractor** under the Contract Documents.

13.8 Extended Warranties and Guarantees:

13.8.1 Following written notice to the Contractor, the **City** may in its sole discretion advance or defer the date for commencement of the Correction Period, in which case the **Contractor** shall maintain the warranties and guarantees until the revised date for commencement of the Correction Period. If such advancement or deferral in the date for commencement of the Correction Period causes an increase or decrease in the cost of the warranties and guarantees provided by the **Contractor**, the **Official** shall make an adjustment in Contract Price or Contract Time, as provided in Articles 8 and 11.

13.8.2 Whenever the **City** undertakes Partial Utilization of a portion of the Work which was specifically identified in the Contract Documents, or the **Contractor** fails to complete the Work or a separable portion of the Work within the corresponding Contract Time and the **City** undertakes Partial Utilization under paragraph 7.4, the **Contractor** shall maintain the warranties and guarantees in full force and effect during the period between the applicable commencement of Partial Utilization date, and the date of commencement of the Correction Period, and for such maintenance of the warranties and guarantees the **Contractor** shall receive no adjustment in Contract Price.

13.8.3 Any *defective* Work that is either corrected or rejected and replaced will be warranted and guaranteed in accordance with the provisions of this Article 13 for a period of one (1) year from the date of such correction or removal and replacement. If within such extended Correction Period, that Work is once again found to be *defective*, the **City** may exercise any of the **City's** rights and remedies under this Article.

13.9 Special Maintenance Requirements:

13.9.1 In special circumstances where the Work, or a designated part, progresses to Substantial Completion or Partial Completion but is not placed in continuous service until the commencement of the Correction Period, the **Contractor** shall maintain the Work, or designated part, in good order in proper working condition and take all other actions as are necessary for its protection during the period between the applicable Substantial or Partial Completion date and the date of commencement of the Correction Period, and for such maintenance the **Contractor** shall receive no adjustment in Contract Price.

13.9.2. If the Work suffers loss or damage, however caused, the **Contractor** shall rebuild, repair, restore and make good without an increase in Contract Price all losses or damages to any portion of any Work. The occurrence of **City**-caused delay or the granting of an extension in Contract Time for any cause shall not relieve the **Contractor** of his responsibility for the Work, or designated part, as specified in this paragraph.

ARTICLE 14 - TERMINATION

14.1 Notice of Intention to Terminate for Cause:

14.1.1. If at any time reasonable doubt of the **Contractor's** due performance arises, the **Official** may demand adequate, written assurance of due performance. In addition, the **Official**, acting on knowledge or belief, may include with the demand for assurance a written notice to the **Contractor** and surety of the **City's** intent to terminate the **Contractor's** right to complete the Work within seven (7) days, or sooner if safety to persons or property is in question, because of occurrence of any of the following events, which constitute lack of due performance and are reasonable grounds for terminating the **Contractor**.

14.1.1.1 The **Contractor** fails to complete the Work, or separable part, within the corresponding Contract Time; fails or refuses to prosecute the Work, or separable part of the Work, with the diligence required for completion within the corresponding Contract Time; or fails or refuses to supply sufficient skilled workers, materials or equipment in adherence to the Progress Schedule, as revised from time to time;

14.1.1.2 The **Contractor** admits in writing, or the **City** otherwise establishes, the **Contractor's** inability to pay his debts generally as they become due; or in response to the **City's** demand, fails to promptly provide adequate, written assurance, the adequacy of which the **City** shall be the sole judge, of due performance in accordance with the Contract Documents;

14.1.1.3 A trustee, receiver, custodian or agent of the **Contractor** is appointed under applicable Law or under contract, whose appointment or authority to take charge of property of the **Contractor** is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the **Contractor's** creditors; or

14.1.1.4 The **Contractor** disregards the authority of the **Designer**, otherwise violates in any substantial way any provision of the Contract Documents, fails to perform the Work in accordance with the Contract Documents, or disregards the Laws, ordinances, codes, rules or regulations of any governmental entity with jurisdiction.

14.1.1.5 The **Contractor** fails to make payment to Subcontractors for materials or labor in accordance with the written agreements between the **Contractor** and Subcontractors.

14.1.1.6 The **Contractor** is guilty of a substantial breach of a provision of the Contract Documents.

14.1.2. Promptly after the **Contractor** receives either a demand for assurance or a notice of termination, the **Contractor** and surety shall meet with the **Official** and present the plan they intend to follow to give adequate assurance of due performance to the **City** and to avoid or cure any default. If at or after the meeting, the **Official** decides to allow the **Contractor** to continue prosecution of the Work to completion,

that decision shall not waive the **City's** right to declare the **Contractor** in default subsequently nor affect any rights or remedies of the **City** against the **Contractor** or surety, or both, then existing or which may accrue in the future.

14.2 Termination for Cause:

14.2.1. If the **Contractor** at any time refuses or neglects to supply a sufficient number of properly skilled workers or of materials of the proper quality, or fails in any respect to perform the Work, or separable part of the Work, with promptness and diligence, or fails in the performance of any of the agreements herein contained, and such refusal, neglect or failure has been certified to by the **Official**, the **City** shall have full power and authority to give written notice to the **Contractor** and the surety of the **City's** intention to terminate the services of the **Contractor** seven (7) days after giving notice, or sooner if safety to persons or property is in question.

14.2.2 If the **Contractor** seeks relief in bankruptcy, or if he makes a general assignment for the benefit of his creditors, or if a receiver of his property is appointed, or if the Work to be done under this Contract is abandoned, or if this Contract or any part thereof is sublet or assigned without the previous written consent of the **Official**, or if the **Contractor** becomes insolvent, or if at any time the **Official** shall certify in writing that the **Contractor** has refused or neglected to supply a sufficient number of properly skilled workers or of materials of the proper quality, or has failed in any respect to perform the Work with promptness and diligence, or has failed in the performance of any agreements herein contained, the **City** acting by the **Official** and at his discretion, may without prejudice to any right or remedy, and after giving the **Contractor** and his surety seven (7) days prior written notice, notify the **Contractor** to terminate the Work and the **City**, acting by the **Official** and at his discretion, and without prejudice to any other remedies that the **City** may have, may thereupon by contract or otherwise, complete the Work and charge the entire expense of so completing the Work to the **Contractor**; and the **Contractor** shall not be entitled to receive any further payment under this Contract until Final Completion of the Work, at which time, if the unpaid balance of the amount to be paid under this Contract shall exceed the expense incurred by the **City**, such excess shall be paid by the **City** to the **Contractor**. If the expense of completing the Work exceeds such unpaid balance, an appropriate credit Change Order shall be issued deducting from the Contract an amount then or thereafter due to the Contractor equal to the actual cost of correcting such deficiencies, including the City's expenses and compensation for the additional services of the Designer made necessary by such failure, refusal or default. For the purpose of completing the Work, the **City**, acting by the **Official**, may take possession of and use, or cause to be used, any materials, implements, machinery and tools of every description as may be found upon the Site of the Work.

14.3 Termination for Convenience:

14.3.1 Upon not less than seven (7) days written notice to the **Contractor** and the surety, or sooner if reasonable under the circumstances; the **Official** may, without cause and without prejudice to any other right or remedy, elect to terminate any part of the Work, or the Contract in whole or in part as the **City**

may deem appropriate for its convenience. Upon receipt of any such termination notice, the **Contractor** shall immediately proceed in accordance with any specific provisions or instructions, protect and maintain the Work, and make reasonable and diligent efforts to mitigate costs associated with the termination.

14.3.2 In any such termination for the convenience of the **City**, the **Contractor** shall be paid for Work completed in accordance with the Contract Documents prior to receipt of the notice of termination, and for reasonable termination settlement costs relating to commitments which had become firm prior to the termination, based solely on supporting documentation that is provided to the **City** by the **Contractor**, the adequacy of which will be determined by the **City** in its sole discretion; provided, however, that the payment to the **Contractor** will exclude any and all anticipated supplemental costs, administrative expenses and profit on uncompleted work; and provided, further, that if no agreement can be reached as to reasonable termination costs, the parties will follow the provisions in the Federal Acquisition Regulations, clause 52.249-2 found in 48 CFR PART 52.

14.3.3 If, after notice of termination of the services of the **Contractor** for any of the causes listed in paragraph 14.1, it is determined that the **Contractor** was not in default, the termination shall be deemed to have been for the convenience for the **City**. In such event the **Contractor** may recover from the **City** payment in accordance with this paragraph 14.3.

14.3.4 Upon any such termination for convenience, the **City** shall have full power and authority to take possession of the Work, assume any Sub-agreements with Subcontractors and Suppliers which the **City** so selects, and prosecute the Work to completion by contract or as the **City** may deem expedient.

14.4 Surety Default:

14.4.1 If upon receipt of a notice of termination for cause, the surety fails to perform its obligations under the Performance Bond with reasonable promptness, the **City** shall declare the surety in default under the Performance Bond in accordance with the provisions of this paragraph.

14.4.1.1 No default of the surety under the Performance Bond shall be declared however, until the expiration of seven (7) days after receipt by the surety of a written notice from the **Official** demanding that the surety perform its obligations under the Performance Bond.

14.4.1.2 If the **City** declares the surety in default, the **City** shall have full power and authority to exclude the surety and **Contractor** from the Site, assume any Sub-agreements which the **City** so selects, and take possession of the Work, incorporate into the Work all materials and equipment stored at the Site or for which the **City** has paid the **Contractor** but which are stored elsewhere, and prosecute the Work to completion by contract or as the **City** otherwise may deem expedient.

14.4.2 If the **City** has terminated the **Contractor** or defaulted the surety, any such termination or default will not affect any rights or remedies of the **City** against the **Contractor** or surety,

or both, then existing or which may accrue after termination. Any retention or payment of monies due the **Contractor** or surety by the **City** will not release the **Contractor** or surety from any liability. All provisions of the Contract Documents that by their nature survive final acceptance of the Work shall remain in full force and effect after a termination for cause of the **Contractor** or default of the surety, or both, as applicable.

14.4.3 The **City** may, in its sole discretion, permit the **Contractor** or surety to continue to perform Work when the **Contractor** or surety has been terminated or declared in default for any reason. Such decision by the **City** shall in no way operate as a waiver of any of the **City's** rights under the Contract Documents or the Performance Bond, nor in the event of a subsequent default, entitle the **Contractor** or surety to continue to perform or prosecute the Work to completion.

14.5 The Contractor May Stop Work or Terminate:

14.5.1 To the extent permitted by Law, if through no act or fault of the **Contractor**, the **Designer** fails to act on any Application for Payment within thirty (30) days after it is submitted, or the **City** fails for ninety (90) days to pay the **Contractor** any Application for Payment sum finally determined by the **Designer** and **City** to be due, then the **Contractor** may, upon thirty (30) additional days written notice to the **City** of a suspension of work, suspend the Work.

14.5.2 If the **City** fails to correct the conditions, if any, which under this paragraph justify the **Contractor's** suspension of the Work within ninety (90) days from the commencement of the suspension, the **Contractor** may upon thirty (30) days additional written notice to the **City** and the **Designer** terminate the Contract and recover from the **City** payment in accordance with paragraph 14.4.2. Except as specifically provided in this paragraph, these provisions shall not relieve the **Contractor** of the obligations under Article 8 to carry on the Work in accordance with the Progress Schedule and without delay during disputes and disagreements with the **City**.

ARTICLE 15 - DISPUTES

15.1 Claims Under This Article:

15.1.1 All Notices of Claims, Claims and any other matters in dispute between the **City** and the **Contractor** arising from or related to the Contract Documents or a claimed breach thereof, specifically including those matters arising from Paragraphs 4.28.1; 7.5.3 and 11.4.2, shall be subject to, processed and resolved as provided in this Article 15.

15.1.2 A "Claim" under this Article 15 shall mean a written demand or assertion by the **City** or **Contractor**, which is properly certified according to the requirements of Paragraph 15.2.1, seeking an adjustment in Contract Price and payment of monies due, an extension or shortening in Contract Time, the adjustment or interpretation of Contract terms, or any other relief arising under or relating to the Contract, after a determination by the **Designer** or **City** under the appropriate provision of the Contract Documents.

15.1.3 A Claim arising under the Contract is a Claim that can be resolved under a provision within the Contract Documents that provides for or excludes the relief sought by the claimant. Such Claims shall be resolved in accordance with the applicable provisions of the Contract Documents.

15.1.4 No Claim shall be valid unless it is based upon the prior submission of a clearly marked written "Notice of Claim" that states the general nature of the Claim delivered by the party making the Claim to other party promptly, but in no event later than thirty (30) days after the **Designer's** or **Official's** determination giving rise to the Claim. The receipt by the **City** of a timely Notice of Claim shall be a condition precedent to the **City** receiving a valid Claim submitted from the **Contractor** for evaluation. The clearly marked written "Claim" itself together with all supporting data shall be delivered within sixty (60) days after the determination. The responsibility to substantiate Claims shall rest with the party making the Claim. Notwithstanding anything to the contrary in this Article, the **Official** shall not be required to deliver notice of any Claim for liquidated damages or involving retention until sixty (60) days after the final acceptance.

15.1.5 A Claim by the **Contractor** shall be submitted to the **Official** with a copy to the **Designer** for a written decision from the **City**. The **City** will provide the **Contractor** with a written acknowledgement of receipt of the Claim within seventy-two (72) hours, and will notify the **Contractor** as to the status of the Claim within thirty (30) days of receipt. A Claim by the **City** shall be submitted to the **Contractor** and the **Designer** for a written determination from the **Designer**.

15.1.6 Once given, the **City's** final decision on a Claim submitted by the **Contractor** shall be final and binding on the **Contractor** unless the **Contractor** files suit within thirty (30) days after receipt of the **City's** decision.

15.2 Requirements for Contractor Claims:

15.2.1 For all **Contractor** Claims seeking an increase in Contract Price or Contract Time, the **Contractor** shall submit a statement signed under the penalties of perjury and executed by an officer or partner in charge, or by a responsible senior officer or general managing partner of the **Contractor** certifying that the Claim is made in good faith; the amount claimed accurately reflects the adjustments in Contract Price or Contract Time for which the **Contractor** believes the **City** is liable, and covers all costs and delays to which the **Contractor** is entitled from the occurrence of the claimed event; and supporting costs and pricing data are current, accurate, complete and represent the best of the **Contractor's** knowledge and belief.

15.3 Determination on a Claim:

15.3.1 Pending final resolution of any Claim, including litigation, the **Contractor** shall proceed diligently with the Work, and comply with any decision of the **Official** or the **Designer**.

15.3.2 After settlement or final adjudication of any Claim under this Article if, upon demand, payment by the **Contractor** is not made to the **City**, the **City** may offset the appropriate amounts

against (a) payments due to the **Contractor** under any other contract between the **City** and the **Contractor**, or (b) any amounts for which the **City** may be obligated to the **Contractor** in any capacity.

15.4 Venue:

15.4.1 The **Contractor**, the **Contractor's** sureties, and the Subcontractors and Suppliers agree, consent and submit to the service of process at the address and in the manner specified in Article 10.17.

15.4.2 The **Contractor**, the **Contractor's** sureties, and the Subcontractors and Suppliers waive jurisdiction and venue and shall submit to the jurisdiction of the County of Suffolk only, regardless of residence or domicile, with respect to any actions or suits at law or in equity arising under or related to the bidding, award, performance, or completion of the Work, payment for work performed, or any Claim.

15.4.3 The **Contractor** shall insert a provision containing the venue and service of process requirements of paragraph 15.4.1 and 15.4.2 in all sub-agreements and agreements between the **Contractor** and his sureties and insurers, altering the provisions only as necessary to properly identify the contracting parties.

**END OF SECTION 00 70 00 GENERAL CONDITIONS
C.30, \$39M CONTRACTS**

SECTION 00 73 10- STANDARD SUPPLEMENTARY FORMS

These Supplementary Forms supplement the General Conditions and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

1.1 The form used by the **City** to specify the types and limits of insurance required for the Project are attached to these Supplementary Forms and incorporated into the Contract Documents by this reference.

1.2 The schedule of Prevailing Wage Rates is attached to these Supplementary Forms and incorporated into the Contract Documents by this reference.

1.3 The City Ordinance regarding Apprentice Training and the form to be used by the **Contractor** when submitting a Verification Form is attached to these Supplementary Forms and incorporated into the Contract Documents by this reference.

00 73 10 END OF STANDARD SUPPLEMENTARY FORMS

CITY OF BOSTON PUBLIC FACILITIES DEPARTMENT

SECTION 00 73 16 INSURANCE REQUIREMENTS

Without limiting or diminishing the Contractor's indemnification obligations under the Contract, the Contractor will provide and maintain for the duration of the contract, and for six years thereafter, minimum insurance coverages against claims for injuries to persons or damages to property as required herein with respect to performance of work under this Contract by the CMR and its agents, vendors, employees or subcontractors, and all insurance required by the applicable laws of the Commonwealth of Massachusetts.

Insurance will be issued by insurers with a minimum AM Best Rating of A-VII. Insurance Certificates on Acord Forms clearly evidencing all requirements below must be provided to the Official prior to work being performed, with renewal certificates provided within 30 days of expiration. Complete copies of policy and endorsements may be required.

The Contractor shall not start or continue to perform any Work; nor shall they allow any Subcontractor or Supplier to perform any Work unless all required insurance is in full force and effect and evidence submitted.

Deductibles or self-insured retentions over \$50,000 shall be reported to the City, and reduced or eliminated upon the City's written request.

POLICY TYPES AND LIMITS

The City may modify or add insurance requirements, if necessary, to adequately reflect the scope of Work performed.

1. **Commercial General Liability:** Including bodily injury, property damage, products and completed operations, and personal and advertising injury.
\$1,000,000 Each Occurrence
\$2,000,000 General Aggregate, must apply per project or location
\$2,000,000 Products/ Completed Operations Aggregate
Completed Operations must remain in effect for 6 years after Final Acceptance of Work
2. **Automobile Liability:** All motor vehicles, including hired and non-owned, used in connection with the Contract; \$1,000,000 combined single limit per accident
3. **Workers' Compensation:** As required per Massachusetts General Law c.152 Employer's Liability E.L. \$1,000,000 per accident and employee, including disease
4. **Umbrella/Excess Liability:** excess of General Liability, Employer's Liability and Auto Liability for \$3,000,000/\$3,000,000 Each Occurrence/Aggregate.
 - a. The Contractor may use Umbrella or Excess Policies to provide the liability limits as required in this agreement. This form of insurance will be acceptable provided that all of the Primary and Umbrella or Excess Policies shall provide all of the insurance coverages herein required, including, but not limited to, primary and noncontributory, additional insured, indemnity, and defense requirements. The Umbrella or Excess policies shall be provided on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying Commercial General Liability, Automobile Liability and Workers Compensation. No insurance policies maintained by the Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until the CMR's primary and excess liability policies are exhausted.

5. **Builder's Risk / Installation Floater:**

"All Risk" form including flood and earthquake
Completed Value of project at Replacement Value, with no coinsurance provision.
Off-site storage and property in transit
City named as a Loss Payee

6. **Professional Liability (Errors and Omissions):** \$1,000,000 per occurrence or claim and \$2,000,000 Aggregate.

7. **Contractors' Pollution Liability:** \$2,000,000 Each Occurrence, \$2,000,000 Aggregate

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the City of Boston requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City of Boston.

GENERAL POLICY CONDITIONS

1. City of Boston its officers, officials, employees, and volunteers will be named as Additional Insured for all required liability policies, except Workers' Compensation or Professional Liability.
2. Insurance shall be primary and non-contributory over any such insurance or self-insurance available to the City of Boston, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City of Boston, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it. This requirement shall also apply to any Excess or Umbrella liability policies.
3. Waiver of Subrogation will be included for all coverages in favor of the City of Boston. The workers compensation policy must be specifically endorsed.
4. All policies will be endorsed to provide thirty days written notice to the certificate holder, the City of Boston, in the event of cancellation, non-renewal or material changes in coverage.
5. All insurance shall be occurrence based where available. If policy is on claims-made basis, insurance must be maintained for at least six years after Final Acceptance of Work, and the Retroactive date must be prior to beginning of Work.
6. Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein, and Contractor shall ensure that Entity is an additional insured on insurance required from subcontractors.

00 73 16 END OF INSURANCE REQUIREMENTS



Labor and Workforce Development

Notice to Awarding Authorities

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, 1st Floor, P.O. Box 146759, Boston, MA 02114.

00 73 46 - 1

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 is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw 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.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

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 _____

05/14

MASSACHUSETTS WEEKLY CERTIFIED PAYROLL REPORT FORM



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

Are all apprentice employees identified above currently registered with the MA DLS's Division of Apprentice Standards? YES NO

For all apprentices performing work during the reporting period, attach a copy of the apprentice identification card issued by the Massachusetts Department of Labor Standards / Division of Apprentice Standards. No apprentices are identified above

NOTE: Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a **true and accurate** copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

Date Received by Awarding Authority
/ /



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

MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

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

LAUREN JONES
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority: Boston - Public Facilities Department **City/Town:** BOSTON
Contract Number:
Description of Work: Repair of the seawall along the northern shore of the island
Job Location: 0 Moon Island, Quincy Ma.

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- 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 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, the 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. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F “rental of equipment” contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- 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 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 a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons 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 DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must 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. For a sample payroll reporting form go to <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.
- Contractors must obtain the wage schedules from awarding authorities. 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 criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$0.00	\$79.24
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$0.00	\$80.24
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$0.00	\$80.74
	12/1/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$0.00	\$78.31
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$0.00	\$80.31
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$0.00	\$80.81
	12/1/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$0.00	\$79.43
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$0.00	\$80.43
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$0.00	\$80.93
	12/1/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT	1/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR	12/1/2025	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.65	\$9.75	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/1/2025	\$44.80	\$14.50	\$4.30	\$6.75	\$0.00	\$70.35
HEAT & FROST INSULATORS LOCAL 6							
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							
ASPHALT RAKER	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.65	\$9.75	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
BOILER MAKER	1/1/2024	\$48.12	\$7.07	\$14.60	\$6.00	\$0.00	\$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

Apprentice: BOILER MAKER							
Effective Date: 1/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
2	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
3	70.00	\$33.68	\$7.07	\$10.03	\$4.20	\$0.00	\$54.98
4	75.00	\$36.09	\$7.07	\$10.74	\$4.50	\$0.00	\$58.40
5	80.00	\$38.50	\$7.07	\$11.45	\$4.80	\$0.00	\$61.82
6	85.00	\$40.90	\$7.07	\$12.18	\$5.10	\$0.00	\$65.25

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: BOILER MAKER							
Effective Date: 1/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
7	90.00	\$43.31	\$7.07	\$12.88	\$5.40	\$0.00	\$68.66
8	95.00	\$45.71	\$7.07	\$13.62	\$5.70	\$0.00	\$72.10
Apprentice to Journeyworker Ratio: 1:4							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	2/1/2026	\$67.95	\$12.84	\$15.57	\$8.02	\$0.00	\$104.38
BRICKLAYERS LOCAL 3	8/1/2026	\$70.15	\$12.84	\$15.57	\$8.02	\$0.00	\$106.58
BRICKLAYERS LOCAL 3 (BOSTON)	2/1/2027	\$71.55	\$12.84	\$15.57	\$8.02	\$0.00	\$107.98
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.98	\$12.84	\$15.57	\$8.02	\$0.00	\$70.41
2	60.00	\$40.77	\$12.84	\$15.57	\$8.02	\$0.00	\$77.20
3	70.00	\$47.57	\$12.84	\$15.57	\$8.02	\$0.00	\$84.00
4	80.00	\$54.36	\$12.84	\$15.57	\$8.02	\$0.00	\$90.79
5	90.00	\$61.16	\$12.84	\$15.57	\$8.02	\$0.00	\$97.59
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$35.08	\$12.84	\$15.57	\$8.02	\$0.00	\$71.51
2	60.00	\$42.09	\$12.84	\$15.57	\$8.02	\$0.00	\$78.52
3	70.00	\$49.11	\$12.84	\$15.57	\$8.02	\$0.00	\$85.54
4	80.00	\$56.12	\$12.84	\$15.57	\$8.02	\$0.00	\$92.55
5	90.00	\$63.14	\$12.84	\$15.57	\$8.02	\$0.00	\$99.57
Apprentice to Journeyworker Ratio: 1:5							
BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS	12/1/2025	\$49.10	\$10.65	\$9.75	\$9.80	\$0.00	\$79.30
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.65	\$10.65	\$9.75	\$9.80	\$0.00	\$80.85
LABORERS	12/1/2026	\$52.15	\$10.65	\$9.75	\$9.80	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER LABORERS	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							

CAISSON & UNDERPINNING TOP MAN LABORERS	12/1/2025	\$48.28	\$10.65	\$9.75	\$9.80	\$0.00	\$78.48
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.83	\$10.65	\$9.75	\$9.80	\$0.00	\$80.03
	12/1/2026	\$51.33	\$10.65	\$9.75	\$9.80	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"							

CARBIDE CORE DRILL OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

CARPENTER	3/1/2026	\$62.19	\$10.58	\$11.47	\$8.50	\$0.00	\$92.74
CARPENTERS	9/1/2026	\$63.69	\$10.58	\$11.47	\$8.50	\$0.00	\$94.24
CARPENTERS -ZONE 1 (Metro Boston)	3/1/2027	\$65.19	\$10.58	\$11.47	\$8.50	\$0.00	\$95.74

Apprentice: CARPENTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.99	\$11.08	\$0.00	\$1.73	\$0.00	\$40.80
2	45.00	\$27.99	\$11.08	\$0.00	\$1.73	\$0.00	\$40.80
3	55.00	\$34.20	\$11.08	\$0.00	\$3.40	\$0.00	\$48.68
4	55.00	\$34.20	\$11.08	\$0.00	\$3.40	\$0.00	\$48.68
5	70.00	\$43.53	\$11.08	\$11.41	\$5.10	\$0.00	\$71.12
6	70.00	\$43.53	\$11.08	\$11.41	\$5.10	\$0.00	\$71.12
7	80.00	\$49.75	\$11.08	\$11.44	\$6.80	\$0.00	\$79.07
8	80.00	\$49.75	\$11.08	\$11.44	\$6.80	\$0.00	\$79.07

Apprentice: CARPENTER							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$28.66	\$11.08	\$0.00	\$1.73	\$0.00	\$41.47
2	45.00	\$28.66	\$11.08	\$0.00	\$1.73	\$0.00	\$41.47
3	55.00	\$35.03	\$11.08	\$0.00	\$3.40	\$0.00	\$49.51
4	55.00	\$35.03	\$11.08	\$0.00	\$3.40	\$0.00	\$49.51
5	70.00	\$44.58	\$11.08	\$11.41	\$5.10	\$0.00	\$72.17
6	70.00	\$44.58	\$11.08	\$11.41	\$5.10	\$0.00	\$72.17
7	80.00	\$50.95	\$11.08	\$11.44	\$6.80	\$0.00	\$80.27
8	80.00	\$50.95	\$11.08	\$11.44	\$6.80	\$0.00	\$80.27

Apprentice to Journeyworker Ratio: 1:5

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	4/1/2026	\$39.39	\$8.29	\$4.47	\$5.00	\$0.00	\$57.15
CARPENTERS	10/1/2026	\$40.19	\$8.29	\$4.47	\$5.00	\$0.00	\$57.95
CARPENTERS -ZONE 1 (Wood Frame)	4/1/2027	\$40.99	\$8.29	\$4.47	\$5.00	\$0.00	\$58.75

All Aspects of New Wood Frame Work

Apprentice: CARPENTER WOOD FRAME							
Effective Date: 4/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$19.70	\$8.29	\$0.00	\$0.00	\$0.00	\$27.99
2	50.00	\$19.70	\$8.29	\$0.00	\$0.00	\$0.00	\$27.99
3	55.00	\$21.66	\$8.29	\$0.00	\$2.00	\$0.00	\$31.95
4	55.00	\$21.66	\$8.29	\$0.00	\$2.00	\$0.00	\$31.95
5	70.00	\$27.57	\$8.29	\$4.47	\$3.00	\$0.00	\$43.33
6	70.00	\$27.57	\$8.29	\$4.47	\$3.00	\$0.00	\$43.33
7	80.00	\$31.51	\$8.29	\$4.47	\$4.00	\$0.00	\$48.27
8	80.00	\$31.51	\$8.29	\$4.47	\$4.00	\$0.00	\$48.27

Apprentice: CARPENTER WOOD FRAME							
Effective Date: 10/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$20.10	\$8.29	\$0.00	\$0.00	\$0.00	\$28.39
2	50.00	\$20.10	\$8.29	\$0.00	\$0.00	\$0.00	\$28.39
3	55.00	\$22.10	\$8.29	\$0.00	\$2.00	\$0.00	\$32.39
4	55.00	\$22.10	\$8.29	\$0.00	\$2.00	\$0.00	\$32.39
5	70.00	\$28.13	\$8.29	\$4.47	\$3.00	\$0.00	\$43.89
6	70.00	\$28.13	\$8.29	\$4.47	\$3.00	\$0.00	\$43.89
7	80.00	\$32.15	\$8.29	\$4.47	\$4.00	\$0.00	\$48.91
8	80.00	\$32.15	\$8.29	\$4.47	\$4.00	\$0.00	\$48.91

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	1/1/2026	\$53.24	\$13.35	\$16.43	\$7.78	\$1.80	\$92.60
PLASTERERS AND CEMENT MASONS LOCAL 534	7/1/2026	\$54.49	\$13.35	\$16.43	\$7.78	\$1.80	\$93.85
Plasterers and Cement Masons - Zone 1	1/1/2027	\$55.94	\$13.35	\$16.43	\$7.78	\$1.80	\$95.30
	7/1/2027	\$57.29	\$13.35	\$16.43	\$7.78	\$1.80	\$96.65
	1/1/2028	\$58.64	\$13.35	\$16.43	\$7.78	\$1.80	\$98.00

Apprentice: CEMENT MASONRY/PLASTERING							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.62	\$13.35	\$16.43	\$0.00	\$0.00	\$56.40
2	60.00	\$31.94	\$13.35	\$16.43	\$7.78	\$1.80	\$71.30
3	65.00	\$34.61	\$13.35	\$16.43	\$7.78	\$1.80	\$73.97

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: DELEADER (BRIDGE)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29

Apprentice to Journeyworker Ratio: 1:1

DEMO: ADZEMAN LABORERS	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS - ZONE 1	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40

For apprentice rates see "Apprentice- LABORER"

DEMO: CONCRETE CUTTER/SAWYER LABORERS	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 1	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 1	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate							
DIVER TENDER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate							
DIVER TENDER (EFFLUENT)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT)	8/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction)	7/1/2020	\$26.77	\$6.67	\$3.93	\$0.00	\$0.16	\$37.53
DRAWBRIDGE - SEIU LOCAL 888							
DRAWBRIDGE - SEIU LOCAL 888							
ELECTRICIAN	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
ELECTRICIANS LOCAL 103	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

Apprentice: ELECTRICIAN							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
2	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
3	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
4	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
5	50.00	\$33.43	\$13.00	\$13.63	\$4.50	\$0.00	\$64.56
6	55.00	\$36.77	\$13.00	\$13.73	\$4.95	\$0.00	\$68.45
7	60.00	\$40.12	\$13.00	\$13.83	\$5.40	\$0.00	\$72.35
8	65.00	\$43.46	\$13.00	\$13.93	\$5.85	\$0.00	\$76.24
9	70.00	\$46.80	\$13.00	\$14.03	\$6.30	\$0.00	\$80.13
10	75.00	\$50.15	\$13.00	\$14.13	\$6.75	\$0.00	\$84.03

Apprentice: ELECTRICIAN							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$27.51	\$13.00	\$0.83	\$0.00	\$0.00	\$41.34
2	40.00	\$27.51	\$13.00	\$0.83	\$0.00	\$0.00	\$41.34
3	45.00	\$30.95	\$13.00	\$13.56	\$4.05	\$0.00	\$61.56
4	45.00	\$30.95	\$13.00	\$13.56	\$4.05	\$0.00	\$61.56
5	50.00	\$34.39	\$13.00	\$13.66	\$4.50	\$0.00	\$65.55
6	55.00	\$37.83	\$13.00	\$13.76	\$4.95	\$0.00	\$69.54
7	60.00	\$41.27	\$13.00	\$13.87	\$5.40	\$0.00	\$73.54
8	65.00	\$44.71	\$13.00	\$13.97	\$5.85	\$0.00	\$77.53
9	70.00	\$48.15	\$13.00	\$14.07	\$6.30	\$0.00	\$81.52
10	75.00	\$51.59	\$13.00	\$14.18	\$6.75	\$0.00	\$85.52

Apprentice Notes
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Apprentice to Journeyworker Ratio: 2:3

ELEVATOR CONSTRUCTOR	1/1/2026	\$77.26	\$16.38	\$11.06	\$10.70	\$0.00	\$115.40
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$80.55	\$16.48	\$11.16	\$11.00	\$0.00	\$119.19
ELEVATOR CONSTRUCTORS LOCAL 4							

Apprentice: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$38.63	\$0.00	\$0.00	\$0.00	\$0.00	\$38.63
2	55.00	\$42.49	\$16.38	\$11.06	\$10.70	\$0.00	\$80.63
3	65.00	\$50.22	\$16.38	\$11.06	\$10.70	\$0.00	\$88.36
4	70.00	\$54.08	\$16.38	\$11.06	\$10.70	\$0.00	\$92.22
5	80.00	\$61.81	\$16.38	\$11.06	\$10.70	\$0.00	\$99.95
Apprentice: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2027							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$40.28	\$0.00	\$0.00	\$0.00	\$0.00	\$40.28
2	55.00	\$44.30	\$16.48	\$11.16	\$11.00	\$0.00	\$82.94
3	65.00	\$52.36	\$16.48	\$11.16	\$11.00	\$0.00	\$91.00
4	70.00	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
5	80.00	\$64.44	\$16.48	\$11.16	\$11.00	\$0.00	\$103.08
Apprentice to Journeyworker Ratio: 1:1							
ELEVATOR CONSTRUCTOR HELPER	1/1/2026	\$54.08	\$16.38	\$11.06	\$10.07	\$0.00	\$91.59
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"							
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	5/1/2026	\$54.40	\$16.55	\$13.35	\$3.25	\$0.00	\$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$55.69	\$16.55	\$13.35	\$3.25	\$0.00	\$88.84
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$57.12	\$16.55	\$13.35	\$3.25	\$0.00	\$90.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	5/1/2026	\$56.02	\$16.55	\$13.35	\$3.25	\$0.00	\$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$57.32	\$16.55	\$13.35	\$3.25	\$0.00	\$90.47
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$58.77	\$16.55	\$13.35	\$3.25	\$0.00	\$91.92
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	5/1/2026	\$26.28	\$16.55	\$13.35	\$3.25	\$0.00	\$59.43
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$27.04	\$16.55	\$13.35	\$3.25	\$0.00	\$60.19
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$27.89	\$16.55	\$13.35	\$3.25	\$0.00	\$61.04
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
ELECTRICIANS LOCAL 103	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

For apprentice rates see "Apprentice- ELECTRICIAN"

FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92
ELECTRICIANS LOCAL 103	9/1/2026	\$55.02	\$13.00	\$14.28	\$7.20	\$0.00	\$89.50
ELECTRICIANS LOCAL 103	3/1/2027	\$55.98	\$13.00	\$14.31	\$7.20	\$0.00	\$90.49
	9/1/2027	\$57.50	\$13.00	\$14.36	\$7.20	\$0.00	\$92.06
	3/1/2028	\$58.46	\$13.00	\$14.38	\$7.20	\$0.00	\$93.04

For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"

FIREMAN (ASST. ENGINEER)	12/1/2025	\$47.09	\$16.55	\$13.35	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$47.55	\$17.05	\$13.35	\$3.25	\$0.00	\$81.20
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$48.73	\$17.05	\$13.35	\$3.25	\$0.00	\$82.38

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FLAGGER & SIGNALER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$28.09	\$10.65	\$9.75	\$9.65	\$0.00	\$58.14
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$29.21	\$10.65	\$9.75	\$9.65	\$0.00	\$59.26
	12/1/2026	\$29.21	\$10.65	\$9.75	\$9.65	\$0.00	\$59.26

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FLOORCOVERER	3/1/2026	\$59.24	\$10.33	\$11.47	\$8.80	\$0.00	\$89.84
FLOORCOVERERS LOCAL 2168	9/1/2026	\$60.74	\$10.33	\$11.47	\$8.80	\$0.00	\$91.34
FLOORCOVERERS LOCAL 2168 ZONE I	3/1/2027	\$62.24	\$10.33	\$11.47	\$8.80	\$0.00	\$92.84

Apprentice: FLOORCOVERER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
2	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
3	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
4	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
5	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
6	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
7	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23
8	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23

Apprentice: FLOORCOVERER							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
2	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
3	55.00	\$33.41	\$10.33	\$0.00	\$3.52	\$0.00	\$47.26

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.88	\$0.00	\$0.00	\$0.00	\$0.00	\$32.88
2	60.00	\$35.87	\$16.05	\$13.25	\$3.25	\$0.00	\$68.42
3	65.00	\$38.86	\$16.05	\$13.25	\$3.25	\$0.00	\$71.41
4	70.00	\$41.85	\$16.05	\$13.25	\$3.25	\$0.00	\$74.40
5	75.00	\$44.84	\$16.05	\$13.25	\$3.25	\$0.00	\$77.39
6	80.00	\$47.82	\$16.05	\$13.25	\$3.25	\$0.00	\$80.37
7	85.00	\$50.81	\$16.05	\$13.25	\$3.25	\$0.00	\$83.36
8	90.00	\$53.80	\$16.05	\$13.25	\$3.25	\$0.00	\$86.35

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 6/1/2026							
1	55.00	\$32.66	\$0.00	\$0.00	\$0.00	\$0.00	\$32.66
2	60.00	\$35.63	\$17.05	\$13.35	\$3.25	\$0.00	\$69.28
3	65.00	\$38.60	\$17.05	\$13.35	\$3.25	\$0.00	\$72.25
4	70.00	\$41.57	\$17.05	\$13.35	\$3.25	\$0.00	\$75.22
5	75.00	\$44.54	\$17.05	\$13.35	\$3.25	\$0.00	\$78.19
6	80.00	\$47.50	\$17.05	\$13.35	\$3.25	\$0.00	\$81.15
7	85.00	\$50.47	\$17.05	\$13.35	\$3.25	\$0.00	\$84.12
8	90.00	\$53.44	\$17.05	\$13.35	\$3.25	\$0.00	\$87.09

Apprentice to Journeyworker Ratio: 1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS LABORERS LABORERS - ZONE 1	12/1/2025	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
	12/1/2026	\$51.75	\$10.65	\$9.75	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12

Apprentice: INSULATOR (PIPES & TANKS)							
Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$30.17	\$14.75	\$9.27	\$5.05	\$0.00	\$59.24
2	60.00	\$36.20	\$14.75	\$9.32	\$6.05	\$0.00	\$66.32
3	70.00	\$42.24	\$14.75	\$9.37	\$7.06	\$0.00	\$73.42
4	80.00	\$48.27	\$14.75	\$9.42	\$8.07	\$0.00	\$80.51

Apprentice: INSULATOR (PIPES & TANKS)							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$31.88	\$14.75	\$9.27	\$5.05	\$0.00	\$60.95
2	60.00	\$38.26	\$14.75	\$9.32	\$6.05	\$0.00	\$68.38
3	70.00	\$44.63	\$14.75	\$9.37	\$7.06	\$0.00	\$75.81
4	80.00	\$51.01	\$14.75	\$9.42	\$8.07	\$0.00	\$83.25

Apprentice to Journeyworker Ratio: 1:4

IRONWORKER/WELDER IRONWORKERS LOCAL 7 IRONWORKERS LOCAL 7 (BOSTON AREA)	9/16/2025	\$57.87	\$9.05	\$12.75	\$14.50	\$0.00	\$94.17
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: LABORER							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	90.00	\$44.46	\$10.65	\$9.75	\$9.65	\$0.00	\$74.51
Apprentice to Journeyworker Ratio: 1:5							
LABORER (HEAVY & HIGHWAY)	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.65	\$0.00	\$81.05

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.22	\$10.15	\$9.50	\$9.65	\$0.00	\$58.52
2	70.00	\$34.09	\$10.15	\$9.50	\$9.65	\$0.00	\$63.39
3	80.00	\$38.96	\$10.15	\$9.50	\$9.65	\$0.00	\$68.26
4	90.00	\$43.83	\$10.15	\$9.50	\$9.65	\$0.00	\$73.13

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.70	\$10.65	\$9.75	\$9.65	\$0.00	\$59.75
2	70.00	\$34.65	\$10.65	\$9.75	\$9.65	\$0.00	\$64.70
3	80.00	\$39.60	\$10.65	\$9.75	\$9.65	\$0.00	\$69.65
4	90.00	\$44.55	\$10.65	\$9.75	\$9.65	\$0.00	\$74.60

Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
LABORER: MULTI-TRADE TENDER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"							
LABORER: LASER BEAM OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3	2/1/2026	\$52.08	\$12.84	\$15.57	\$5.78	\$0.00	\$86.27
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$53.84	\$12.84	\$15.57	\$5.78	\$0.00	\$88.03
	2/1/2027	\$54.96	\$12.84	\$15.57	\$5.78	\$0.00	\$89.15

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$12.84	\$15.57	\$5.78	\$0.00	\$60.23
2	60.00	\$31.25	\$12.84	\$15.57	\$5.78	\$0.00	\$65.44
3	70.00	\$36.46	\$12.84	\$15.57	\$5.78	\$0.00	\$70.65
4	80.00	\$41.66	\$12.84	\$15.57	\$5.78	\$0.00	\$75.85
5	90.00	\$46.87	\$12.84	\$15.57	\$5.78	\$0.00	\$81.06

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.92	\$12.84	\$15.57	\$5.78	\$0.00	\$61.11
2	60.00	\$32.30	\$12.84	\$15.57	\$5.78	\$0.00	\$66.49
3	70.00	\$37.69	\$12.84	\$15.57	\$5.78	\$0.00	\$71.88
4	80.00	\$43.07	\$12.84	\$15.57	\$5.78	\$0.00	\$77.26
5	90.00	\$48.46	\$12.84	\$15.57	\$5.78	\$0.00	\$82.65

Apprentice to Journeyworker Ratio: 1:5

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3	2/1/2026	\$67.97	\$12.84	\$15.57	\$7.99	\$0.00	\$104.37
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$70.17	\$12.84	\$15.57	\$7.99	\$0.00	\$106.57
	2/1/2027	\$71.57	\$12.84	\$15.57	\$7.99	\$0.00	\$107.97

Apprentice: MARBLE MASONS, TILELAYERS & TERRAZZO MECH							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.99	\$12.84	\$15.57	\$7.99	\$0.00	\$70.39
2	60.00	\$40.78	\$12.84	\$15.57	\$7.99	\$0.00	\$77.18
3	70.00	\$47.58	\$12.84	\$15.57	\$7.99	\$0.00	\$83.98
4	80.00	\$54.38	\$12.84	\$15.57	\$7.99	\$0.00	\$90.78

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/1/2025	\$25.08	\$16.55	\$13.35	\$3.25	\$0.00	\$58.23
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$25.07	\$17.05	\$13.35	\$3.25	\$0.00	\$58.72
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$25.74	\$17.05	\$13.35	\$3.25	\$0.00	\$59.39

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/1/2025	\$31.05	\$16.55	\$13.35	\$3.25	\$0.00	\$64.20
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$31.17	\$17.05	\$13.35	\$3.25	\$0.00	\$64.82
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$31.97	\$17.05	\$13.35	\$3.25	\$0.00	\$65.62

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

Apprentice: PAINTER (BRIDGES/TANKS)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	1/1/2026	\$56.25	\$10.35	\$12.00	\$12.60	\$0.00	\$91.20
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.							
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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Apprentice: PAINTER / TAPER (BRUSH, NEW) *							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	65.00	\$35.65	\$10.35	\$0.00	\$8.19	\$0.00	\$54.19
5	70.00	\$38.40	\$10.35	\$12.00	\$8.82	\$0.00	\$69.57
6	75.00	\$41.14	\$10.35	\$12.00	\$9.45	\$0.00	\$72.94
7	80.00	\$43.88	\$10.35	\$12.00	\$10.08	\$0.00	\$76.31
8	90.00	\$49.37	\$10.35	\$12.00	\$11.34	\$0.00	\$83.06

Apprentice to Journeyworker Ratio: 1:1

PAINTER / TAPER (BRUSH, REPAINT)	1/1/2026	\$52.91	\$10.35	\$12.00	\$12.60	\$0.00	\$87.86
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.46	\$10.35	\$0.00	\$0.00	\$0.00	\$36.81
2	55.00	\$29.10	\$10.35	\$0.00	\$6.93	\$0.00	\$46.38
3	60.00	\$31.75	\$10.35	\$0.00	\$7.56	\$0.00	\$49.66
4	65.00	\$34.39	\$10.35	\$0.00	\$8.19	\$0.00	\$52.93
5	70.00	\$37.04	\$10.35	\$12.00	\$8.82	\$0.00	\$68.21
6	75.00	\$39.68	\$10.35	\$12.00	\$9.45	\$0.00	\$71.48
7	80.00	\$42.33	\$10.35	\$12.00	\$10.08	\$0.00	\$74.76
8	90.00	\$47.62	\$10.35	\$12.00	\$11.34	\$0.00	\$81.31

Apprentice to Journeyworker Ratio: 1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.65	\$0.00	\$78.00
LABORERS							
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.65	\$0.00	\$79.55
	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.65	\$0.00	\$81.05

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	12/1/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$0.00	\$79.07
TEAMSTERS JOINT COUNCIL NO. 10							
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$0.00	\$80.07
	8/1/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$0.00	\$80.57
	12/1/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$0.00	\$82.31

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							

For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PILE DRIVER							
Effective Date: 8/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.11	\$10.08	\$0.00	\$2.53	\$0.00	\$37.72
2	55.00	\$30.68	\$10.08	\$0.00	\$5.07	\$0.00	\$45.83
3	70.00	\$39.05	\$10.08	\$11.62	\$7.60	\$0.00	\$68.35
4	80.00	\$44.63	\$10.08	\$11.62	\$10.14	\$0.00	\$76.47
Apprentice to Journeyworker Ratio: 1:5							
PIPEFITTER & STEAMFITTER PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
Apprentice: PIPEFITTER & STEAMFITTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$28.23	\$13.95	\$0.30	\$9.55	\$0.00	\$52.03
2	45.00	\$31.76	\$13.95	\$14.00	\$9.55	\$0.00	\$69.26
3	60.00	\$42.35	\$13.95	\$14.00	\$9.55	\$0.00	\$79.85
4	70.00	\$49.41	\$13.95	\$14.00	\$9.55	\$0.00	\$86.91
5	80.00	\$56.46	\$13.95	\$14.00	\$9.55	\$0.00	\$93.96
Apprentice to Journeyworker Ratio: 1:3							
PIPELAYER LABORERS LABORERS - ZONE 1	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
PLUMBERS & GASFITTERS PLUMBERS & GASFITTERS LOCAL 12 PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$72.64	\$15.32	\$12.61	\$8.00	\$0.00	\$108.57
	8/31/2026	\$74.79	\$15.32	\$12.61	\$8.00	\$0.00	\$110.72
	3/1/2027	\$76.94	\$15.32	\$12.61	\$8.00	\$0.00	\$112.87
	8/30/2027	\$79.09	\$15.32	\$12.61	\$8.00	\$0.00	\$115.02
	2/28/2028	\$81.29	\$15.32	\$12.61	\$8.00	\$0.00	\$117.22
	9/4/2028	\$83.49	\$15.32	\$12.61	\$8.00	\$0.00	\$119.42
	3/5/2029	\$85.69	\$15.32	\$12.61	\$8.00	\$0.00	\$121.62

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	9/3/2029	\$87.89	\$15.32	\$12.61	\$8.00	\$0.00	\$123.82
	3/4/2030	\$89.84	\$15.32	\$12.61	\$8.00	\$0.00	\$125.77

Apprentice: PLUMBERS & GASFITTERS							
Effective Date: 3/2/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.42	\$15.32	\$4.61	\$2.80	\$0.00	\$48.15
2	40.00	\$29.06	\$15.32	\$5.22	\$3.20	\$0.00	\$52.80
3	55.00	\$39.95	\$15.32	\$7.07	\$4.40	\$0.00	\$66.74
4	65.00	\$47.22	\$15.32	\$8.30	\$5.20	\$0.00	\$76.04
5	75.00	\$54.48	\$15.32	\$9.53	\$6.00	\$0.00	\$85.33

Apprentice: PLUMBERS & GASFITTERS							
Effective Date: 8/31/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$26.18	\$15.32	\$4.61	\$2.80	\$0.00	\$48.91
2	40.00	\$29.92	\$15.32	\$5.22	\$3.20	\$0.00	\$53.66
3	55.00	\$41.13	\$15.32	\$7.07	\$5.20	\$0.00	\$68.72
4	65.00	\$48.61	\$15.32	\$8.30	\$5.20	\$0.00	\$77.43
5	75.00	\$56.09	\$15.32	\$9.53	\$6.00	\$0.00	\$86.94

Apprentice to Journeyworker Ratio: 1:2

PNEUMATIC CONTROLS (TEMP.)	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							

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

PNEUMATIC DRILL/TOOL OPERATOR	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

POWDERMAN & BLASTER	12/1/2025	\$48.85	\$10.65	\$9.75	\$9.65	\$0.00	\$78.90
LABORERS	6/1/2026	\$50.40	\$10.65	\$9.75	\$9.65	\$0.00	\$80.45
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.65	\$9.75	\$9.65	\$0.00	\$81.95
	6/1/2027	\$53.50	\$10.65	\$9.75	\$9.65	\$0.00	\$83.55
	12/1/2027	\$55.10	\$10.65	\$9.75	\$9.65	\$0.00	\$85.15

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2028	\$56.78	\$10.65	\$9.75	\$9.65	\$0.00	\$86.83
	12/1/2028	\$58.45	\$10.65	\$9.75	\$9.65	\$0.00	\$88.50
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.65	\$9.75	\$9.65	\$0.00	\$79.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.65	\$9.75	\$9.65	\$0.00	\$80.55
	12/1/2026	\$52.00	\$10.65	\$9.75	\$9.65	\$0.00	\$82.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$37.37	\$16.55	\$13.35	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$37.63	\$17.05	\$13.35	\$3.25	\$0.00	\$71.28
	12/1/2026	\$38.58	\$17.05	\$13.35	\$3.25	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012)	8/1/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$0.00	\$57.56
TEAMSTERS 25 (Metro) - Aggregate							
TEAMSTERS 25 (Metro) - Aggregate							
READY-MIX CONCRETE DRIVER TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$0.00	\$61.57
TEAMSTERS 25 (Metro) - Aggregate							
RECLAIMERS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ROLLER/SPREADER/MULCHING MACHINE OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) ROOFERS LOCAL 33 ROOFERS LOCAL 33	2/1/2026	\$53.53	\$14.53	\$12.67	\$9.03	\$0.00	\$89.76

Apprentice: ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$14.53	\$6.52	\$9.03	\$0.00	\$56.85
2	60.00	\$32.12	\$14.53	\$12.67	\$9.03	\$0.00	\$68.35
3	65.00	\$34.79	\$14.53	\$12.67	\$9.03	\$0.00	\$71.02
4	75.00	\$40.15	\$14.53	\$12.67	\$9.03	\$0.00	\$76.38
5	85.00	\$45.50	\$14.53	\$12.67	\$9.03	\$0.00	\$81.73

Apprentice Notes

** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

Apprentice to Journeyworker Ratio: 1:5

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33 ROOFERS LOCAL 33	2/1/2026	\$53.78	\$14.53	\$12.67	\$9.03	\$0.00	\$90.01
For apprentice rates see "Apprentice- ROOFER"							

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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Apprentice: SHEETMETAL WORKER							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
2	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
3	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
4	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
5	52.00	\$32.72	\$14.91	\$11.66	\$1.50	\$1.74	\$62.53
6	52.00	\$32.72	\$14.91	\$11.66	\$1.75	\$1.75	\$62.79
7	60.00	\$37.76	\$14.91	\$12.84	\$2.00	\$1.93	\$69.44
8	65.00	\$40.90	\$14.91	\$13.58	\$2.25	\$2.04	\$73.68
9	75.00	\$47.20	\$14.91	\$15.06	\$2.75	\$2.28	\$82.20
10	85.00	\$53.49	\$14.91	\$16.53	\$2.75	\$2.49	\$90.17

Apprentice to Journeyworker Ratio: 1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	12/1/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$0.00	\$79.82
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$0.00	\$80.82
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$0.00	\$81.32
	12/1/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$0.00	\$83.06
SPRINKLER FITTER	1/1/2026	\$72.05	\$13.45	\$7.45	\$18.25	\$0.00	\$111.20
SPRINKLER FITTERS LOCAL 550							
SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1							

Apprentice: SPRINKLER FITTER							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.22	\$13.45	\$13.84	\$0.00	\$0.00	\$52.51
2	40.00	\$28.82	\$13.45	\$14.75	\$0.00	\$0.00	\$57.02
3	45.00	\$32.42	\$13.45	\$15.67	\$0.00	\$0.00	\$61.54
4	50.00	\$36.03	\$13.45	\$16.57	\$0.00	\$0.00	\$66.05
5	55.00	\$39.63	\$13.45	\$17.49	\$0.00	\$0.00	\$70.57
6	60.00	\$43.23	\$13.45	\$18.40	\$0.00	\$0.00	\$75.08
7	65.00	\$46.83	\$13.45	\$19.32	\$0.00	\$0.00	\$79.60
8	70.00	\$50.44	\$13.45	\$20.22	\$0.00	\$0.00	\$84.11
9	75.00	\$54.04	\$13.45	\$21.15	\$0.00	\$0.00	\$88.64
10	80.00	\$57.64	\$13.45	\$22.05	\$0.00	\$0.00	\$93.14

Apprentice Notes
 Apprentice entered prior 9/30/10:

Apprentice to Journeyworker Ratio: 1:3

STEAM BOILER OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92
TELECOMMUNICATION TECHNICIAN	9/1/2026	\$55.02	\$13.00	\$14.28	\$7.20	\$0.00	\$89.50
ELECTRICIANS LOCAL 103	3/1/2027	\$55.98	\$13.00	\$14.31	\$7.20	\$0.00	\$90.49
ELECTRICIANS LOCAL 103	9/1/2027	\$57.50	\$13.00	\$14.36	\$7.20	\$0.00	\$92.06
	3/1/2028	\$58.46	\$13.00	\$14.38	\$7.20	\$0.00	\$93.04

For apprentice rates and ratios see "Apprentice- ELECTRICIAN"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: TERRAZZO FINISHERS							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$34.55	\$12.84	\$15.57	\$8.02	\$0.00	\$70.98
2	60.00	\$41.45	\$12.84	\$15.57	\$8.02	\$0.00	\$77.88
3	70.00	\$48.36	\$12.84	\$15.57	\$8.02	\$0.00	\$84.79
4	80.00	\$55.27	\$12.84	\$15.57	\$8.02	\$0.00	\$91.70
5	90.00	\$62.18	\$12.84	\$15.57	\$8.02	\$0.00	\$98.61
Apprentice to Journeyworker Ratio: 1:5							
TEST BORING DRILLER LABORERS	12/1/2025	\$51.95	\$10.65	\$9.75	\$9.80	\$0.00	\$82.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$53.50	\$10.65	\$9.75	\$9.80	\$0.00	\$83.70
	12/1/2026	\$55.00	\$10.65	\$9.75	\$9.80	\$0.00	\$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER LABORERS	12/1/2025	\$48.07	\$10.65	\$9.75	\$9.80	\$0.00	\$78.27
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.62	\$10.65	\$9.75	\$9.80	\$0.00	\$79.82
	12/1/2026	\$51.12	\$10.65	\$9.75	\$9.80	\$0.00	\$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER LABORERS	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70
	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$0.00	\$80.11
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$0.00	\$81.11
	8/1/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$0.00	\$81.61
	12/1/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR LABORERS	12/1/2025	\$60.18	\$10.65	\$9.75	\$10.25	\$0.00	\$90.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$61.73	\$10.65	\$9.75	\$10.25	\$0.00	\$92.38
	12/1/2026	\$63.23	\$10.65	\$9.75	\$10.25	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) LABORERS	12/1/2025	\$62.18	\$10.65	\$9.75	\$10.25	\$0.00	\$92.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$63.73	\$10.65	\$9.75	\$10.25	\$0.00	\$94.38
	12/1/2026	\$65.23	\$10.65	\$9.75	\$10.25	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	12/1/2025	\$52.25	\$10.65	\$9.75	\$10.25	\$0.00	\$82.90

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$53.80	\$10.65	\$9.75	\$10.25	\$0.00	\$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$55.30	\$10.65	\$9.75	\$10.25	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"							
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TUNNEL WORK - FREE AIR (HAZ. WASTE)	12/1/2025	\$54.25	\$10.65	\$9.75	\$10.25	\$0.00	\$84.90
LABORERS	6/1/2026	\$55.80	\$10.65	\$9.75	\$10.25	\$0.00	\$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$57.30	\$10.65	\$9.75	\$10.25	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"							
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VAC-HAUL	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77
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WAGON DRILL OPERATOR	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
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WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
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WASTE WATER PUMP OPERATOR	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
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WATER METER INSTALLER	3/2/2026	\$72.64	\$15.32	\$12.61	\$8.00	\$0.00	\$108.57
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$74.79	\$15.32	\$12.61	\$8.00	\$0.00	\$110.72
PLUMBERS & GASFITTERS LOCAL 12	3/1/2027	\$76.94	\$15.32	\$12.61	\$8.00	\$0.00	\$112.87
	8/30/2027	\$79.09	\$15.32	\$12.61	\$8.00	\$0.00	\$115.02
	2/2/2028	\$81.29	\$15.32	\$12.61	\$8.00	\$0.00	\$117.22
	9/4/2028	\$83.49	\$15.32	\$12.61	\$8.00	\$0.00	\$119.42
	3/5/2029	\$85.69	\$15.32	\$12.61	\$8.00	\$0.00	\$121.62
	9/3/2029	\$87.89	\$15.32	\$12.61	\$8.00	\$0.00	\$123.82
	3/4/2030	\$89.84	\$15.32	\$12.61	\$8.00	\$0.00	\$125.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Additional Apprentice Information

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

BRJP Hand - Out/New Ordinance

In accordance with the New BRJP Ordinance (attached) which was approved on January 25, 2017 - Below are the Key Changes from the previous ordinance along with items that will need to be submitted to the BRJP Office on or before the project Kick- Off meeting:

Key Changes

- 1) Boston Resident - 50 to 51%
- 2) People of Color - 25 to 40%
- 3) Female - 10 to 12%
- 4) Trainee (Apprentice Goals) - 51% BR, 40% People of Color, 12% Female
- 5) BPDA Projects subject to Boston Employment Commission

Enforcement of 7 compliance efforts (Non-Compliance could lead to a \$300 a day fine)

- 1) Attending pre-construction meetings
- 2) Providing weekly certified payrolls
- 3) Attending corrective action meetings
- 4) Appearing at BEC meetings when requested
- 5) Providing communications/confirmations
- 6) Providing referrals to jobs bank
- 7) Verifying Boston residents

The following items will need to be submitted on or before Kick-Off meeting with the BRJP Office:

- ❖ BRJP Office will provide history reports for potential contractors
- ❖ Workforce projections for each contractor
- ❖ Number of anticipated construction jobs for project
- ❖ Number of apprentices and Boston Resident, People of Color, Female status
- ❖ Number of anticipated permanent jobs (Optional)
- ❖ Number of jobs for veterans (Optional)
- ❖ List of potential M/WBE contractors for project (Optional)



Mayor's Office of Economic Development | *Director Karilyn Crockett*
Boston Residents Jobs Policy Office | Office of Small Business Development
26 Court Street, 7th Floor | christopher.brown@boston.gov | 617.635.1445

ORDINANCE AMENDING THE BOSTON RESIDENTS JOBS POLICY AND BOSTON EMPLOYMENT COMMISSION

WHEREAS, the City of Boston expends substantial funds on construction projects to develop, repair, and maintain municipal facilities and infrastructure; and

WHEREAS, public funds spent by the City of Boston on construction projects are derived from taxes paid by Boston residents; and

WHEREAS, the City of Boston advances the public interest by ensuring all construction projects under its purview are constructed and administered in accordance with plans, specifications, and contract provisions furthering the economic inclusion policies of the City and promoting economic opportunities for Boston residents, people of color, and women; and

WHEREAS, the City of Boston and the Boston Planning and Development Agency also enable private developers to obtain state and federal funds and provide such developers with zoning relief, property tax, and other benefits, for the purpose of constructing public and private projects in the City of Boston; and

WHEREAS, the construction industry is an important component of the City's economy and it is in the City's and the public's best interest to increase the supply of qualified construction workers, particularly those historically underrepresented in the construction industry, including Boston residents, people of color, and women; and

WHEREAS, the City has made substantial public investments in its schools and workforce development system, including Madison Park High School, Building Pathways, and Operation Exit; and

WHEREAS, City-funded construction projects provide a crucial opportunity to connect participants in these City-funded or City-operated workforce development programs with employment and training opportunities, and to direct employment and training opportunities created by the City's public expenditures; and

WHEREAS, the City of Boston will continue to make construction project bids and awards in future years and pre-apprenticeship and apprenticeship training programs have successfully established a meaningful diversity of apprentice workers; and

WHEREAS, poverty continues to persist in Boston and different demographic groups continue to be disproportionately affected by unemployment and insufficient income; and

WHEREAS, the Mayor and the Office of Economic Development understand that economic equity is a defining challenge for the City of Boston and are committed to ensuring inclusion and equity in the workforce; NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF BOSTON AS FOLLOWS:

SECTION 1. City of Boston Code, Ordinances, Chapter 12, Section 12-10 is hereby amended by striking this section in its entirety.

SECTION 2. City of Boston Code, Ordinances, Chapter 8, Section 8-9.1 is hereby amended by striking the words “Contract Compliance Office,” “Minority Person,” “Resident,” and their respective definitions, and adding the following at the end of the section:

Bona fide Boston resident means a worker who provides sufficient evidence of his or her status as a resident of the City of Boston as described in section 8-9.3(a)(2)(f).

Boston Residents Jobs Policy standards or *BRJP standards* means the standards as described below:

1. At least fifty-one percent of the total work hours of journey people and fifty-one percent of the total work hours of apprentices in each trade on a Covered Project shall be by bona fide Boston residents;
2. At least forty percent of the total work hours of journey people and forty percent of the total work hours of apprentices in each trade on a Covered Project shall be by people of color;
3. At least twelve percent of the total work hours of journey people and twelve percent of the total work hours of apprentices in each trade on a Covered Project shall be by women.

City-Funded Project means any construction project funded in whole or in part by City funds or funds which, in accordance with a Federal grant or otherwise, the City expends or administers.

Commission means the Boston Employment Commission.

Compliance Monitor means the person or persons assigned by the Boston Residents Jobs Policy office or the Boston Planning and Development Agency compliance office to monitor a Covered Project’s compliance with this Ordinance.

Covered Project means (1) Any City-Funded Project as defined in this section or (2) Any Major Development Project as defined in this section.

Developer means an entity that owns or coordinates the construction or substantial rehabilitation of a Major Development Project.

General Contractor or *Construction Manager* means any person, firm, partnership, owner operator, limited liability company, corporation, joint venture, proprietorship, trust, association

or other legal entity that employs individuals to perform work on Covered Projects, including contractors and subcontractors of all tiers.

Major Development Project means any new construction or substantial rehabilitation project in the City for which a Project Notification Form has not already been submitted to the Boston Planning and Development Agency on or before January 31, 2017 for the specific construction or rehabilitation, which requires Zoning Relief, and in which it is proposed to erect a structure or structures having a total gross floor area (exclusive of all accessory parking garage space) in excess of fifty thousand (50,000) square feet or to enlarge or extend a structure or structures so as to increase its (or their) gross floor area (exclusive of all accessory parking garage space) by more than fifty thousand (50,000) square feet or to substantially rehabilitate a structure or structures having, or to have, after rehabilitation, a gross floor area (exclusive of accessory parking garage space) of more than one hundred thousand (100,000) square feet.

People of color means individuals who are Black, Hispanic/Latino, Asian/Pacific Islander, or Native American.

SECTION 3. City of Boston Code, Ordinances, Section 8-9.2 is hereby amended by striking the section in its entirety and inserting in place the following:

8-9.2. Boston Residents Jobs Policy office

(a) The Boston Residents Jobs Policy office in the Office of Economic Development (“BRJP office”) shall be responsible for the planning, implementation, and overall coordination of compliance monitoring on all Covered Projects, including but not limited to Major Development Projects. Some Covered Projects will be monitored by the Boston Planning and Development Agency compliance office (“BPDA compliance office”), which will assume the role of the BRJP office for purposes of this ordinance on those projects. On Covered Projects, the developer, general contractor/construction manager, and each subcontractor must meet with the assigned compliance monitor prior to beginning construction to discuss initial project overview, including project duration, dollar amount, workforce projections, and BRJP standards. Subcontractors added to a Covered Project after the beginning of construction must meet with the assigned compliance monitor prior to beginning work on the project.

(b) The BRJP office shall operate a referral program, called the Boston Residents Jobs Bank, which shall refer City residents, people of color, and women to general contractors, construction managers, and subcontractors to increase opportunities for Boston residents, people of color, and women for employment and training on construction projects within the City of Boston.

(c) Prior to the commencement of any Covered Project, the assigned compliance monitor shall:

1. Review spending plans for the project;
2. Review timeline and workforce projections for the project;
3. Identify the number of job positions to be created by the project;
4. Specify training needed for entry-level and semi-skilled positions by job title;

5. Assist the City, developers, and general contractors, in conjunction with appropriate unions and their existing collective bargaining agreements where applicable, with recruiting employees and arranging for training through established union apprenticeship programs. On non-union projects, assist the City, developers, and general contractors with recruiting employees through available community-based programs; and
6. Utilize the Jobs Bank to refer Boston residents, people of color, and women to general contractors and subcontractors to assist such general contractors/construction manager and subcontractors to comply with this Ordinance and to increase opportunities for Boston residents, people of color, and women for employment and training on construction projects within the City of Boston.

(d) On each Covered Project, the assigned compliance monitor shall track the number of hours completed by people of color who are Boston resident people of color.

SECTION 4. City of Boston Code, Ordinances, Section 8-9.3 is hereby amended by striking the section in its entirety and inserting in place the following:

8-9.3 Compliance

(a) On any new Covered Project, a general contractor/construction manager or subcontractor may comply with the Boston Residents Jobs Policy by achieving, on a craft by craft basis, at least one of the following:

1. Meeting the BRJP standards as defined in section 8-9.1 and providing documentation of such to the assigned compliance monitor; or
2. Taking each of the following steps:
 - a. Prior to the start of construction, the general contractor/construction manager shall designate an individual to serve as a compliance officer for the purpose of complying with the Boston Residents Jobs Policy.
 - b. Prior to the start of construction, the general contractor/construction manager and each subcontractor then selected shall meet with the assigned compliance monitor for the purpose of reviewing the Boston Residents Jobs Policy standards, estimated construction activity over the construction period of the Covered Project, and each item listed in section 8-9.2(c). A representative of the awarding or contracting authority on public projects may attend the meeting. The general contractor/construction manager shall in a timely manner complete and submit to the Commission and the assigned compliance monitor a projection of the workforce needs over the course of construction of the Covered Project. Such submission shall reflect the needs by trade for each month of the construction process. This process shall continue with each subcontractor subsequently hired. All meetings shall be documented and a copy of the documentation shall be filed with the assigned compliance monitor.
 - c. Whenever any person involved in the construction of a Covered Project makes a request to a union hiring hall, business agent, general contractor/construction managers'

association, or community referral source for qualified construction workers, the request shall ask that those qualified applicants referred for construction positions be referred in proportions specified in the Boston Residents Jobs Policy and shall further contain a recitation of the standards listed in section 8-9.1. However, if the requesting party's workforce composition at any time falls short of any one or more of the standards, the requesting party shall adjust his or her request so as to seek to more fully achieve the proportions specified in section 8-9.1. If the union hiring hall, business agent, general contractor/construction managers' association, or community referral source to whom a request for employees has been made fails to fully comply with such request, the requesting party's compliance officer shall seek written confirmation from the hall, agent, association, or community referral source that there are insufficient employees in the categories in the request and that the insufficiency is documented on the unemployed list maintained by the hall, agent, association, or community referral source. Copies of any confirmations obtained, as well as the requests for confirmation, shall be forwarded to the assigned compliance monitor.

d. All Boston residents, people of color, and women applying directly to the general contractor/construction manager or any subcontractor for employment in construction on a Covered Project who are not subsequently employed by the party to whom application is made shall be referred by said party to the BRJP Jobs Bank and a written record of such referral shall be made by said party, a copy of which shall be sent to the assigned compliance monitor.

e. General contractors/construction managers and subcontractors shall maintain a current file of the name, address, and telephone number of each Boston resident, person of color, and woman who has sought employment with respect to a Covered Project, or who was referred to the general contractor/construction manager by the BRJP Jobs Bank but was not hired. The general contractor/construction manager shall maintain a record of the reason any such person was not hired. A copy of the file shall be sent each month to the assigned compliance monitor.

f. Before hiring, general contractors/construction managers and subcontractors shall obtain from each Boston Resident worker to be employed in the construction of the Covered Project a sworn statement containing the worker's name and place of residence, as well as a driver's license or state form of identification and a current (30 days), postmarked bill sent to their permanent residence. Documentation of residency shall be kept in the worker's file and be included in the initial compliance review. The residency verification will be good for the duration of the project. Failure to properly verify a worker's residency will result in not having the resident hours credited towards the overall project hours.

g. One week after the commencement of the construction of the project, and each week thereafter until the completion of the project, general contractors/construction managers and subcontractors shall submit electronically to the BRJP office or BPDA compliance office for the week just ended a report which contains the following information for each employee who performed any work on the project in the week just ended: the employee's name, place of residence, race, gender, craft, job category, apprenticeship participation,

number of hours worked, and employer. The report shall also include the total number of hours worked by the total workforce in each craft during the week just ended.

h. Compliance monitors will be allowed to make site visits to construction projects to determine employment standards relative to the BRJP goals. General contractors/construction managers and selected subcontractors shall attend corrective action meetings with the assigned compliance monitor upon the monitor's request to review and outline action steps required towards targeted goals for the duration of the project. The results of the corrective action meetings shall be included in compliance reviews.

i. General contractors/construction managers and subcontractors shall send a letter to the assigned compliance monitor upon issuance of the final certificate of occupancy related to a Covered Project. The general contractor/construction manager or subcontractor must cooperate with close out procedure.

j. General contractors/construction managers and subcontractors shall appear before the Boston Employment Commission when requested.

k. General contractors/construction managers and each subcontractor shall maintain records reasonably necessary to ascertain compliance with the steps detailed in clauses (a) through (i) of this section for at least three (3) years after the issuance of a certificate of occupancy for the Covered Project.

l. General contractor/construction managers shall incorporate in every subcontractor contract an enumeration of the BRJP standards and shall impose on each subcontractor a responsibility to take all steps enumerated in clauses (a) to (k) of this section; or

3. By demonstrating the high impracticality of complying with the BRJP standards for a particular contract or class of employees in a particular craft before project commencement and agreeing to sponsor a specified number of new apprentices or other trainees specifically for the purpose of satisfying this subsection, in trades in which noncompliance is likely, and retaining those apprentices or trainees throughout the duration of the project. All apprentices or trainees retained to satisfy this subsection must be bona fide Boston residents, people of color, or women. The general contractor/construction manager or subcontractor must work in coordination with the BRJP office or Boston Planning and Development Agency compliance office to avoid fines and other penalties under this section. This subsection may be utilized for compliance with this Ordinance only upon written authorization by the compliance monitor for each particular craft on a project.

(b) On any new Major Development Project, a developer may comply with the Boston Residents Jobs Policy by achieving, on a craft by craft basis, at least one of the following:

1. Meeting the BRJP standards as defined in section 8-9.1 and providing documentation of such to the assigned compliance monitor; or

2. Taking each of the following steps:

a. Incorporating in every general construction contract or construction management agreement an enumeration of the BRJP standards and imposing a responsibility upon each general contractor/construction manager or construction manager to take all steps enumerated in clauses (a) to (j) of section 8-9.3(a)(2) and to incorporate the BRJP standards in all subcontracts and impose on all subcontractors the obligation to take such steps.

b. Meeting with the general contractor/construction manager no less frequently than weekly throughout the period of construction of the Covered Project to review the general contractor/construction manager's compliance with the BRJP standards and the steps enumerated in clauses (a) to (i) of section 8-9.3(a)(2). The developer shall maintain minutes of such meetings and shall forward a copy of such minutes to the assigned compliance monitor within ten (10) days of each meeting.

c. Appearing before the Boston Employment Commission when requested.

3. By demonstrating the high impracticality of complying with the BRJP standards for a particular contract or class of employees in a particular craft before project commencement and agreeing to sponsor a specified number of new apprentices in addition to those employed pursuant to City of Boston Code of Ordinances, Section 8-9.5, in trades in which noncompliance is likely, and retaining those apprentices throughout the duration of the project. All apprentices retained under this section must be bona fide Boston residents, people of color, or women. The General contractor or subcontractor must work in coordination with the BRJP office or Boston Planning and Development Agency compliance office to avoid fines and other penalties under this section. This subsection may be utilized for compliance with this Ordinance only upon written authorization by the compliance monitor for each particular craft on a project.

SECTION 5. City of Boston Code, Ordinances, Section 8-9.4 is hereby amended by striking the section in its entirety and inserting in place the following:

8-9.4 Boston Employment Commission

(a) The Commission will be responsible for compliance review of all Covered Projects, including those monitored by the BPDA compliance office, and enforcing this Ordinance, up to and including the imposition of sanctions and fines.

(b) The Commission will be comprised of seven (7) Commission members.

(c) The Mayor will appoint all Commission members. The Mayor will select either one or two Commission members from recommendations made by organizations dedicated to workers' rights in the City of Boston, one Commission member from recommendations made by labor unions including SEIU and trade unions, one Commission member from recommendations made by organizations representing the development community, and one Commission member from recommendations made by organizations representing the non-profit development community.

- (d) Commission members may serve a maximum of three (3) consecutive two-year terms.
- (e) The Chairperson of the Commission shall be designated by the Mayor and shall serve in that capacity for a term of two (2) years.
- (f) The Mayor may remove a Commission member, including a Chairperson, for cause by filing a written statement with the City Clerk. The Mayor's decision shall be final.
- (g) The Commission shall meet at least monthly.
- (h) The Commission shall review each Covered Project at the 25%, 50%, 75% and 100% percent complete stage, measured by total worker hours completed. Commission review shall occur at least every three months, regardless of the stage of project completion.
- (i) The Commission shall monitor Davis-Bacon Act requirements contained in City agency or Boston Planning and Development Agency contracts. The Commission shall receive compliance information and shall forward any information concerning apparent noncompliance to appropriate federal agencies.
- (j) The Commission shall have the authority to promulgate regulations as to matters within the Commission's purview after public notice and hearing and upon a vote of all members and is directed to consider The Policy Group on Tradeswomen's Issues document entitled *Finishing the Job: Best Practices for Diversity in Construction* when promulgating regulations concerning how the Commission will assess efforts to comply with this ordinance.

SECTION 6. City of Boston Code, Ordinances, Chapter 8 is hereby amended by inserting after Section 8-9.7 the following sections:

8-9.8. Sanctions

- (a) The Commission shall determine compliance with the Boston Residents Jobs Policy standards and the compliance standards listed in section 8-9.3. The Commission shall gather and receive compliance information, investigate non-compliance complaints, and make compliance determinations.
- (b) The Commission shall have the power to impose sanctions upon developers, general contractors/construction managers, and subcontractors found to be in non-compliance with this ordinance. Sanctions may be imposed by a majority vote of the members of the Commission present. Developers may be fined for violations of the Ordinance by general contractors/construction managers and subcontractors on their projects.

1. For City-Funded Projects, penalties and fines may include:
 - a. Fines to a maximum of three hundred dollars (\$300.00) for each violation. A violation occurs where a general contractor/construction manager or subcontractor

has not complied with this Ordinance. Each day of noncompliance will be considered a separate violation.

- b. Creation of a record of non-compliance with City policy that may be considered when awarding future construction contracts on City-Funded Projects.
2. For Major Development Projects, penalties and fines may include:

- a. Fines to a maximum of three hundred dollars (\$300.00) for each violation. A violation occurs where a developer, general contractor/construction manager, or subcontractor has not complied with this Ordinance or analogous provision of any agreement with the Boston Planning and Development Agency. Each day of noncompliance will be considered a separate violation.

- b. Creation of a record of non-compliance with City policy that may be considered when awarding future construction contracts on City-Funded Projects.

(c) The City of Boston may suspend the work of, or payments to, general contractors/construction managers who violate this Ordinance on City-Funded Projects, until compliance is obtained, and may terminate their contract after repeated violations.

(d) General contractors/construction managers and selected subcontractors will be required to make periodic appearances before the Commission to review and provide updates on projects. Appearing parties should bring all documentation of compliance. The assigned compliance monitor will prepare and present a report regarding the following:

1. Statistics for top 5 trades and subcontractors
2. Average payroll submission time
3. Project work hours completed by Boston Residents, people of color, and women
4. Compliance with steps listed in section 8-9.3(a)(2)

(d) Any party may appeal a vote to issue a fine under this Ordinance for reconsideration by the Commission. Such appeal must be made in writing and must include a memorandum of no more than five (5) pages explaining the reasons why the Commission's decision should be reversed. Such appeal must be received by the Commission within thirty (30) days of the hearing date at which the fine was ordered. Upon receipt of a timely appeal, the Commission must schedule the appeal for a hearing and send notice of the same to the appealing party and the assigned compliance monitor. At the hearing, the appealing party and the assigned compliance monitor may present additional relevant evidence. At the conclusion of the hearing, the Commission shall determine whether to vacate its initial findings based on the evidence presented on appeal.

8-9.9 City Council Review

(a) Each year in April and October the Boston City Council will hold a hearing to review the work of the Boston Employment Commission during the preceding six (6) months based on a report that itemizes the number of compliance determinations, the number of developers, General

contractors/construction managers and subcontractors determined to be out of compliance; the number of sanctions levied; the amount of the sanctions levied; the number of sanctions received by Developers and General contractors/construction managers and subcontractors in each of the twenty two trades; the total number of work hours, trade by trade; and the percentage of total hours, trade by trade performed by Boston workers, people of color, and women during the preceding six (6) months. The Boston Employment Commission will also provide data and information that will enable the City Council to make a recommendation as to whether the goals for people of color or female worker hours should be raised.

8-9.10 Hiring Discretion

(a) This Policy does not limit contractors' or subcontractors' ability to assess qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this Policy shall be interpreted so as to require a contractor or subcontractor to employ a worker not qualified for the position in question, or to employ any particular worker.

8-9.11 Severability

(a) If any provision of this section is held to be invalid by a court of competent jurisdiction, then such provision shall be considered separately and apart from the remaining provisions, which shall remain in full force and effect.

SECTION 7. This ordinance shall take effect upon passage.

In City Council JAN 25 2017

Therese Feeney
Approved _____ City Clerk

[Signature]
Approved _____ Mayor

SECTION 00 91 00: ADDENDA

[Attach copies of all Addenda issued for the Project by the Awarding Authority to this page.]

C. 30, §39m
Rev. 9/06

**END OF SECTION 00 91 00
ADDENDA**

SECTION 01 11 00: SUMMARY OF WORK/SITE LOCATION

1.01 LOCATION

[NOTE: 0 Moon Island Road, Quincy Massachusetts 02171]

1.02 GENERAL REQUIREMENTS

The General Conditions, Supplementary Conditions and applicable parts of Division 01 General Requirements are all included as part of this Section. The **Contractor** is required to examine all other sections of the specifications for requirements that may affect the work of this Section. The **Contractor** is also required to coordinate the Work with that of all trades affecting or affected by the Work of this Section, and to cooperate with such trades to assure the continued progress of the Work. The intent of the Contract Documents is to require that the **Contractor** provide all material, labor and equipment needed in order to furnish a complete Project, and that all of the material, labor and equipment be furnished complete in every respect.

1.03 SCOPE OF WORK

A. Work covered by this contract includes but may not be limited to site-work; construction; re-construction; alterations; remodeling or repair of the public works Project described in this paragraph 1.03 including the following major work.

[NOTE:

The Project is located on Moon Island in Boston, Massachusetts. This is the site of the Boston Fire Department Training Facilities. Access is restricted through the guardhouse located at the end of Dorchester Street, Quincy. The site will be active and coordination with Boston Fire Department Facilities and Public Facilities Department, are necessary for completion of the scope of work for this project.

Work includes, but limited to:

1. Site mobilization and demobilization.
2. Identify, temporarily relocate, or protect existing utilities and Site features to remain after the Project is complete.
3. Perform monitoring, surveys, and testing as required by the Contract Documents
4. Partial demolition of existing brick outfall and installation of precast culverts to reestablish flow. Backfill over culverts.
5. Recovery of seawall stone, repair and reconstruct seawall.
6. Construction of reinforced concrete splash wall.
7. Restoration of all disturbed areas including: paving, line striping, loam and seed.]

C. 30, §39M
Rev. 9/06

**END OF SECTION 01 11 00
SUMMARY OF WORK SITE LOCATION**

SECTION 01 23 00: ALTERNATES

1.0 INSTRUCTIONS AND PROVISIONS

1.1 Each Bidder shall be held fully responsible for examining the scope of the alternates generally defined herein and for recognizing any modifications to the Work caused by any alternate whether or not the particular trade Section is mentioned therein.

1.2 All sections of the Work that are affected by the alternates will be considered Work to be performed by the **General Contractor**.

1.3 General Bidders shall enter a single amount in the appropriate space provided in the Form for Bid, which total amount shall consist of the amount for all work to be performed by the **General Contractor**.

1.4 The Work of the various Subcontractors and trades to be performed under alternates shall be in strict accordance with the requirements of the particular trade Section of the Specifications.

[NOTE: Here the specification writer will give a brief description of each Alternate applicable for the project, referring to specific Section numbers wherever a more comprehensive description of the Alternate is given].

2.0 ALTERNATE NO. 1

2.1 Scope: Provide the cost for installing "Allium" stainless steel clad reinforcing bars as indicated instead of the reinforcing bars specified in 03 31 30 2.01 K, M and W

- Refer to included in the appendix is the manufacturer's specification for installation instructions.

**END OF SECTION 01 23 00
ALTERNATES**

SECTION 01 30 00: ADMINISTRATIVE AND PROCEDURAL PROVISIONS

TABLE OF CONTENTS

- 1.1 REQUIREMENTS INCLUDED
- 1.2 This Section includes the following administrative and procedural requirements for the Work, including but not limited to the following:
- 1.3 Work Under This Contract.
- 1.4 Contract Method.
- 1.5 Contractor Use of the Premises.
- 1.6 User Agency Occupancy.
- 1.7 Adjacent Contracts and Concurrent Work.
- 1.8 Owner Furnished and Installed Products.
- 1.9 Field Engineering.
- 1.10 Reference Standards.
- 1.11 Pre-Construction Meeting.
- 1.12 Project Meetings.
- 1.13 Inspection and Testing Required
- 1.14 Fire Safety Regulations.
- 1.15 Laser Rays or Beams.
- 1.16 Existing Utilities.
- 1.17 Dig Safe Requirements.
- 1.18 Massachusetts Right To Know Law
- 1.19 Permitting.
- 1.20 Boston Public Works Department Requirements.
- 1.21 Boston Water and Sewer Commission Requirements.
- 1.22 Boston Transportation Department Requirements.

c. 30, §39m
Rev. 9/06

1.3 WORK UNDER THIS CONTRACT

The work to be done under this contract consists of provision and payment for all materials, labor, tools, equipment, pumping, water, light, heat, power, transportation, superintendence, temporary construction of every nature, permits, taxes legally collectible because of the Work, and all other services and facilities of every nature whatsoever necessary to execute the Work and to finally complete it in every respect.

1.4 CONTRACT METHOD

Construct and bring the Work to final completion under a single lump sum contract per § 00 52 13. In order to fully comply with the Construction Progress Schedule for the Work, the Contractor shall order all materials immediately after the approval of shop drawings and shall obtain a fixed delivery date to the Site for all materials ordered which shall not impede or otherwise interfere with the Construction Progress Schedule.

1.5 CONTRACTOR USE OF PREMISES

The **Contractor** will be permitted access to the Site as necessary for work operations, subject to procedures and limitations defined within the Contract Documents.

1.6 USER AGENCY OCCUPANCY

The User Agency shall occupy the Site no later than the contract date for Substantial Completion. The **City** may elect to occupy and use the land, buildings, systems, and grounds at the Site before achieving contract dates under contract terms providing for partial use and occupancy by the **City**. Equipment installation or set-up is not to be considered occupancy by the **City** under this Contract. The **Contractor** shall schedule and coordinate the Work so that there will be no interference with the activities of the **City**, and shall make no claim for delay in the Work caused by said activities.

1.7 ADJACENT CONTRACTS AND CONCURRENT WORK

The **Contractor** shall schedule and coordinate the Work so that there will be no interference with the activities of other contracts, if any, and he shall make no claim for delay in the Work caused by said other contracts.

1.8 OWNER-FURNISHED AND INSTALLED PRODUCTS

Certain Owner furnished and installed furnishings and equipment may be installed during the term of the Contract. The **Contractor** shall schedule and coordinate his work and the work of his subcontractors so that there will be no interference or conflict with the activities of outside contractors and or vendors and the execution of the Work. The **Contractor** shall make no claim for delay in Contract Time caused by said activities except which conforms to Articles 7 and 12 of the General Conditions.

1.9 FIELD ENGINEERING

The **Contractor** shall provide field engineering services, establish grades, lines and levels, by using recognized engineering survey practices, and shall locate and protect control and reference points. Control datum for survey is that shown on the drawings.

1.10 REFERENCE STANDARDS

For products specified by an association or trade standard, the **Contractor** shall comply with the requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.11 PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be scheduled by the Owner at the office of the Official as soon as practical after the award of the Contract, to review the construction sequence and the procedures for the administration of the Contract. The following parties are to be present at the pre-construction meeting: the Public Facilities Department; the Designer; the User Agency; the **Contractor's** project team; the City Boston Residents Jobs Policy Office. If he has not already done so, the **Contractor** shall present for review at this meeting a Preliminary Progress Schedule in conformance with § 0132 17, a Submittal Schedule and a Preliminary Schedule of Values.

1.12 PROJECT MEETINGS

Project meetings shall be held at the Site on a weekly basis, or more frequently as may be required by the Public Facilities Department Project Manager. The PFD Project Manager or his designee will chair the Project Meetings. The following parties are required to be present at Project Meetings: the Public facilities Department Project Manager; the **City's** Clerk of the Works; the **Designer**; the User Agency; the **Contractor's** Project Manager and Project Superintendent; Subcontractor's Project Manager and Project Superintendent if required; additional contractors and/or vendors if required. As a prerequisite for each Project Meeting, the **Contractor** shall prepare, update and submit: material ordering schedules, shop drawing schedules and logs, construction schedules, RFI submittals and log, the change order request submittal log, and a detailed summary by trade of all current construction activity. Minutes of Project Meetings will be prepared by the **Designer**, or his designated representative. The Project Meeting minutes are the official project record.

1.13 INSPECTION AND TESTING REQUIRED

If the Contract Documents or any laws, ordinances, regulations or orders of any public authority having jurisdiction require or request that any portion of the Work be inspected, tested or approved, the **Contractor** shall schedule and perform all required testing and inspections to the satisfaction of the public authority having jurisdiction with no increase in the Contract Time or the Contract Price. The **Contractor** shall give the **Designer**, the Owner and such authority timely notice so each may observe such inspecting, testing or approval.

1.14 FIRE SAFETY REGULATIONS

All construction procedures shall comply strictly with the Massachusetts State Building Code, 780 CMR. The Boston Fire Department and the Inspectional Services Department will enforce code compliance. In addition, use only fire resistant tarpaulins for all concrete and weather protection work above basement level. Any salamanders used must exhibit an approval tag by the Massachusetts State Fire Marshal. All hot work including cutting, welding, brazing, etc. shall require a permit from the Boston Fire Department. The cost of any Boston Fire Department paid details is the responsibility of the **Contractor**.

1.15 LASER RAYS OR BEAMS

Any use of a laser ray or beam device shall require notification to the PFD Project Manager at least two working days prior to the intended use and must comply with the requirements of 105 CMR 121 et seq.

1.16 EXISTING UTILITIES

Interruptions to critical existing neighborhood utility services will not be allowed.

Sanitary sewer, storm drainage and water changeovers as affecting existing services shall be done with no disruptions of existing services.

All relocations of and connections to existing electrical, gas, cable and telephone services required under this contract shall be performed by utility company having ownership unless permitted otherwise by the utility company having ownership. Any charges by the utility companies or contracted service or utilities providers for such work shall be the responsibility of the **Contractor**. The coordination of all the above work is also a part of the Contract.

The **Contractor** shall locate and record on drawings all existing utilities along the course of the Work by such means as the **City** may approve, and shall preserve such marked locations until the Work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the **Contractor's** responsibility to notify the proper authorities and/or utility company before interfering therewith.

Existing utilities that are shown on the drawings or the location of which is made known to the **Contractor** prior to excavations, though accuracy and information as to grades and elevations may be lacking, shall be protected from damage during the excavation and backfilling operations, and if damaged, shall be repaired by the **Contractor** at his own expense. Materials below existing utilities that are removed or disturbed during excavation operations shall be carefully replaced during backfilling and thoroughly compacted to prevent future settlement and damage to the utility. Utilities damaged due to the subsequent settlement of the back fill shall be repaired by, or at the expense of the **Contractor**.

All exposed conduits, wires, and/or cables shall be provided with sufficient protection and support to prevent failure, fraying or damage due to backfilling or other construction operations. Supporting bridgework of two-inch timber planking shall be placed under the cable and shall span the entire excavation or void, and shall be removed when backfilling.

The repair, replacement, and/or restoration of existing electrical, drain, water or sewer lines, or other utility shall be completed in accordance with the applicable technical provisions of these Contract Documents for new work, or in accordance with recognized technical specifications as may be prescribed by the respective utility company or the **City** using experienced, competent labor, and materials meeting specifications and current codes.

The **Contractor** shall not obstruct access to existing active utility systems, which continue to serve facilities other than the project construction site. The **Contractor** shall exercise measures to prevent placement of temporary facilities, stored materials, and mobile equipment in such a way as to impede continuous access by authorized utility companies to such utility structures, at any time and shall be required to reimburse the utility companies for any expense incurred as a result of need to remove any such impediments to access.

1.17 DIG-SAFE REQUIREMENTS

Within the Commonwealth, “Dig-Safe” is the name of the utility Underground Plant Damage Prevention Authority. They are located at 331 Montvale Avenue, Woburn, MA 01801. The phone number is 1-888-322-4844.

The **Contractor** must notify “Dig-Safe” of contemplated excavation, demolition, or explosive work in public or private ways, and any Utility Company Right-of-Way or Easement. This notification must be made at least 72 hours prior to the work, but not more than 60 days before the contemplated work. Such notice shall set forth the name of the street or the route number of said way and an accurate description of the location and nature of the proposed work. The **City** requires that the notification be sent to “Dig-Safe” by certified mail with copies to the Official. The **City** requires a copy of the signed receipt of delivery.

Dig-Safe is required to respond to the notice within 72 hours from the time said notice is received by designating at the locus the location of pipes, mains, wires, or conduits. The **Contractor** shall not commence work until “Dig-Safe” has responded as noted above. The Work shall then be performed in such a manner, and with reasonable precautions taken, to avoid damage to utilities under the surface in said areas of work.

Prior to the Dig-Safe notification, the **City** requires contractors to provide their superintendent with current Dig-Safe regulations, and a copy of Massachusetts General Laws, Chapter 80, §40.

1.18 MASSACHUSETTS RIGHT TO KNOW LAW

The **Contractor** is responsible for complying with the provisions of Chapter 111 F of the Massachusetts General Laws, the so-called “Right to Know Law”.

1.19 PERMITTING

The **Contractor** shall obtain all required project building permits from the City of Boston Inspectional Services Department and any and all **City**, State or Federal permits required from governmental agencies having jurisdiction. The **City** waives payment requirements for the City of Boston Inspectional Services Department permit fee. Waiver of the permit fee in this instance shall not be understood to apply to any other permit and fee requirements for the Project. The Project may be deemed an “Affidavit Project” and may be permitted under the requirements of Commissioner’s Bulletin 87-1 “Affidavit Project Bulletin” as issued by the City of Boston Inspectional Services Department. If required by the Inspectional Services Department the Contractor shall assemble and submit all required affidavits, documentation and reports required for permitting and final certification. The **Contractor** shall provide and maintain the project LOG BOOK in the format and method as described in Bulletin 87-1.

1.20 BOSTON PUBLIC WORKS DEPARTMENT REQUIREMENTS

The **Contractor** shall obtain all construction permits required by the Boston Public Works Department, Permit Division for work on or access in public ways. Permit fees are to be paid by the **Contractor**.

1.21 BOSTON WATER AND SEWER COMMISSION REQUIREMENTS

The **Contractor** shall obtain all construction permits required by the Boston Water and Sewer Commission Permit Division for work associated with water, storm water and sewer connections. Permit fees are to be paid by the **Contractor**.

1.22 BOSTON TRANSPORTATION DEPARTMENT REQUIREMENTS

The **Contractor** shall obtain all construction permits required by the Boston Transportation Department, Permit Division, for work or access public ways. Permit fees are to be paid by the **Contractor**. The **Contractor** shall, at all times, keep sidewalks along public streets clear for public access, or provide and maintain an alternate covered pedestrian walkway. The alternate walkway shall be at least 6 feet wide, and meet the requirements of the Boston Transportation Department for temporary walkways in public ways.

Temporary Roadway Occupation: It may be possible to allow the **Contractor** to occupy a travel lane provided that the roadway remains open at all times. At NO time shall the **Contractor** allow any vehicle to stop, even momentarily, outside of the allowed occupation and NO vehicles shall stop, even momentarily, along any curb line. Violation of these requirements will result in the loss of use of the right travel lane and the removal of all fences or barricades from the public way. Work in the adjacent streets shall be restricted to weekends or weekdays between 9:30 am and 3:30 pm. At a minimum, a 12 foot wide travel lane shall be maintained in each direction and on the proper side of the double yellow line, median strip or traffic island.

Temporary curb cuts for access to the Site shall be limited, as required by the Project and as approved by the Awarding Authority and all other City agencies having jurisdiction

The **Contractor** shall be responsible for restoring all loop detectors, signal conduit and signal wiring that are distributed during completion of site utility work beneath adjacent streets or sidewalks, in accordance with both the Boston Transportation Department and the Boston Department of Public Works standards.

The General Criteria for Street Occupancy Applications and Traffic Maintenance Plan Criteria sections of the Boston Transportation Department Construction Management Program, December 1986, are hereby made part of the Contract.

c. 30, §39m

Rev. 9/06

END OF SECTION 01 30 00

ADMINISTRATIVE AND PROCEDURAL PROVISIONS

SECTION 01 32 16

SMALL PROJECT, SINGLE TRADE CONSTRUCTION SCHEDULE

1.1 DESCRIPTION

- A. This Section specifies the general requirements and procedures for preparing and submitting contract schedules to the **City of Boston (City), Public Facilities Department (PFD)** for review and acceptance.
- B. Acceptance of the construction schedule by **PFD** shall not relieve the contractor from compliance with the requirements of the contract documents or result in the approval of any variation from the contract documents.
- C. Refer to Article 4 – THE CONTRACTOR – GENERAL PROVISIONS of the General Conditions (00 70 00) for requirements associated with working hours (4.6) and schedule submittals (4.11).
- D. Refer to Article 7 – PROSECUTION AND COMPLETION of the General Conditions (00 70 00) for requirements associated with contract time, delay and extension of time.
- E. Refer to Article 8 – PROGRESS PAYMENTS, FINAL PAYMENT & ACCEPTANCE of the General Conditions (00 70 00) for requirements associated with submitting Applications for Payment.
- F. Refer to Article 12 – CHANGES IN CONTRACT PRICE OR TIME of the General Conditions (00 70 00) for requirements associated with time extension.
- G. Refer to Article 4 – CONTRACT TIME of Specification Section (00 52 13) for requirements of contract duration.
- H. Refer to Section 1.4.C of this specification for the specific software requirements.

1.2 SCHEDULE GLOSSARY

- A. The terms used in this Section or elsewhere in the contract documents shall have the meanings as referenced in Article 1 of the General Conditions 00 70 00. Other terms used in this Section shall have the meanings assigned to them elsewhere in the contract documents, and if not assigned and where the context will permit, as used or defined in Massachusetts General Laws (M.G.L.).

1.3 CONTRACTOR'S SCHEDULER REQUIREMENTS

- A. The name of the project scheduler, together with his/her qualifications, shall be submitted to **PFD** for approval. The project scheduler shall have a minimum of two [2] years of project CPM scheduling experience on projects of similar scope and value of this project. References shall be provided from past projects that can attest to the capabilities of the project scheduler. This person shall develop and maintain all aspects of work on all requirements in this Section as well as all others that relate to planning, scheduling, coordination and reporting of the project status. This arrangement is designed to promote the expeditious development, review, monitoring, reporting, recovery efforts, proposal schedules and the overall progress of the work.

1.4 CONSTRUCTION SCHEDULE REQUIREMENTS

- A. The contractor's approach to prosecution of the work shall be disclosed to **PFD** by submission of the computerized construction schedule required in this Section. These requirements are in addition to, and not in limitation of, requirements imposed in other sections.
- B. The contractor shall submit, as part of the Baseline and monthly schedule update submittal(s), an electronic file (.MPP or .XLSX) of the schedule containing the complete construction schedule data and files in compliance with the requirements of this Section. The schedule submittals to also include various PDF versions of the schedule (for those without scheduling software) and a detailed Narrative.
- C. **Software Requirements** – The contractor shall prepare the schedule using:

- “Microsoft Project” as **PFD**’s software preference, or similarly compatible and functional critical path method software.
- D. **Microsoft Project Settings** – All Microsoft Project (or similarly compatible and functional critical path method software) schedules must comply with the settings depicted in Attachment A.
- E. No later than seven (7) days of the execution of the contract, a scheduling meeting will be held with the **Architect**, **PFD** and **PFD**’s Scheduling Consultant if required, and shall be attended by the contractor and their project scheduler. At this meeting, the requirements of this specification will be reviewed and the approach to project scheduling will be confirmed. During this session, the contractor shall present the Draft Baseline-Rev 0 schedule to **PFD** of the work to be performed by the contractor and its subcontractors that includes but not limited to:
1. Planned approach to complete project, preferred phasing if different from suggested,
 2. A listing of all key submittals with an initial priority rating for each; permitting, third party items, required meetings with utilities,
 3. Discuss the critical path, schedule coding, calendars, holidays, any night work and the details of the Narrative,
 4. A summary of the most difficult schedule challenges the contractor is anticipating and how it plans to manage and control those challenges,
 5. This will be an interactive session, and the contractor shall answer all questions that **PFD** may have,
 6. The contractor also has the responsibility to incorporate the subcontractors’ and suppliers’ input into the schedule for activity durations, logic ties, constraint dates and overall subcontractor work duration.
- F. In preparing the Baseline-Rev 0 schedule submittal, the contractor has the responsibility to request clarification from **PFD** on any areas of the schedule which reflect the contractor’s interpretations of, or variations from, the requirements of the contract documents.
- G. The contractor is advised that its schedules and reports, as specified herein, will be an integral part of **PFD** management program. The contractor’s schedules will be used by **PFD** to monitor project progress, plan the level-of-effort by its own work forces and consultants, and as a critical decision-making tool. Accordingly, the contractor shall ensure that it complies fully with the requirements specified herein and that its schedules are both timely and accurate throughout the life of the project.
- The utilization of secondary schedules (those other than the Baseline-Rev 0 schedule or monthly schedule updates) is prohibited. The contractor’s schedules shall be used by the **Architect** and **PFD** for the following purposes as well as any other purpose where the issue of time is relevant, the contractor must prepare and plan the CPM with the following considerations:
1. Communicate to **PFD** the contractor’s current plan for performing and completing the work,
 2. Identify scope and paths that are critical to the timely completion of the work,
 3. Identify upcoming activities on the critical path(s),
 4. Evaluate the best course of action for recovering schedule delays,
 5. Basis for analyzing the time impact of changes in the work,
 6. Identify when submittals will be submitted by the contractor for the **Architect**’s review,
 7. Document the actual construction and progress of the work,
 8. Evaluate resource requirements of the contractor and subcontractors,
 9. Facilitate efforts to complete the work in a timely manner,
 10. Assign responsibility for performing specific activities,
 11. Identify access and availability of work areas,
 12. Identify look-ahead activities and planning,
 13. Contractor plan for phased or total takeover by **PFD**.
 14. Identify Owner Activities and their coordination with phased turnover to or takeover by **PFD**.

- H. The Baseline-Rev 0 construction schedule shall clearly define the prosecution of the work from the execution of the contract to Final Completion by using CPM activities for, but not limited to: submittal preparation, reviews, resubmissions and approval, Milestones, **Architect**/Engineer furnished items, material and equipment, interfaces with other contractors, Public Utilities, permitting, testing, start-up and commissioning, deliveries, construction activities, Final Inspection, Certificate of Occupancy, required inspections by Authorities Having Jurisdiction (AHJ), Punch List, Substantial Completion, Final Completion, user training, and move-in CPM Activities. Logic ties shall be realistic to show the contractor's work sequencing and separately define all requisite **Architect**, third party and **PFD** tasks.
- I. **Contractor agrees to:**
1. Present to **PFD** its scheduling or execution of the work.
 2. Not utilize schedules different from those submitted to **PFD** or any subcontractor for performance or coordination of the work.
 3. Submit schedules that accurately reflect the intent or reasonable expectations of the contractor and its subcontractors.
- J. Default construction data is not allowed. Actual start and finish dates shall not be automatically updated by default mechanisms that may be included in the CPM scheduling software systems. Actual start and finish dates and remaining duration on the CPM schedule shall match those dates provided from the contractor's back up paperwork (i.e. daily reports, delivery slips, etc.).
- K. The contractor shall not artificially improve its construction schedule by revising schedule logic, relationships, or shortening planned activity durations. Planned or Original Durations of Baseline-Rev 0 must be maintained in all monthly schedule updates and are not allowed to be changed. Any duration changes should be reflected in the "remaining duration" field.
- L. Contractor's failure to submit a Baseline-Rev 0 construction schedule to **PFD** shall be a breach of Contract. In the event the contractor fails, refuses or neglects to comply with the requirements of Section 01 32 16, **PFD** may elect any of the following: (a) no payment will be made for the General Condition, (b) prepare alternate construction schedules, as may be suitable under the circumstances, and deduct from the Contract Price all related costs by Change Order, (c) entitle **PFD** to the damages afforded for misrepresentation or fraud by these contract documents or applicable law. Continued failure of the contractor to perform in accordance with the requirements of this Section 01 32 16 will be reason to place the contractor in default of his obligation and payment of General Condition cost will be withheld until in compliance. (See 00 70 00.8.3.4).

1.5 USE OF FLOAT

- A. Contract float is not for the exclusive use or benefit of either **PFD** or the contractor but must be used in the best interest of completing the project within the Contract Time. If the dates in any construction schedule submittal forecast has any slippage or overrun of the Contract Times, the contractor shall indicate such slippage or overrun by reporting negative contract float.
- B. Sequestering of float shall be cause for non-acceptance of the contractor's schedule submittal. In the event that float sequestering is identified, the schedule shall be revised appropriately. The contractor shall not utilize the following:
1. Float suppression techniques in the construction schedule, including but not limited to interim dates imposed by the contractor other than Contract Time(s) and Milestone(s).
 2. Inclusion of activities or constraints in a path or chain leading to a Contract Milestone which are unrelated to the work as stated and specified in the contract documents.
 3. Activity durations or sequences deemed by the **Architect** to be unreasonable in whole or in part;
 4. Preferential Sequencing;
 5. Artificial Activity Durations;
 6. Misrepresentation of work hours specified in project calendars.
- C. All Contract Time(s) and Milestones shall be imposed, coded, and separately identified in all

Progress Schedule Submittals in conformance with the Milestone(s) and Contract Time(s) set forth in the contract documents. The contractor shall impose no other date constraints in the construction schedule, unless an explanation of their basis is provided and is acceptable to **PFD**.

- D. If the contractor is delayed in performing the work, the contractor shall absorb any related delay, disruption, interference, hindrance, extension or acceleration, however caused, until all contract float is consumed. The contractor shall work cooperatively with **PFD**, **Architect**, adjacent contractors, and third parties, to identify and implement to the maximum extent possible, no-cost measures to recover all schedule delays, regardless of the cause of the delays. One example of such measures is no-cost re-sequencing of work activities.
- E. Extensions of time for performance of the work required under the General Conditions 00 70 00. Article 12 pertaining to equitable time adjustment will only be considered to the extent that the equitable time adjustment for activities affected by any condition or event which entitles the contractor to a time extension, exceed the contract float.

1.6 ACTIVITY REQUIREMENTS

- A. Activity durations shall equate to the work days required to complete the work included in each activity. Activities shall be in sufficient detail, breakout distinct classes of work (e.g., CSI Divisions/Sections or equivalent) and work in separate areas or locations, as specified by **PFD**.
- B. Activity durations greater than thirty (30) calendar days should be kept to a minimum, and must be approved by **PFD**, except in the case of non-construction activities such as mobilization, procurement of materials, and delivery of equipment. Submittal review activities shall be twenty (20) calendar days, unless different review times are specified in other sections of the contract documents.
- C. Activities shall be assigned consistent descriptions, identification codes and sort codes. Sort code organization shall: (a) be subject to **PFD**'s prior consent; (b) group activities using meaningful organizations defined by contractor and **PFD**; and (c) designate lead responsibility for each activity. The contractor shall include specific schedule activity identification codes in its daily field reports when describing the items of work performed.
- D. Schedule Activity Identification numbers and their corresponding descriptions and representative scopes shall not be changed between the Baseline and any subsequent progress updates to ensure consistency in comparisons and analysis of progress and scope.
- E. Each schedule shall utilize the following Work Breakdown Structure (WBS):
 - Project
 - Milestones
 - Submittals & Procurement
 - Prepare & Submit
 - Review & Approve
 - Fabrication & Delivery
 - Construction
 - Phase/Location/Area
 - Preconstruction
 - Construction Activities
 - Inspections/Certification
 - Closeout
- F. Activity Code – The Schedule shall include but not be limited to the following activity codes:
 1. Submittal
 2. Review/approval
 3. Procurement/Fabrication

4. Delivery
 5. Construction/Installation
 6. Change order
 7. Milestone
 8. Responsibility
 9. Areas
 10. Construction phasing
 11. Testing, Start-up and Commissioning
- G. Activities shall be broken down to a sufficient level of detail to avoid the use of lag. The contractor shall seek approval and provide justification for the use of logic 'lags.' 'Negative lags' are not allowed.
- H. Project specific settings for Primavera (P6) and Microsoft Project will be reviewed at the schedule meeting.
- I. Contractor to include trade holidays in working Calendars.

1.7 SCHEDULE "PDF" REPORTS

- A. Schedule Submittals shall include PDF reports of schedules reflecting the info/layout per Project Manager preference.
- B. Look-Ahead Reports shall display the activities planned at the closing (i.e. data, cut-off) date that covers the next (4) weeks. The utilization of look-ahead schedules that do not directly utilize the monthly schedule updates is prohibited. The Look-Ahead Report shall be submitted for each schedule and progress meeting.

1.8 NARRATIVES

- A. Schedule Narratives – The Narrative is a component of the schedule submittal. Each narrative shall list the activities on each Critical Path and compare Early Dates and Late Dates for activities designating contract times.

The schedule narrative shall include the following components to communicate to **PFD** the contractor's current plan for performing and completing the work. A statement:

1. To identify work items and paths that are critical to the timely completion of the work;
 2. Of upcoming activities that **PFD** needs to be aware of;
 3. Of the proposed course of action for recovering any schedule delays;
 4. Of critical submittals by the contractor, for **PFD**'s review;
 5. Of any significant changes to resource for future work;
 6. All labor and equipment resources shall be defined according to each crew composition by trade;
 7. That alerts **PFD** of any potential/future/pending changes in access to or availability of work areas;
 8. That highlights future tests, submission of test reports, and approval of test results;
 9. That addresses any upcoming phased or total takeover by **PFD**. Overview of progress and changes since the last submittal and discussion of potential and actual Delays;
 10. That describes the plan and approach to sequencing of work;
 11. That highlights and describes any Change Orders that have been included or are pending for approval.
- B. For each Progress Schedule Submittal, the narrative shall respond to previous update review comments, recap progress and days gained or lost versus the previous Progress Schedule, describe changes in resources to be used on remaining work and identify delays, their extent

and causes. For Progress Schedule Submittals, each narrative also shall itemize and explain changes in activities, calendar, and logic ties, schedule recovery plans and contractor-initiated revisions.

- C. The Baseline-Rev 0 narrative shall include details regarding (a) the use of construction equipment and resources, (b) basis and assumptions for activity durations and logic, (c) compliance with winter weather requirements, adverse weather, and (d) any shifts, non-Business Days and multiple calendars applied to the activities.
- D. Each narrative shall certify that the contractor has not been delayed, as of the closing date, by any act, error or omission of **PFD**, except as otherwise specifically state in the narrative or identified in a claim submitted in accordance with the General Conditions of the Contract. Any determination by **PFD** will be binding on the contractor if the contractor fails to do.

1.9 ADVERSE WEATHER PLANNING

- A. The schedule submittal to **PFD** must include planning for adverse weather if applicable. Planning for adverse weather is the strategy used to develop a schedule that produces reasonable and historically consistent early start dates which take into account the adverse weather conditions that would be expected for a specific project in a specific location during a specific time frame.
- B. Historical adverse weather data from NOAA (National Oceanic Atmospheric Administration) shall be used to determine the average weather conditions. The average weather conditions shall be based upon the 10 years immediately prior to execution of the contract.

1.10 BASELINE SCHEDULE SUBMITTAL

- A. The schedule meeting shall be held no later than seven (7) Days after the execution of the contract, as defined in Section 1.4.F.
- B. The Baseline-Rev 0 schedule shall reflect the work in the contract documents and shall purposely exclude any Delays, Change Orders, "or equal" materials and equipment and substitutions of any kind. Additionally, the contractor is to ensure that the schedule submission is in complete conformance with the intent of the contract documents; no proposed alternates will be accepted until presented to **PFD** after the full Baseline Schedule has been accepted.
- C. The Baseline-Rev 0 schedule shall be submitted to **PFD** with the first Application for Payment. *(see General Conditions 00 70 00 4.11.1)*
- D. Each Schedule Submittal shall include an electronic file with the contractor's schedule data files, a narrative and required PDF reports.
- E. Once the Baseline Schedule is returned to the contractor as "Accepted or accepted as noted", it shall become the *As-Planned* Schedule of record. Once established, the Baseline-Rev 0 schedule shall be used as the basis for monthly schedule update submittals.
- F. The Baseline-Rev 0 schedule shall incorporate the contractor's best estimate of the activities and logic ties required to perform the work within the limits of the contract times.
- G. The contractor shall uniquely identify the Baseline schedule submittal and monthly schedule updates by using the filename nomenclature that identifies the schedule clearly.
- H.

1.11 MONTHLY SCHEDULE UPDATES

The Monthly Schedule Update shall be reviewed by **PFD** to determine disposition.

A. MONTHLY SCHEDULE UPDATE SUBMITTAL

1. Progress Schedules Submittals shall reflect progress up to data date, forecasted finish for in-progress activities, and re-forecasted Early Dates for activities planned in the next update period. The current Progress Schedule Submittal should incorporate all proposed activity, logic and restraint date revisions required to (a) implement changes in the work, (b) detail all

impacts on pre-existing activities, sequences and restraint dates, (c) recover schedule, (d) reflect the contractor's current approach for work remaining, (e) incorporate any accepted Delays that are being negotiated between **PFD** and contractor, and (f) reflect "or equal" or substitution proposals. As-built data shall include actual start dates, remaining durations, actual finish dates and other events significant to the Progress Schedule that occurred since the previous Progress Schedule Submittal.

2. The contractor shall uniquely identify each Progress Schedule Submittal by using a numbering convention similar to that used on technical Submittals. Resubmissions shall be assigned the corresponding Submittal number and the letter A, or B, or C, etc., and shall fully address all **PFD**'s review comments and objections on the previous Submittal. If the contractor fails to fully address all **PFD**'s review comments and objections in the next Schedule Submission, **PFD** shall withhold general conditions payments until the contractor addresses all such comments and objections to the satisfaction of **PFD**.
3. Logic changes during update cycle are prohibited except under the following conditions:
 - a. Out of sequence – as defined in the Schedule Glossary (paragraph 1.2)
 - b. Addition of activities
 - c. Deletion of activities.Addition and deletion of activities are subject to approval of **PFD**.
4. Monthly schedule update submittals must be accompanied with a detail narrative as per paragraph 1.8.
5. If any of the required schedule submissions in this Section are returned to the contractor for corrections or revisions, they shall be resubmitted, along with an electronic file, for acceptance within ten (10) calendar days after the return.
6. Before Final Payment is made to the contractor, an as-built schedule shall be submitted to **PFD** for record.

B. SCHEDULE RECOVERY

Should the construction fall behind the contractual milestones by 10 calendar days for reasons other than those that are excusable within the terms of the contract, the contractor shall implement a plan to recover the schedule. This recovery schedule must detail how impacts will be mitigated through the use of activity re-sequencing, adding additional crews, longer work hours, extra workdays, etc., at no cost to **PFD**.

C. TIME IMPACT ANALYSIS (TIA) SUBMITTAL

Any contractor request for adjustment in Contract Time and Contract Price will not be evaluated unless (a) the contractor, using the procedures in this Section and the Contract, shows that conditions justifying adjustments in Contract Time and/or Contract Price have arisen, and (b) the contractor's analysis is verifiable through an independent review of the Time Impact Analysis (TIA) by **PFD**.

Determination and extension of the Contract Time will be in accordance with the General Conditions 00 70 00, Article 12. In order for the impact to be considered, the contractor shall demonstrate that the critical path was adversely affected.

1. The contractor shall submit to **PFD** a TIA illustrating the influence of each change or impact to the current contractual Milestones.
2. Each TIA shall include a fragnet demonstrating how the change issue or event impacts the last accepted monthly schedule update and critical path.
3. A meeting between the contractor and **PFD** Project staff shall be held to thoroughly review, analyze, and resolve each alleged impact.
4. The TIA shall include:
 - a. A detailed narrative which clearly describes the events causing the impact,

- b. Documentation substantiating and supporting the impact,
 - c. Detailed CPM schedules (both electronic and hard copies) clearly delineating the impact to the critical path,
 - d. Documents showing impacts caused by any third party and any force majeure; and
 - e. Any additional information reasonably requested by **PFD** that is needed to perform the review of the contractor submitted TIA.
5. The extension of Contract Time shall be considered only if the contractor is able to demonstrate merit of the impact to the critical path using Window Analysis Methodology (as defined in AACE Recommended Practices #29R-03, Forensic Schedule Analysis), or other similar methodology acceptable to **PFD**.
6. The contractor's failure, refusal or neglect to comply with the requirements specified in this Section shall be reasonable evidence that the contractor is not prosecuting the work with due diligence. If faced with such a situation, **PFD** may:
- a. Direct alternate schedule recovery - if in the judgment of **PFD**, it appears that the contractor cannot complete their work within the scheduled time, then the contractor shall work overtime, additional shifts or adopt such other procedures as may be necessary to restore adherence to the schedule. The full cost of any such recovery efforts shall be borne by the contractor, and/or
 - b. **PFD** can withhold liquidated damages, as provided in the Agreement 00 52 13, Article 4.

D. Delay Provisions

1. Determination and extension of Contract Time will be in accordance with Article 7, 12 and 15 of the General Condition 00 70 00 and this Section.
2. When change orders or delays in contract time are experienced by the contractor and the contractor requests an Extension of Contract Time, a meeting between the contractor and the City shall be held to thoroughly review, analyze, and resolve each alleged delay. The contractor shall submit to **PFD** a written Time Impact Analysis (TIA) illustrating the influence of each change or delay on the current Completion Milestones.
3. The contractor shall work cooperatively with **PFD**, adjacent contractors, and third parties, to identify and implement to the maximum extent possible, no-cost measures to recover all schedule delays, regardless of the cause of the delays. One example of such measures is no-cost re-sequencing of work activities.
4. Schedule recovery will be excused if the contractor requests and demonstrates entitlement to an extension in Contract Time, in writing, due to delay(s) not within the control of the contractor, and **PFD** concurs schedule recovery is not required at that time.
5. The extension of Contract Time shall be considered only if the contractor demonstrates via the timely submittal of a detailed schedule analysis by using the contemporaneous window Analysis methodology or other similar methodology acceptable to **PFD**. The analysis shall include:
 - a) a detailed narrative which clearly describes the events causing the delay and the resulting impacts to the project schedule;
 - b) documentation substantiating and supporting the delay;
 - c) detailed CPM schedules (both electronic and hard copies) clearly delineating the delay;
 - d) documents showing delays caused by any third party and any force majeure delays;
 - e) any additional information reasonably requested by **PFD**, in order to enable **PFD** to perform a timely and informed analysis of the request for extension of Contract Time.

1.12 SCHEDULE OF VALUES

- A. Work to be performed by the contractor and its subcontractors that:

1. Depicts the allocation of costs for items in proportion to the scope of work as reflected in the contractor's bid. The individual items in the schedule of values should not exceed \$50K unless approved by **PFD**.
2. Depicts each individual trade contract, non-trade contract, general contractor costs and other traditional labor, material and services and related costs customarily provided by the general contractor and shall be individually and separately detailed by division number and other appropriate identification of the work in the schedule of values.
3. Schedule of Values should be submitted within 15 days after the execution of the contract.

END OF SECTION

UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS
CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT
Attachment A

MS-PROJECT SETTINGS:

It should be noted that the screenshots shown below are snapped from MS Project 2010. Actual naming conventions or settings may vary in different versions of the software.

- **Project Information**

Project Start Date should be set as Notice to Proceed (NTP) date and, project Finish Date should be set as Final Completion date.

Project Information for 'City of Boston Renovations.mpp'

Start date:	Fri 8/17/18	Current date:	Fri 8/17/18
Finish date:	Fri 9/28/18	Status date:	NA
Schedule from:	Project Start Date	Calendar:	Standard

Buttons: Help, Statistics..., OK, Cancel

- **Project Options**

- Week Starts on "Monday"
- Default Start and Finish time should be set at 7:30 AM and 3:30 PM
- New task created should be "Auto-Scheduled"
- Work is entered in "Days"
- Project should calculate multiple float paths

UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT Attachment A

Project Options

Change options related to scheduling, calendars, and calculations.

Calendar options for this project: Project1

Week starts on: Monday

Fiscal year starts in: January

Use starting year for FY numbering

Default start time: 7:00 AM

Default end time: 3:30 PM

Hours per day: 8

Hours per week: 40

Days per month: 20

These times are assigned to tasks when you enter a start or finish date without specifying a time. If you change this setting, consider matching the project calendar using the Change Working Time command on the Project tab in the ribbon.

Schedule

Show scheduling messages

Show assignment units as a: Percentage

Scheduling options for this project: Project1

New tasks created: Auto Scheduled

Auto scheduled tasks scheduled on: Project Start Date

Duration is entered in: Days

Work is entered in: Days

Default task type: Fixed Units

New tasks are effort driven

Autolink inserted or moved tasks

Split in-progress tasks

Update Manually Scheduled tasks when editing links

Tasks will always honor their constraint dates

Show that scheduled tasks have estimated durations

New scheduled tasks have estimated durations

Keep task on nearest working day when changing to Automatically Scheduled mode

Schedule Alerts Options: Project1

Show task schedule warnings

Show task schedule suggestions

Calculation

Calculate project after each edit:

On

Off

Calculation options for this project: Project1

Updating Task status updates resource status

Inserted projects are calculated like summary tasks

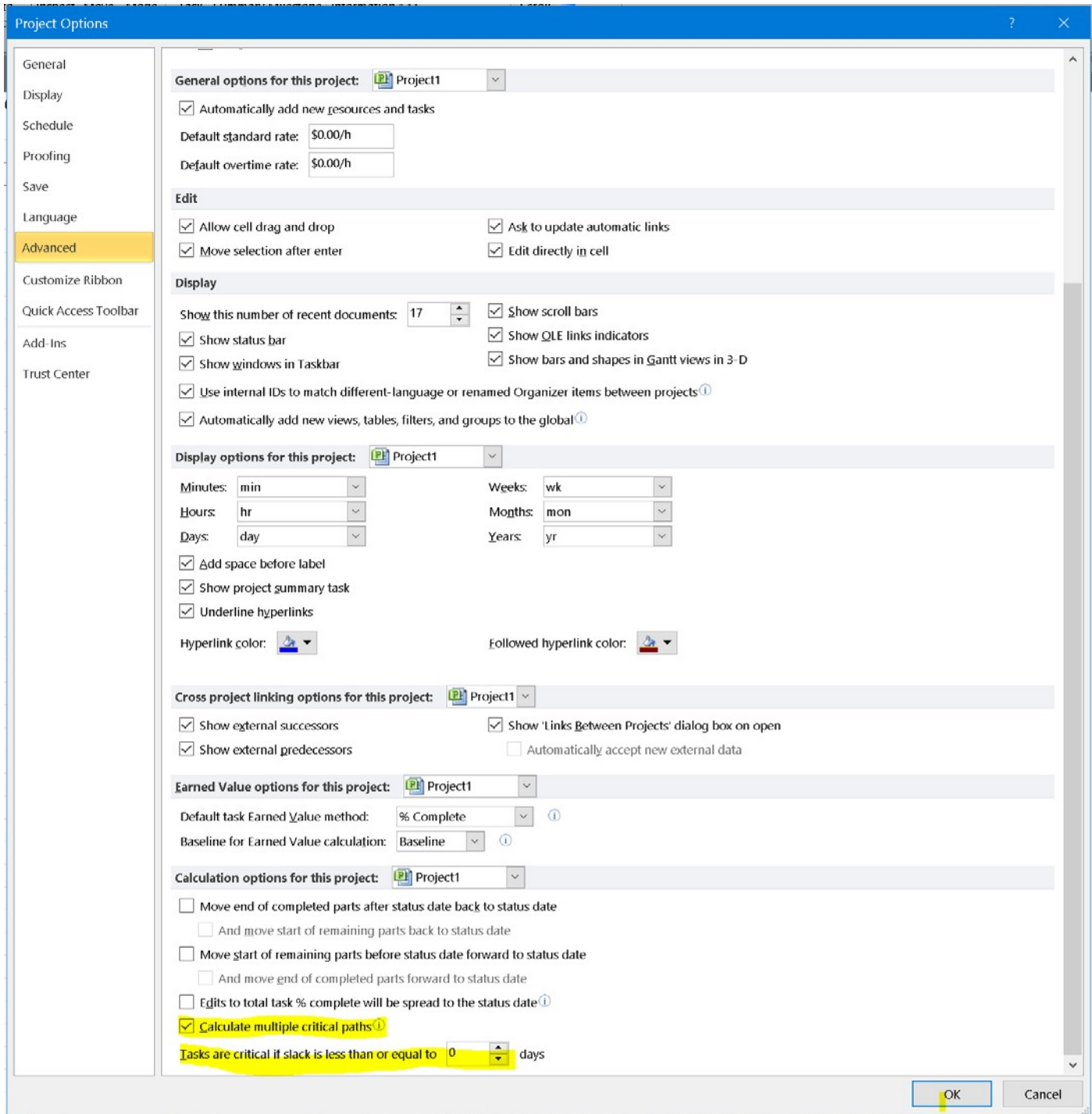
Actual costs are always calculated by Project

Edits to total actual cost will be spread to the status date

Default fixed cost accrual: Prorated

OK Cancel

UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT Attachment A

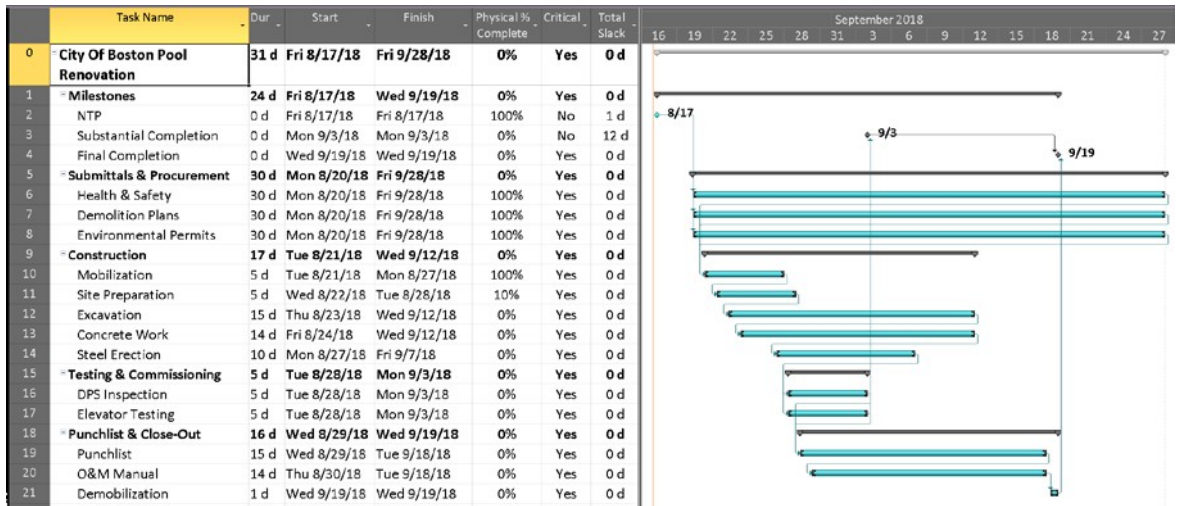


- **Organizing Schedule (PDF) Printouts/Layout**

The schedule printout/layout should show "Task Name", "Duration", "Start", "Finish", "Physical % Complete", "Critical", and "Total Slack" as shown below.

Project Timeline should have three (3) tiers including top tier for "Year", middle tier for "Month", and bottom tier for "Week" as shown below.

**UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS
CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT
Attachment A**



- **Project Summary Task**

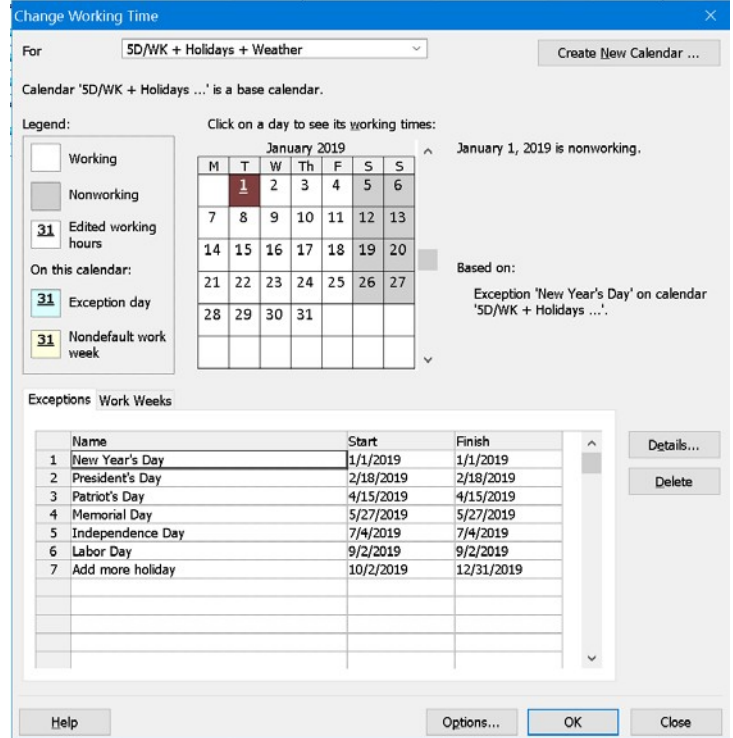
The schedule should be organized in such a way to show different phases of the project; i.e., Milestone, Submittals & Procurement, Construction, etc. Use "Indents" option in the Task ribbon to organize project summary tasks.

- **Calendars**

Schedule should at the minimum have the following calendars:

1. 7 Days per week – Used for Milestones, Submittals, Curing, Permits, or similar activities.
2. 5 Days per week plus standard holidays plus adverse weather days (specification section 1.9) – This calendar should be assigned to work activities.
3. Additional calendars should be created for project's specific needs such as Night work, weekend work, paving, landscaping, etc.

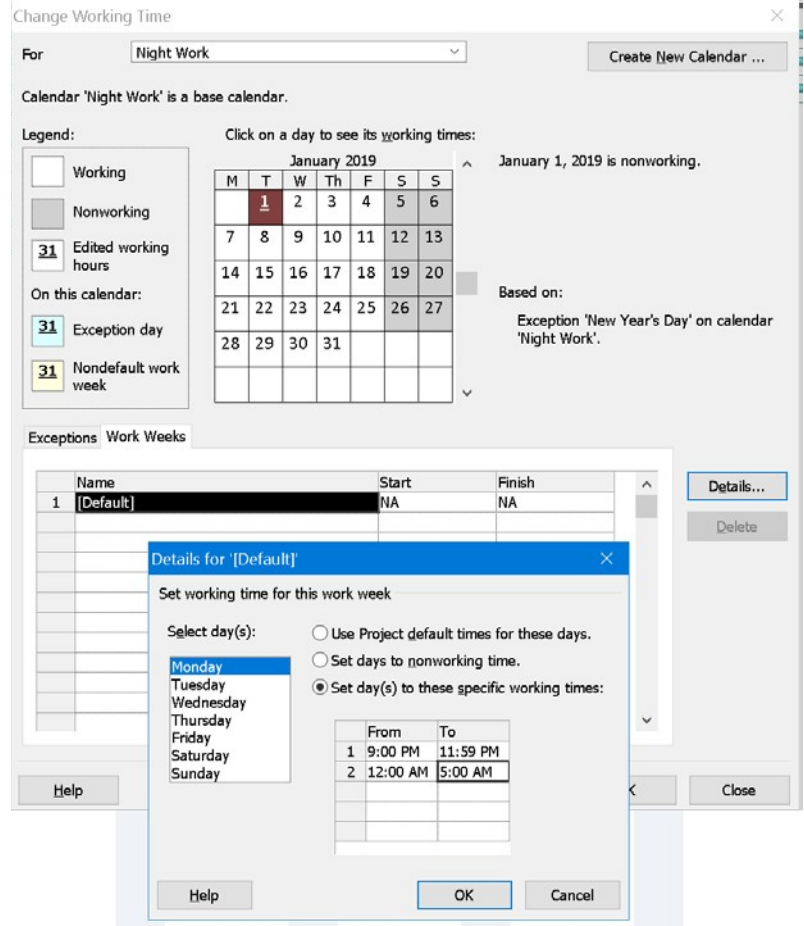
**UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS
CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT
Attachment A**



- **Working Hours**

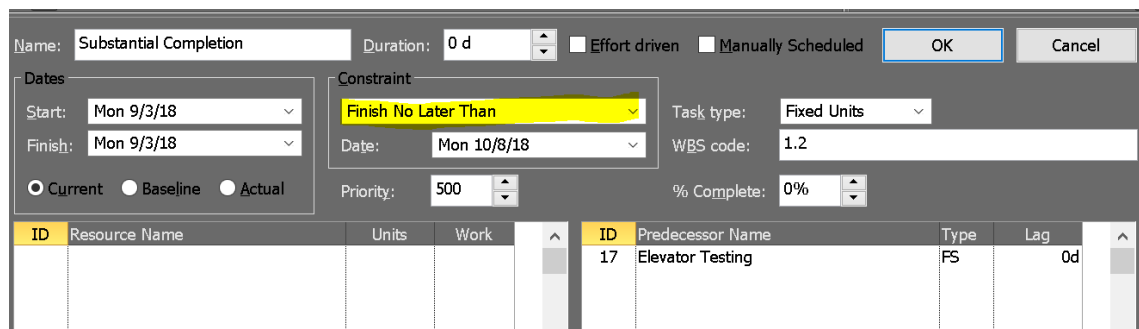
Work hours for non-standard calendars, such as Night Work should be set by clicking on "Work Week" tab, then "Details", and then "Set day(s) to these specific working time", and identify working hours in the morning and in the afternoon separately.

UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT Attachment A



- **Milestones**

Place "Finish No Later Than" constraint on Substantial and Final Completion that represents contract milestone dates. Click on "Task" ribbon, select milestone activity, and click on "Details" option under Properties section.



- **Activity Name:**

Activity names should be unique to the scope of the detailed work for that activity and must follow the **Verb*Noun*Location** rule, meaning that it should describe **who does what where!**

UNIFORM PROJECT SCHEDULE MS-PROJECT SETTINGS
CITY OF BOSTON – PUBLIC FACILITIES DEPARTMENT
Attachment A

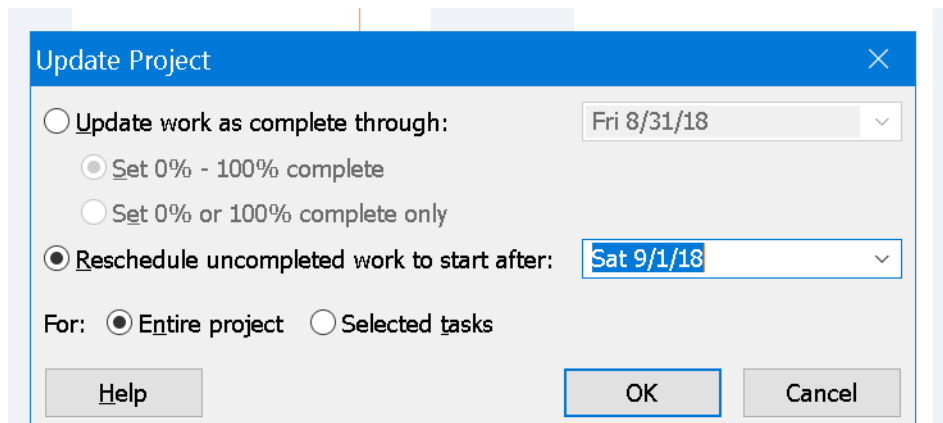
When naming activities, you should do it in a way that anyone in any situation could understand them. Select an activity, take it out of the WBS and see if you can understand it.

Note the below examples:

<p>Names are not unique ❌</p> <p>Fifth floor Build columns Build sheer-walls Build slab</p> <p>Sixth floor Build columns Build sheer-walls Build slab</p>	<p>Names are unique ✅</p> <p>Fifth floor 5th Floor - Build Columns 5th Floor - Build Sheer-Walls 5th Floor - Build slab</p> <p>Sixth floor 6th Floor - Build columns 6th Floor - Build sheer-walls 6th Floor - Build slab</p>
--	--

- **Update Project:**

- During the monthly schedule progress update, it is expected that the contractor will provide accurate status (% complete and Remaining Duration) of each activity that are in progress. To do this, click on "Project" ribbon, under "Schedule" section, click on "Update Project", choose the second option "Reschedule uncompleted work to start after", choose the data date, and click OK.



CITY OF BOSTON
PUBLIC FACILITIES DEPARTMENT

SECTION 01 35 00 SPECIAL PROJECT PROCEDURES

PART I - GENERAL

1.01 SAFETY REGULATIONS

A. This Project is subject to compliance with Public Law 92-596 "Occupational Safety and Health Act of 1970" (OSHA), with respect to all rules and regulations pertaining to construction including Volume 36, numbers 75 and 105, of the Federal Register as amended, and as published by the U.S. Department of Labor.

B. The committing of nuisances on the site or adjacent property is prohibited.

1.02 SAFETY PRECAUTIONS

A. The **Contractor** shall take all precautions to safeguard the health and wellbeing of all workers and all others rightfully on the Project site who may be affected by work done under this Contract.

B. All safety laws and regulations of the Commonwealth of Massachusetts applicable to work performed under this Contract shall be adhered to by the **Contractor**.

1.03 LEGAL RELATIONS/RESPONSIBILITY TO PUBLIC

A. Laws to be Observed:

A.1 The **Contractor** shall keep himself fully informed of all existing and future State and National Laws and Municipal ordinances and regulations in any manner affecting those engaged or employed in the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same and of all provisions required by Law to be made a part of this Contract, all of which provisions are hereby incorporated by reference and made a part hereof. The **Contractor** shall cause all Subcontractors, Suppliers, agents and employees to observe and comply with, all such existing and future Laws, ordinances, regulations, orders and decrees.

A.2 If the **Contractor** uses or stores toxic or hazardous substances he is subject to certain additional laws and regulations including but not limited to M.G.L. Chapter 111F, Section 2, (the "Right to Know" law) and regulations promulgated by the State Department of Public Health, the Department of Public Safety and those of City of Boston agencies.

1.04 FIRE PROTECTION AND PREVENTION

A. The **Contractor** shall keep the building and Project site free of rubbish and debris at all times.

A.1 The **Contractor** shall provide metal barrels located on each floor and other appropriate areas into which all refuse and garbage shall be deposited. All barrels shall have tight fitting covers.

A.2 At the end of each work week, the **Contractor** shall thoroughly clean the buildings and Project site of all rubbish and debris of any nature and remove such from the premises.

CITY OF BOSTON PUBLIC FACILITIES DEPARTMENT

A.3 In addition to the requirements in this Section, the **Contractor** shall, until Final Completion of the Work, provide and maintain fire extinguishers ready for use distributed around the Project and in and about temporary structures.

A.4 Gasoline and other flammable liquids shall be stored in and dispensed from UL listed safety containers in conformance with the National Board of Fire Underwriters recommendations and the Commonwealth of Massachusetts Department of Public Safety requirements, and in no event within the confines of the permanent structures.

A.5 All tarpaulins used shall have UL approval and comply with Federal Specifications CCC-C746. Polyethylene shall not be used.

1.05 RUBBISH REMOVAL

A. The **Contractor** shall remove all rubbish, waste, tools, equipment, and appurtenances caused by and used in the execution of the Work; but this shall in no way be construed to relieve the **Contractor** of his primary responsibility for maintaining the building and Project site clean and free of debris, leaving all work in a clean condition satisfactory to the **Official**.

B. Immediately after unpacking, the **Contractor** shall collect and remove from the building and Project site all packing materials, case lumber, excelsior, wrapping, and other rubbish.

1.06 SITE DRAINAGE AND PUMPING

A. The **Contractor** shall be responsible at all times for proper and sufficient site drainage and shall maintain such drainage during the life of the Contract in a manner acceptable to the **Architect** and so as not to adversely affect the adjacent areas.

B. The **Contractor** shall provide and maintain all pumps, suction and discharge lines, and power in sufficient number and capacity to keep all excavations, pits, trenches, foundations, and the entire property area free from accumulation of water from any source whatsoever at all times and under all circumstances and contingencies that may arise.

C. For additional requirements of excavation and dewatering, refer to SPECIFICATION SECTION entitled "EARTH WORK AND SITE PREPARATION".

1.07 SNOW AND ICE REMOVAL

A. The **Contractor** shall promptly remove all snow and ice which may impede the work, damage the finishes or materials, be detrimental to all/any crafts or trade, or impede trucking delivery or moving of materials at the site, or prevent adequate drainage of the site or adjoining areas.

1.08 WINTER CONSTRUCTION

A. The **Contractor** shall provide protection against damage to materials and work installed in freezing weather, including special heat and coverings to prevent damage by the elements. The ground surface, under footings, under pipe lines, under masonry, under concrete, and other work subject or damage shall be protected against freezing or ice formations.

B. Refer to SECTION 01 50 00 - TEMPORARY FACILITIES, for additional requirements applicable to winter construction.

1.09 BROKEN GLASS

A. The **Contractor** shall be held responsible at all times prior to Substantial Completion of the Work, or occupancy by the **City**, whichever occurs first, for all broken or scratched glass, or glass which had been

damaged as a result of the Work, or otherwise and, when so directed by the **Official**, the **Contractor** shall replace at no increase in Contract Price or Contract Time, all such glass broken, missing, or damaged prior to Substantial Completion.

1.10 CLEANING AND POLISHING

A. The **Contractor** shall at all times keep the site free from accumulation of waste materials or rubbish.

B. Immediately prior to final inspection, the entire building and surrounding Project areas shall be thoroughly cleaned by the **Contractor** including, without limitation:

B.1 All construction facilities, tools, equipment, surplus materials, debris, and rubbish shall be removed from the Project site and the entire Work shall be left broom clean.

B.2 All finished surfaces shall be left in perfect condition, free of stains, spots, marks, dirt, and other defects. The **Contractor** shall be responsible for the cleaning and polishing of the Work of all trades, whether or not cleaning by such trades is included in their respective Sections of the Specifications.

B.3 All glass shall be washed and polished on both sides.

B.4 All metals, hardware, fixtures, and equipment shall be left in undamaged, bright, polished condition.

B.5 All filters shall be replaced and plenums, duct spaces, and furred spaces shall be left clean of debris and decayable materials.

C. In cleaning, items having manufacturer's finish, or items previously finished by a Subcontractor, care shall be taken so as not to damage such finish. In cleaning glass and finish surfaces, care shall be taken not to use cleaning agents which may stain any finish materials. Any damage to finishes caused by operations shall be corrected and repaired by the **Contractor** at no increase in Contract Price.

1.11 OPERATIONS IN OCCUPIED STRUCTURES

A. The Contractor shall segregate all work from the public and/or user group or work force. The Contractor shall submit to the City the method of segregation for approval before start of any work.

B. The Contractor shall ensure that its agents and employees, including agents and employees of all subcontractors, not have any direct and unmonitored contact with children at any time on the Site.

C. In the event that the Contractor believes a portion of the Work cannot be completed without possible direct and unmonitored contact with a child, Contractor shall notify the City and obtain prior written consent before proceeding with that portion of the Work. Workers who may have direct and unmonitored contact with children will be subject to verification of their Criminal Offender Record Information (CORI).

SECTION 01 50 00 TEMPORARY FACILITIES

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1.01 PROJECT OFFICES

A. The **Contractor** shall provide a suitable Project office at the site of a type and in such a location acceptable to the **Official** that shall be accessible at all times to the **Official**, the **Architect**, and their project managers, and authorized representatives. All project offices that are trailers shall have skirts (i.e. metal or plywood enclosure at the bottom of the trailer to protect and or conceal the bottom of the trailer and any utilities)

B. In addition, the **Contractor** shall provide at the site an office and separate conference room (i.e. **Official's** office) having a combined area of not less than 400 square feet for the use of **City** personnel. (e.g. project manager, clerk of the works, etc.) This space shall have no direct connection to the **Contractor's** office, shall be adequately windowed, lighted, heated, air conditioned, and provided with an exterior door and lock and screen, and with the following furniture and equipment in good condition . The equipment noted with an asterisk (*) below shall remain the property of the **City** after **Substantial completion** of the Work:

- B.1 One desk and four chairs
- B.2 One coat rack and 12 wall coat hooks
- B.3 One plan rack and shelves for samples
- B.4 One 4-drawer metal file cabinet with lock and key
- B.5* **Two (2) Surface Pros**
 - Two (2) NEW Surface Pro 13"
 - 512 GB Storage
 - 16 GB Memory
 - Intel Core i7
 - Windows 11 Professional
 - Wi-Fi

YOUR PROJECT NAME HERE

- Two (2) Surface Pro Signature Type Cover
- Two (2) Surface Mobile Mouse, Bluetooth
- Two (2) Surface Pens
- Two (2) UAG Surface Pro Cases
- Two (2) Microsoft USB-C Travel Hub
- Two (2) HP - 23.8" Monitors (Model: 524SH)

Protection:

- MS Complete for Surface Pro with accidental Damage Coverage
- MS Complete for Type Cover

B.7 One accurate outside mercury thermometer.

B.8 Two wall calendars.

B.9 One Conference table, 4' x 10', with 10 folding chairs.

B.10* One all-in-one printer with copy/scan/fax capacity with 11 x 17 paper capacity, toner for duration of construction and a dedicated internet line for the all-in-one copy/scan/fax machine.

- HP Office Jet 7740 Wireless Wide Format Color printer/scanner
- HP 952 black and color ink for duration of project

C. Provide the City with a 3-year warranty for parts, labor and maintenance on all equipment listed above.

D. The offices, equipment, and furnishings shall be maintained by the **Contractor** in a clean and orderly condition, and be removed upon receipt of written direction of the **Official**.

1.02 TEMPORARY TELEPHONES AND INTERNET CONNECTION

A. The **Contractor** shall provide and pay all costs for:

A.1 A separate telephone with answering service and data and internet connection (either through a hard connection or with a Wi-Fi jetpack) in the **Contractor's** Project office and connection to telephone company lines. The phone shall be accessible at all times to the **Contractor's** representatives and to the various Subcontractors on the project as well as the **Official** and **Architect** and their authorized representatives.

A.2 A separate telephone with answering service, data and internet connection (i.e. through a hard connection or with a Wi-Fi jetpack) in the **Official's** office, and connection to telephone company lines. This phone and internet connection shall be used only by the Clerk of the Works, the **Official**, the **Architect**, and their respective authorized representatives.

B. Temporary telephones and internet service shall be maintained by the Contractor, until otherwise directed by the **Official**.

C. If, during the prosecution of the Work, the **Contractor** receives written notice from the **Official** to transfer locations of the temporary offices, the **Contractor** shall make all arrangements for such transfer and reconnecting of this equipment at no increase in Contract Price.

Temporary Facilities

01 50 00 - 2

1.03 TEMPORARY TOILETS

- A. The **Contractor** shall provide toilet booths with chemical type toilets, as necessary for all persons engaged in the Work
- B. The toilets shall be erected in locations acceptable to the **Official**, shall be maintained by the **Contractor** in a clean and orderly condition in compliance with all local and state health requirements, and shall be removed when written direction is received from the **Official**.
- C. When the permanent sanitary system is in operating condition, the **Contractor** may use portions of the system as directed by the **Official**. The **Contractor** assumes full responsibility for the portions of the sanitary system so used, and shall pay all costs for operation, maintenance, cleaning, and restoration of those used portions.

1.04 TEMPORARY WATER

- A. The **Contractor** shall make all arrangements for obtaining temporary water connections including extensions required for the needs of the Project, and shall pay all costs incurred. The Contractor shall furnish, install, and remove all equipment and piping required to provide temporary water.

- B. The **Contractor** shall pay the costs of water for all Subcontractors and trades.

B.1 All water used for construction purposes shall be metered as follows:

(a) All persons desiring to use such water from a hydrant or any other appurtenances shall apply for a Hydrant Permit at the Boston Water and Sewer Commission, Boston, Massachusetts. A deposit is required for each permit which is renewable, if necessary, every ninety (90) days. The permit provides for a meter and all necessary couplings to allow the connection of the meter to a hydrant.

(b) A non-refundable service charge for each permit, along with the cost of water consumed (determined by use recorded on the meter at current water rate) will be deducted from the deposit. If total water consumed exceeds the deposit amount, the **Contractor** shall be responsible for the additional cost of such consumption or any damage to the hydrant or any damage to or loss of the meter, wrench, couplings, or any other appurtenance as billed by the Commission.

(c) Water used for temporary supply to bypass existing services during construction will not be subject to this provision.

(d) Water used for cleaning and cement re-lining work shall not be subject to this provision.

- C. The **Contractor** shall provide cool drinking water and paper cups for all Subcontractors and trades, **Contractor** personnel, the **Official**, the **Architect** and the Clerk of the Works.

- D. When the permanent water distribution has been installed and tested it may be used as a source of water for construction purposes, provided that the **Contractor** pays all costs of operation, maintenance, and restoration of the system.

1.05 TEMPORARY ELECTRICITY

- A. The **Contractor** shall at his own expense make all arrangements for and provide all temporary light and power for all Subcontractors and trades, except as otherwise specified herein. The temporary electrical service shall include, but not be limited to, all labor, materials, and equipment necessary to supply temporary power of adequate capacity for the Project operations and testing. Transformers and meters, when required by the power company will be furnished and installed by the appropriate power company, and the **Contractor** shall pay all costs therefore. No connection shall be made to the **City's** power supply.

- B. All temporary electrical work shall be performed under the direct supervision of at least one Master Electrician who shall be present on the Project at all times when such work is being performed.

Temporary Facilities

01 50 00 - 3

C. The **Contractor** shall provide a temporary 120/280 V, 3-phase, 4-wire service to the Project as required to provide electrical light and power while the Project is under construction and until the permanent feeders have been installed and tested. The **Contractor** shall install and maintain feeders of sufficient capacity for the requirements of each floor of the building and the site as applicable.

D. Temporary electric service shall be based on:

D.1 Rooms or spaces under 250 sq. ft.: One 100-watt lamp.

D.2 Rooms or spaces over 250 sq. ft. and under 500 sq. ft.: Two 100-watt lamps.

D.3 Rooms or spaces over 500 sq. ft.: One 200-watt lamp per every 1,000 sq. ft., approximately.

D.4 Installation of sufficient wiring outlets and lamps to insure proper lighting in stairwells, corridors, and passage areas.

D.5 In addition to the lighting requirements, temporary power shall be provided throughout the building for electrically operated tools on a minimum of 0.50 watts per sq. ft. Motors up to and including 1 HP only shall be provided for.

D.6 Outlets shall be located at convenient points so that extension cords of not over fifty feet (50') long will reach all parts of the Work requiring light or power.

D.7 Temporary electric service shall be provided for the offices of the **Contractor** and the Clerk of the Works until such time as removal of these offices is ordered by the **Official**.

E. All necessary overhead pole lines, transformers, meters, cables, panel boards, switches, and accessories required by the temporary light and power installation shall be provided by the **Contractor** at no increase in Contract Price.

F. The **Contractor** shall pay the cost of all electrical energy consumed during prosecution of the Work. The **Contractor** at his own expense shall maintain all lamps in operating condition. The **Contractor** and each Subcontractor shall furnish their own extension cords and all additional lamps as they may require. Temporary wiring of a special nature not otherwise specified, shall be furnished, installed, maintained, and paid for by the trade requiring such wiring.

G. All temporary work shall be furnished and installed in conformity with the National Electrical Code and state and city laws, and requirements of the applicable power company. Particular attention is called to the Commonwealth of Massachusetts 454 CMR 10.0, "Construction Industry Rules and Regulations".

H. The **Contractor** shall dismantle and completely remove from the Project all temporary wiring and other temporary electrical accessories only when the permanent electrical system has been installed and in operation, and then only with written approval of the **Official**.

1.06 TEMPORARY STRUCTURES

A. The **Contractor** shall provide, maintain, and remove such additional storage sheds, temporary buildings, or trailers as required for performance of the Work. Location of all such temporary structures shall be acceptable to the **Official**. If the **Contractor** is required to relocate these Temporary Structures during the prosecution of the Work, the **Contractor** shall promptly do so at no increase in Contract Price or Contract Time.

1.07 HOISTING, SCAFFOLDING, STAGING, AND PLANKING

A. Except as otherwise specified in the various Sections of the Specifications, the **Contractor** shall provide, set up and maintain all derricks, hoisting machinery, scaffolding, staging, and planking, and do all hoisting required for the Work, or any part of the Work.

Temporary Facilities

01 50 00 - 4

B. Except as otherwise specified in the various Sections of the Specifications, the **Contractor** shall at his own expense furnish, install, and maintain in a safe condition, all staging, planking and scaffolding above eight (8) feet in height for use by all Subcontractors and trades. All staging, planking and scaffolding required by Subcontractors up to eight (8) feet in height shall be furnished installed and maintained by each respective Subcontractor.

C. Scaffolds shall have solid backs and floors to prevent materials dropping to the floors or ground.

1.08 TEMPORARY STAIRS, RAMPS, AND CHUTES

A. The **Contractor** at his own expense shall furnish, install, and maintain all temporary ramps, stairs, ladders, and chutes as required by the **Contractor**, all Subcontractors and trades for the proper completion of the Work, and all temporary stairs and ramps required by any occupants of the building or facility. The **Contractor** shall remove these and other like items when they are no longer required and permanent stairs are installed.

B. When permanent stairs are erected the **Contractor** shall provide all required safety measures including temporary railings, protective treads, and other protective measures.

C. The **Contractor** shall furnish and install properly supported covered chutes from openings in the exterior walls of the building levels in convenient and accessible locations which will permit direct disposal of rubbish and debris directly into trucks or disposal units. Chutes shall be for the use by the **Contractor**, all Subcontractors and trades, and the **Contractor** shall bear all costs for furnishing, installing, relocating, maintaining, and removal of same when no longer needed. Loaded trucks shall be covered while in transit.

D. No materials, rubbish or debris shall be allowed to drop free, or be thrown from openings in the exterior walls of the building.

1.09 TEMPORARY FACILITIES

A. The **Contractor** shall perform the following work:

A.1 Protect excavations, trenches, buildings, and materials at all times from rain and/or ground water, backing-up or leakage of sewers, drains or other piping, and from water damage of any origin. They shall provide all pumps, piping, coverings, and other materials and required equipment as specified.

A.2 In addition to the weather protection during November through March specified in paragraph 1.10, they shall provide temporary weather tight enclosures for openings in exterior walls and in roof decks when and as required to protect the Work from damage by inclement weather, and to protect occupied spaces. Such protection must be acceptable to the **Official**.

A.3 Permanent window enclosures may be utilized, except that at least one-quarter of the total window area in each space shall be provided with temporary cloth screens to permit the exit of water vapor from the building at all times and shall be otherwise equipped to effect the same result. Permanent door enclosures shall not be used as temporary enclosures, but temporary framed plywood or wood batten doors with proper self-closing hardware shall be provided.

A.4 Protect sills, jambs, and heads of openings through which materials are handled.

A.5 Protect concrete surfaces which are to receive work of other Subcontractors and trades from any soiling which will prevent proper adhesion of subsequent work. The **Contractor** shall leave surfaces broom clean and free of all blemishes at the time other Subcontractors and trades begin the application of their work.

A.6 Protect all exposed concrete surfaces and finished floors against mechanical damage, plaster droppings, oil, grease, paint, or other materials which will stain the floor finish. The **Contractor** shall install and maintain protective coverings on finished floors in areas where other work will be done.

Temporary Facilities

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A.7 Roof and waterproofed surfaces shall not be subjected to traffic nor used for storage of materials. The **Contractor** shall provide protection for such surfaces where some activity must take place in order to carry out the Work.

B. After the Work of a Subcontractor has been properly completed, the **Contractor** shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other subcontractors or trades or by any other cause, so that the entire Work is in perfect condition at the time of Substantial Completion or partial utilization.

C. All temporary protection and coverings shall be removed only as directed by the **Architect**.

1.10 WEATHER PROTECTION

A. The **Contractor's** attention is directed to M.G.L. Chapter 149, §44G(d), and to "Weather Protection Standards" established by the Deputy Commissioner of the Massachusetts Division of Capital Asset Management and Maintenance.

A.1 It is the intent of these Specifications to require the Contractor to provide temporary enclosures and heat to permit construction work to be carried on during November through March in compliance with M.G.L. Chapter 149, §44G(d). These Specifications are not to be construed as requiring enclosures or heat for operations that are economically not feasible in the judgment, in writing, of the **Official**. Included in this category, but without limitation, are such items as site work, excavation, roofing, and similar operations.

A.2 "Weather Protection" shall mean the temporary protection of that work adversely affected by moisture, wind, and cold, by covering, enclosure, and/or heating. This protection shall provide adequate working areas during November through March, inclusive as determined by the **Official** and consistent with the approved construction necessary to maintain an orderly and efficient sequence of construction operations. The **Contractor** shall furnish and install all weather protection materials required for the Work or any part thereof, and shall be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees F. at the working surface. This provision does not supersede any specific requirements for methods of construction and/or curing of materials.

A.3 The **Contractor** may, with the prior written approval of the **Official**, elect to utilize the permanent heating system for temporary heat after the building is enclosed and after it has been tested and is ready to operate. However, it shall be the **Contractor's** responsibility to have all portions of the permanent heating system that are used during construction thoroughly cleaned and restored to first-class condition to the satisfaction of the **Official**.

A.4 Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices.

A.5 The **Contractor** shall furnish and install one accurate automatic recording digital Fahrenheit thermometer with recorded daily high and low readings at a place designated by the **Official** and one additional accurate digital Fahrenheit thermometer with recorded daily high and low readings for every 2,000 sq. ft. of floor space, located as directed by the **Official** in order to determine if specified temperatures are maintained. Readings will be recorded by the Clerk of the Works each morning.

A.6 Within thirty (30) calendar days after execution of the Contract by the City, the **Contractor** shall submit three written copies of his proposed methods for weather protection to the **Official**. If the **Official** rejects or objects to the **Contractor's** proposed methods, in whole or in part, the **Contractor** shall resubmit a revised proposed method for temporary heat until satisfactory to the **Official**, at no increase in Contract Price or Contract Time.

B. In addition to these requirements, the following conditions shall apply:

B.1 If used, unit heaters shall be of the smokeless type and be installed and operated in such a way that finished work will not be damaged thereby. Salamanders shall not be used.

Temporary Facilities

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B.2 The **Contractor** shall pay a HVAC Subcontractor to operate any portion of the permanent heating system used for temporary heating until Substantial Completion.

B.3 The **Contractor** shall pay a HVAC Subcontractor for the final cleaning and for any repairs or replacements necessary to restore the permanent heating system to the quality required by these Specifications.

B.4 The **Contractor** shall pay the costs of all fuel and electricity required for temporary heating until Substantial Completion.

B.5 No parts of the permanent air handling system shall be used until temporary filters have been installed satisfactory to the **Architect**. Such filters shall be kept clean and in efficient working condition, shall be removed at time of Substantial Completion and replaced by permanent filters by the **Contractor**.

C. Responsibility for Weather Protection:

C.1 The **Contractor** shall be entirely responsible for all weather protection during the Contract Time, and shall be liable for any damage to the Work, or any part thereof caused by the **Contractor's** failure to supply adequate and proper weather protection.

C.2 Any work damaged by frost shall be promptly removed and replaced by the **Contractor** at no increase in Contract Price or Contract Time.

1.11 TEMPORARY HEAT

A. The **Contractor** shall be responsible for all temporary heat. The temporary system shall be completely independent of the permanent heating system, except the permanent fuel source may be used if approved in advance by the Official. The **Contractor** shall furnish, install, and pay for an independent system of sufficient capacity to service the needs of the Project and to protect the existing building's fixtures, equipment finishes and mechanical systems from damage during the Contract Time.

B. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices.

C. The **Contractor** shall furnish and install one accurate automatic recording Fahrenheit thermometer at each place designated by the **Official** to ensure that specified temperatures are maintained.

D. Within thirty (30) days after execution of the Contract by the **City**, the **Contractor** shall submit three (3) written copies of his proposed methods for temporary heat to the **Official**. If the **Official** rejects or objects to the Contractor's proposed methods, in whole or in part, the **Contractor** will be informed in writing. The **Contractor** shall resubmit a revised proposed method for temporary heat until satisfactory to the **Official**, at no increase in Contract Price or Contract Time.

E. If used, unit heaters shall be of the smokeless type and be installed and operated in such a way that finished work will not be damaged thereby. Salamanders shall not be used.

F. The **Contractor** shall pay costs of all fuel, electricity, temporary boilers, devices, accessories, and all necessary wiring and controls required for temporary heating until Substantial Completion.

G. The **Contractor** shall be responsible for all temporary heat during the Contract Time, and shall be liable for any damage to the Work, or any part thereof caused by the **Contractor's** failure to supply adequate and proper temporary heat.

1.12 TEMPORARY CONSTRUCTION FENCING

Temporary Facilities

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A. Prior to any excavation work the **Contractor** shall relocate the existing temporary construction fencing in the locations indicated on the Drawings and as required to completely protect the work area and injury to persons or property.

B. The **Contractor** shall furnish and install new fencing of the following type only where existing fencing lengths are inadequate to enclose the construction area.

1. Chain link fencing, 8' high, fabricated from No. 9 gauge galvanized wire woven in a 2" diamond mesh (double knuckle) with top salvage and having galvanized steel H or pipe intermediate and terminal posts. Post spacing shall not exceed 8 feet on centers. Cross bracing, reinforcing gates and other parts of fencing shall conform to standard Specifications of the National Chain Link Manufacturers Association. All posts shall be set into 12" x 12" x 36" deep concrete footings. 14-inch diameter sonatubes may be used.

C. The **Contractor** shall furnish and install matching gates equipped with suitable locks and other hardware where necessary to provide access for construction apparatus or fire fighting equipment.

1.13 TEMPORARY SIGNS

A. No signs, notices, or advertisements shall be displayed without written approval of the **Official**.

B. The **Contractor** shall furnish and install one exterior sign in accordance with the design shown on the Drawings and/or included in the Specifications.

C. The sign shall be maintained in good condition by the **Contractor** for the duration of the Project and removed only with written approval of the **Official**.

1.14 TEMPORARY WORK IN PUBLIC WAYS

A. Prior to commencing any work in public ways and other areas which are legally used by vehicles or pedestrians, the **Contractor** shall submit a **Construction Management Plan (CMP) to the Boston Transportation Department (BTD) for review and approval**. Work shall not be commenced in these areas until written approval is received from the **BTD**.

B. In general, all excavations in public ways shall be protected by substantial barriers which will offer complete protection against accidents for pedestrian and vehicular traffic without interrupting the normal flow of traffic. All barriers must be properly lighted with electric or battery powered safety lights and must be maintained in good working order by the **Contractor** for the duration of the time such barriers are required.

C. Trenches across sidewalks shall be completely covered with a temporary walkway, comprised of properly supported nominal 2" thick lumber laid with butt joints and covered with exterior grade plywood, 1/2" minimum thickness. Provide continuous 2" x 4" rails and posts secured to the temporary walkway conforming to the requirements of the Occupational Safety and Health Act (OSHA).

D. Wherever temporary chutes are to be extended over sidewalks or other pedestrian or vehicular traffic areas, the bottom and sides of the chutes shall be provided with continuous dustproof and weatherproof lining, applied to the exterior surfaces.

E. The **Contractor** will be required to furnish, install, and maintain in good condition, at no increase in Contract Price or Contract Time, all other safety measures which in the judgment of the **Official** are required to protect the public from accidents due to work performed under this Contract. This requirement is supplementary to the **Contractor's** rights and obligations to provide and employ safety measures as he may deem necessary or as may be required by law or standard safety practices.

1.15 Automatic External Defibrillator (AED) Machine

Temporary Facilities

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Contractor shall provide and complete the following:

A. All labor and material necessary to furnish and install the AED Equipment, as described below, in a location on the Project site, as directed by the **Official**.

1. Supply one (1) new external defibrillator, fully automatic, complete with surface mounted cabinet.
 2. Install cabinet in a location directed by the official. Place defibrillator in cabinet with Cardiac Science Soft Carry Case XCAAED001A. Cabinet shall be installed with approved anchors and be clearly labeled for all to see.
 3. Supply all necessary power requirements to maintain equipment in a fully charged state of readiness.
- B. Defibrillator shall be model Powerheart G5 Auto English / Spanish C/S.
1. Each AED package shall include one defibrillator, one Intellisense battery and defibrillation pads.
 2. One adult pad XELAED003A
 3. One G5 Ready Kit (5550)
 4. One Quick Start Tool Kit including CD-ROM with AED Manual, Training Video, Rescue Link and MD Link, vesial communication cable and Ready Kit 9300 Series.
 5. Cabinets shall be suitably sized for the equipment and be clearly labeled for all to see.

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End of Section 01 50 00

BUILDING A BETTER BOSTON

[INSERT CAPITAL PROJECT TITLE]

***MUST BE IN CAPS**

Project # [#####], [user agency name]

For construction employment opportunities, please call [Insert General Contractor Name] at [General Contractor phone #]. This is a Boston Residents Jobs Policy site.



Mayor Michelle Wu

CITY of BOSTON

Michelle Wu, Mayor

Dion Irish, Chief of Operations

Carleton Jones, PFD Executive Director



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City of Boston
Public Facilities

SECTION 01 70 00: CONTRACT CLOSE-OUT (Chapter 30, §39M Contracts)

PART 1 - GENERAL

1.01 CLOSEOUT PROCEDURES

A. The **Contractor** shall comply with the procedures stated in Section 00 70 00 - General Conditions for specific requirements for Substantial Completion and Final Completion.

B. The **City** may occupy adjacent areas of the Site for the purpose of conducting business.

C. When the **Contractor** considers that the Work has reached Substantial Completion, the **Contractor** shall submit written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and ready for the **Designer's** and **Official's** inspection.

D. In addition to submittals required by Section 00 70 00 - General Conditions, the **Contractor** shall provide to the **Official** prior to Substantial Completion, submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Price, previous payments and amounts remaining due.

1.02 FINAL CLEANING

A. The **Contractor** shall, as a minimum, perform the following tasks regarding Final Cleaning, prior to final inspection by the **Designer** and the **Official**:

A.1 Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces. Clean equipment and fixtures to a sanitary condition. Clean drainage systems.

A.2 Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the Site.

A.3 Pursuant to Paragraph 4.26.4 of the General Conditions, and without limiting the generality thereof, the following specific final cleaning work shall be completed by the **Contractor** before the **Work** is turned over to the **Owner**.

1. Concrete and masonry surfaces shall be cleaned free of all foreign matter.
2. Ceramic tile, glazed coatings, porcelain, and other surfaces with integral finishes shall be washed with clean water, mild soap and soft rags, thoroughly rinsed, and then wiped with clean soft white rags. Abrasive cleaners shall

not be used.

3. Painted surfaces shall be cleaned free of all foreign matter, and if necessary, shall be lightly scrubbed at specific stains with clean water, mild soap, and soft rags, thoroughly rinsed, and wiped with clean, soft white rags.
4. Metal surfaces, hardware fixtures, appliances, equipment and similar items shall be cleaned free of all foreign matter and, if necessary, shall be lightly scrubbed at specific stains with clean water, mild soap and soft rags thoroughly rinsed and wiped with clean, soft white rags. Abrasive cleaners shall not be used.
5. Glass, plastic glazing and mirrors shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched items shall be replaced without cost to the **Owner**.
6. All advertising matter and temporary instructional materials shall be removed from any exposed surfaces throughout.

1.03 PROJECT RECORD DOCUMENTS

A. The **Contractor** shall, as a minimum, perform the following tasks regarding Project Record Documents:

A.1 Store documents separate from those used for construction.

A.2 Keep documents current and record information from on-going work weekly on record drawings; do not permanently conceal any Work until required information has been recorded.

A.3 At Contract close-out, submit documents to the **Official** with transmittal letter containing date, Project title, **Contractor's** name and address, list of documents, and signature of **Contractor**.

A.4 Pursuant to Paragraph 4.19.2 of the General Conditions, the **Contractor** shall maintain at the Site for the benefit of the **Owner**, readily available for inspection by the **Owner** or the **Designer**, one record copy of all drawings, specifications, addenda, change authorizations and change orders, in good order and marked currently, ie. updated no less frequently than weekly, to mark all changes made during construction and one set of approved shop drawings, product data and samples. Record drawings submitted by the **Contractor** shall be verified in the field by the **Designer** during the construction process and prior to the related work being completed and covered up. The proper condition and updating of these record drawings and documents shall be a condition precedent to approval of requisitions for periodic and final payments. One set of prints of all of the documents that are required for this purpose will be provided by the **Owner** without charge to the **Contractor**. All the record documents, shop

drawings, product data and samples shall be made available and delivered to the Owner upon completion of the Work.

A.5 In addition, at the completion of the Work, neat, clean, well drafted and complete record drawings in the form of Mylar transparencies, and in electronic format as designated by the **Owner**, shall be prepared and turned over as a condition precedent to final payment.

1.04 OPERATION AND MAINTENANCE DATA

- A. The **Contractor** shall provide operation and maintenance data for any systems required by the Contract Documents.
- B. Pursuant to Paragraph 4.18 of the General Conditions, The **Contractor** shall prepare and deliver to the **Designer** for approval and transmittal to the **Owner**, four (4) sets of the manual of all the operation and maintenance data, hardbound in 8-1/2 x 11 inch (216 x 279 mm) hardbound three-ring side binders with durable plastic covers.
- C. The manual shall contain full descriptive information, catalog cuts, maintenance instructions, and a parts lists for each item of operating equipment, fixtures, accessories and specialties; schematic diagrams of control systems; circuit directories for each electrical panel board; and charts showing the tagging of all valves.
- D. The manual shall also include service, maintenance and cleaning instructions for all manufactured products, finishes and systems.
- E. Each volume of the manual shall be clearly indexed, and shall include a directory of all Subcontractors, Material suppliers, and local maintenance organizations indicating the responsibility of each, and the name and

telephone number of the responsible person in each organization.

- F. All materials shall be bound in the order and sequence conforming to the numbering system of the specification. Typewritten, drawn or photographic material shall be protected with clear plastic sleeves.
- G. The manuals shall be submitted at the time of Substantial Completion of the Work. The Contractor shall operate and maintain the mechanical and electrical systems until the approved manuals have been transmitted by the Architect to the Owner, and the Owner's personnel have been instructed in their operation.

1.05 WARRANTIES AND BONDS

A. The **Contractor** shall provide duplicate, notarized copies of all warranties and bonds; execute **Contractor's** submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers; provide table of contents and assemble in binder with durable plastic cover.

B. The **Contractor** shall submit the material described in paragraph 1.05A prior to final application for payment. For equipment put into use with the **Official's** permission during construction, submit the required material within ten (10) days after first operation. For items of Work that are not completed by Substantial Completion, the **Contractor** shall provide updated submittal within ten (10) days after acceptance of the items of Work by the **Official**, listing the date of acceptance as the start of warranty period.

C. 30, §39M
Rev. 9/06

**END OF SECTION 01 70 00
CONTRACT CLOSE OUT**

SECTION 02 10 00 - SITE PREPARATION

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.
- C. Cleaning of materials for the purpose of salvage on the site shall not be permitted.
- D. The Contractor shall secure all necessary permits from the City of Boston before starting this project.

1.02 Work Included

- A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials, equipment, labor, testing, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:
 - 1. Mobilization and demobilization of all equipment, labor, materials, supervision, survey, and any incidentals required to satisfactorily complete this project in accordance with these Specifications, the Contract Drawings and as directed by the Engineer.
 - 2. Comply fully with all requirements and conditions of all Regulatory Approvals as attached to the Contract Documents including performance of any miscellaneous work required to ensure full compliance and not otherwise covered by individual items in the contract.
 - 3. Provide and maintain all siltation controls for the duration of the project.
 - 4. Site investigation including, but not limited to:
 - a. Location of underground utilities within the project limits.
 - 5. Coordinating removals by others, including, but not limited to, utility poles and wires and transformers.
 - 6. Control (Extermination) of rodents, prior to the start of any demolition or land-disturbing activities and continuing for the duration of the Project.
 - 7. Perform all other miscellaneous work required to complete the project, but not covered by individual items in the contract.
 - 8. Temporary support or relocation and reestablishment of utilities to the extent required to complete the work.

9. Perform site work operations and the removal of debris and waste materials to ensure minimum interference with navigation, streets, walks, parking facilities, buildings, and all other adjacent facilities.
10. Obtain Owner's written permission, when required, to close or obstruct street, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways, when required.
11. Obtain written permission from property owners to access and/or cross their properties where an easement has not been granted.

1.03 Related Work Specified in Other Sections

- A. The following items of related work are specified and included in other Sections of the Specifications:
 1. Demolition under DEMOLITION, SECTION 02 41 00
 2. Earthwork under EARTHWORK, SECTION 31 00 00
- B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.04 Submittals

- A. Phasing plan & schedule.
- B. Staging area plan(s) and security fencing.
- C. Location and phasing work plan of staging and construction areas and the schedule for moving materials or equipment into those areas shall be submitted for Engineer's approval prior to mobilization and related site preparation operations.
- D. Updated project schedule shall be submitted weekly for Engineer's approval.
- E. Name and qualifications of firm performing the pre- and post-construction surveys and vibration monitoring, model and manufacturer of the proposed seismographs, and seismograph locations. Weekly vibration monitoring reports. Submit pre- and post-construction surveys within 1 week of completing the surveys. Submit background vibration data within 1 week of collection.
- F. Details of work areas and temporary construction staging as required to prevent debris and dust and other construction materials from entering the water.
- G. Details of work excavation and shoring.
- H. Details of any crane lifting operations and layout including a work plan.

1.05 Protection

- A. Protect existing structures and facilities that are adjacent to the work area from damage caused by the project operations. Repair all damage caused to the satisfaction of the Engineer, at the sole expense of the Contractor.

- B. Do not interfere with use of adjacent buildings or facilities. Maintain free and safe passage to and from adjacent buildings and facilities or both and between them and the public way.
- C. Cease operations and notify Engineer immediately if safety of adjacent structures, workers, or the general public appears to be endangered. Take precautions to properly support structures and protect workers and general public. Do not resume operations until safety is restored.
- D. The Contractor shall erect a safety barrier around his work areas as defined in the staging and phasing work plan.

1.06 Maintaining Traffic

- A. Do not close or obstruct roadways or other areas without prior authorization or permits.
- B. Do not close or obstruct vehicle and equipment access at any time.
- C. Conduct operations with minimum interference to public or private roadways. Coordinate with local and state officials, police, and emergency agencies regarding all operations on public roadways.

1.07 Equipment Height Limitations

- A. Contractor shall note that the entire site is subject to operational restrictions for air traffic safety as further described in the Boston Logan Airspace Map.

1.08 Environmental Protection

- A. Comply with all requirements of environmental regulations and Regulatory Approvals.
- B. Provide measures to prevent any construction debris from falling into the water or through the water column. Any material falling into the water shall be retrieved immediately.
- C. The Contractor is hereby made aware that all work is subject to conditions set forth in the Regulatory Approvals which include, but are not limited to, permits, licenses, etc., issued by the following:
- D. Quincy Conservation Commission: Order of Conditions
- E. Copies of the Regulatory Approvals and conditions for performing the work are included within the Contract Documents. The Contractor shall be responsible for understanding and implementation of the stipulated conditions as a condition of this Contract.

PART 2 - PRODUCTS

2.01 Materials

- A. Use materials required by the Specifications and/or shown on the Contract Drawings. Additional materials needed to complete the work may be selected by the Contractor and used with approval by the Engineer.

PART 3 EXECUTION

3.01 Protection of Existing Structures and Utilities

- A. Notify "Dig Safe" and local utilities and services as applicable prior to conducting any work in order to have all known utilities and services marked out before work begins.
- B. Existing structures and utilities shall be suitably protected from damage, including but not limited to existing buildings, wharfs and bulkheads, pavements and curbs, lighting, fencing, concrete vaults, manholes, hydrants and utility lines.
- C. Maintain vibrations at Moon Island below the threshold and limiting values of 0.25 inches per second (ips) and 0.5 ips, respectively. Couple the seismograph transducer to the concrete floor slab of the restaurant. When directed by the Engineer de-mobilize the seismographs and repair the concrete floor slab where the transducer was coupled to the slab.
- D. Complete pre- and post-construction surveys within 2 weeks of start and end of construction, respectively, and collect background vibration levels for a minimum of 2 weeks before the start of construction.
- E. Adjust construction procedures to maintain vibration levels at Moon Island below the threshold and limiting values.
- F. Repair damage to the Moon Island Fire Department Facilities caused by the Project at no additional cost to The Owner.

3.02 Protection of Construction Site

- A. It is the Contractor's responsibility to secure the construction site, both for the protection of the ongoing work and the protection of Owner personnel and subcontractors. The type and location of construction fencing used for this purpose shall be approved by the Engineer.

3.03 Coordination with Adjacent Contracts

- A. The Contractor shall note that adjacent work will be in progress during the term of this Contract and shall comply with the contract requirements to coordinate work and avoid interfering with the work areas of other contractors or access roads.

3.04 Inspections

- A. The Owner may assign inspectors and/or resident engineers to this project on a full time or part time basis, as required to cover the work under this Contract, as justified by the Owner. The inspector or resident engineer shall be the Owner's representative for this project.
- B. The Engineer must be notified at least 48 hours in advance of all material shipments so they can arrange for inspections as the shipments arrive on site.
- C. All materials that are not suitable for placement on this project and/or have been rejected by the Engineer shall be removed from the site immediately. The cost of the removal of these materials shall be the responsibility of the Contractor.
- D. Unless otherwise agreed upon with the Engineer, no work shall be done with materials that will be partially or completely buried or hidden from view without the presence of the Engineer. The Engineer reserves the right to have all materials uncovered for inspection if placed without direct supervision, at the sole expense of the Contractor. No materials shall be paid for under this Contract that have not been examined and passed by the Engineer, or for any reason are placed outside the prescribed limits of the work.
- E. The Engineer shall be permitted at all times to check the lines, grades, elevations, reference marks, batter boards, etc. set by the Contractor. Errors or discrepancies identified by checks shall be corrected by at the Contractor at the Contractor's expense. Additionally, these checks shall not be construed to be an approval of the Contractor's work and shall not relieve or diminish the Contractor's responsibilities for the accurate and satisfactory completion of the entire work. The Contractor shall be available to assist the Engineer with these checks as needed.

3.05 Site Access

- A. Moon Island is a secure facility. All work performed shall be in accordance with the Owner's safety and security requirements and the Contract Documents.

3.06 Phasing of Construction

- A. The Contractor shall coordinate all construction activities with the Owner so that Owner Operations are not disrupted at any time.
- B. Material and equipment storage areas are as shown on the Contract Drawings.
- C. Except as may be restricted elsewhere within the Contract Documents, the Contractor will be allowed to perform work 24 hours per day, seven days per week, excluding holidays, for the entire performance period. The Contractor shall note the terms of the applicable environmental permits attached to Division IIB, if conducting work outside of normal working hours (7AM to 5PM).
- D. No work shall commence without prior approval of the Engineer and approved phasing work plan in place.

END OF SECTION

SECTION 02 41 00 - DEMOLITION

PART 1 GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.

1.02 Work Included

- A. Examination of Existing Conditions: The Contractor shall examine the Contract Documents and bid attachments for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. If there is a conflict between the Contract Documents and Bid attachments, Contractor shall notify the Owner and Engineer and shall comply with the Owner's resolution of the conflict. To discover and resolve either conflicts or lack of definition that might create demolition problems, the Contractor shall submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.
- B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.
- C. Work under this Section, without limiting the generality thereof, consists of providing all materials, equipment, labor, storage, transportation facilities, and all other incidentals as indicated on the Contract Drawings, stipulated in the Specifications and as reasonably implied by either or both for the complete removal and disposal of the following:
 - 1. Disconnect all utilities; remove existing utilities from within 10 feet of existing structures, unless otherwise noted on the plans; and remove electrical power cables from existing conduit.
 - 2. Sequence work and maintain stability of all existing structures and slopes during demolition.
 - 3. All demolition work required or specifically called for on the Contract Drawings and additionally as required to accommodate the proposed work including, but not limited to:
 - a. Jersey Barriers
 - b. Utility and drainage structures, pipe and conduits.
 - c. Miscellaneous pipe bollards, hardware, fasteners, steel anchor plates, steel framing, concrete, rubble and other material which are encountered during the course of work which interferes with work specified to be done
 - d. Unless noted otherwise, demolish and dispose of any structures, fences, concrete pads or bituminous pavement encountered within the limits of demolition shown on the Contract Drawings.
 - e. All demolition work required or specifically called for on the Contract Drawings and additionally as required to accommodate the proposed work including, but not limited to demolition and disposal of the following:
 - 1) Cutting, removal, and disposal of asphalt pavement and granite curbs

- 2) Cutting, removal, and disposal of reinforced and unreinforced concrete slabs or foundations interfering with the proposed work
 - 3) Cutting, removal and disposal of timber interfering with the proposed work
 - 4) Temporary support, diversion, or removal and reinstallation of utilities as required
 - 5) Shoring of excavation
- D. Removal from site and legal disposal of all materials, trash, debris, etc., dismantled and/or removed by demolition operations, except any items specifically to remain the property of the Owner.
- E. Incidental materials necessary for the completion of the work in this section and usually furnished in connection therewith, shall be furnished and installed whether or not specifically mentioned.
- F. All existing removed materials, items, trash, and debris under this item shall become property of the Contractor and shall be completely removed from the Site and legally disposed of at the Contractor's expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
- G. Recycling of all materials to the extent practical.
- H. Scheduling and sequencing of operations without interrupting utilities serving abutters and other areas. If interruption is required, obtain written permission from the utility company and the Owner. Provide temporary services as necessary to serve occupied and usable facilities when permanent utilities must be interrupted, or schedule interruption when the least amount of inconvenience will result.
- I. Obtaining all necessary permits, providing necessary notifications, and complying with all local, state, and federal laws regarding safety and demolition.
- J. The control of noise and dust.
- K. Providing a 24-hour fire watch as required by the Owner's Fire Department during any welding or cutting operations.
- L. The protection of adjacent structures, sidewalks, and other features outside the limits of the work of this specification.
- M. Prevention of pollution to waterways.
- 1.03 Related Work Specified in Other Sections
- A. The following items of related work are specified and included in other Sections of the Specifications:
1. Site Preparation under SITE PREPARATION, SECTION 02 10 00.
 2. Earthwork under EARTHWORK, SECTION 31 0000.
 3. Granite Seawall under GRANITE SEAWALL 35 31 29
- B. Examine all Drawings, all Sections of the Specifications, and all material test reports for requirements and provisions affecting the work of this Section.
- 1.04 Codes, Standards, Ordinances, and Permits
- A. Perform all work in strict accordance with all rules, regulations, standards, codes, ordinances, or laws of local, state, and Federal authorities having lawful jurisdiction, and

be responsible for compliance therewith. Such authorities include but are not limited to the following:

1. The Massachusetts State Building Code
 2. The Massachusetts Department of Public Safety(DPS)
 3. "Solid Waste Management Facility Regulations," 310 CMR 19.00.
 4. "Site Assignment Regulation for Solid Waste Facilities," 310 CMR 16.000.
 5. "Ambient Air Quality Standards," 310 CMR 6.00.
 6. "Resource Conservation and Recovery Act," 40 CFR 261-262.
 7. "Hazardous Waste Operations and Emergency Response," Federal Occupational Safety and Health Act (OSHA), 29 CFR 1910.120.
 8. ANSI/ASSE A10.6 "Safety Requirements for Demolition Operations"
 9. NFPA 241 "Standard for Safeguarding Construction, Alteration, and Demolition Operations".
 10. Massachusetts Board of Fire Regulation, 527 CMR 39.00 "Welding and Cutting
 11. EPA, 40 FR 261-262 "Resource Conservation and Recovery Act"
 12. EPA TSCA "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions," 40 CFR Part 761.
 13. US Department of Transportation. 49 CFR Parts 172 and 173.
 14. All Commonwealth of Massachusetts laws, regulations, and standards, including the following: 453 CMR 6.00 – "The Removal, Containment or Encapsulation of Asbestos," 310 CMR 7.15 – "Asbestos," 310 CMR 19.00 – "Solid Waste Facility Regulations," and MGL Chapter 21E.
 15. Other federal, state, and local statutes, ordinances, regulations, or rules pertaining to this Section and the work described herein, including the storage, transportation and disposal of asbestos.
 16. OSHA 29 CFR Part 1926, "Lead Exposure in Concentration: Interim Rule."
 17. Other federal, state, and local statutes, ordinances, regulations, or rules pertaining to this Section and the work described herein, including the storage, transportation and disposal of asbestos.
 18. All regulations by the above and other governing agencies in their most current version are applicable throughout this project. It is the Contractor's responsibility to know, understand, and abide by all such regulations and practices. Where there is a conflict between this Specification and the cited state, federal, or local regulations, the more restrictive or stringent requirements shall prevail.
- B. The Contractor shall give the proper authority all requisite notices and secure and pay all permits, licenses, inspections, and certificates relating to his work.
- C. All work performed and all equipment and materials furnished and/or installed shall be in accordance with all standards as hereinafter specified. All standards shall be of the latest edition.

1.05 Qualifications

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

- B. Hazardous Materials Abatement Firm Qualifications: An experienced and properly licensed firm that has specialized in the abatement and disposal of hazardous material in similar building materials and extent to that indicated for this Project

1.06 Submittals

- A. Before beginning work, submit a Demolition Plan containing the following:
 - 1. Introduction describing work to be done.
 - 2. Detailed sequence of demolition to ensure stability of all existing structures and the existing shoreline. All requirements for temporary support shall be the responsibility of the Contractor at no additional cost to the Owner.
 - 3. Detailed schedule of demolition and removal work, with early and late starting and finishing dates for each activity.
 - 4. Details of falsework, staging, or other containment as required to catch and remove demolition debris such as concrete and rebar in accordance with the environmental permits
 - 5. Description of proposed demolition methods and protection for adjacent areas not being demolished
 - 6. Description of equipment (including cutsheets).
 - 7. Interruption of utility services: indicate how long utility services will be interrupted.
 - 8. Coordination for shutoff, capping, and continuation of utility services.
 - 9. Locations of proposed dust- and noise-control temporary partitions and means of egress.
 - 10. Proposed disposal facility for each category of demolition materials
 - 11. Methods for maintaining dust control.
 - 12. Methods for monitoring and controlling noise.
 - 13. Safety precautions to be undertaken during operations.
 - 14. Evaluation of existing structures by an engineer to confirm that loads to be encountered during demolition activities can be adequately supported by the structures.
 - 15. Site Security Plan
 - 16. Rodent Control Plan
 - 17. Dust Control Plan
- B. Landfill Records: Provide a Waste Management Report that includes the location and quantity of material disposed of, and the quantity diverted from disposal for recycling, salvage, or reuse. Include trip tickets (receipts) indicating receipt and acceptance of wastes by each disposal facility or recycling, salvage, or reuse facility licensed to accept said wastes.
- C. Provide a copy of all permits, completed shipping manifests, and destruction certificates to the Owner.
- D. Submit a copy of all sampling analyses to the Owner within 2 days of receipt of the laboratory reports for the sampling required in this Section. Analytical data shall be kept confidential, distributed only to the Owner and, as necessary, to the Massachusetts Department of Environmental Protection (MassDEP).

- E. Contractor shall provide to the Owner copies of all weight slips, both tare and gross, for every load weighed and disposed of at the disposal or recycling facilities. The Owner shall only allow progress payments after receipt of these weight slips.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 Utility Services and Mechanical/Electrical Systems

- A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services. Coordinate with utility providers and the Owner and terminate utilities according to the providers' requirements.
 - 1. Prior to commencing cutting work in existing surfaces, take all precautionary measures to assure that utility services to the area have been made inactive. Only licensed tradesmen of that trade shall disconnect and cap existing mechanical and electrical items that are to be removed, abandoned and/or relocated.
 - 2. If, during the process of cutting work, existing utility lines are encountered which are not indicated on the Drawings, regardless of their condition, immediately report such items to the Engineer. Do not proceed with work in such areas until instructions are issued by the Engineer. Continue work in other areas

3.02 Preparation

- A. Bidders shall examine the site and make their own estimates of the types and quantities of demolition, which will be required to fulfill the contract requirements.
- B. Provide proper notification of demolition, removal, and disposal, of hazardous building materials identified during work as required by local, state, and federal regulations. The Owner and Engineer are not responsible for work by the Contractor that is performed with improper notice.
- C. Site Access and Temporary Controls: Conduct demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Section 02 10 00, SITE PREPARATION.
- D. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of demolition.
 - 2. Remove temporary shoring, bracing and structural supports when no longer required.
 - 3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.
- E. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).

1. Erect temporary protection, such as walks, and fences, where required by authorities having jurisdiction or as shown on the plans. Provide temporary barricades as required to limit access to demolition areas.
- F. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- G. All painted surfaces shall be assumed to contain LBP.
- H. Notify the Owner and the Engineer immediately if ACM, LBP, PCBs, CFCs, and mercury are encountered. If encountered:
 1. Prepare and manage materials containing ACM, LBP, PCBs, CFCs, and mercury in accordance with applicable local, state, and federal regulations.
- I. Manage and dispose of materials in accordance with applicable local, state, and federal regulations.
- J. Remove, stockpile, and dispose of all treated timber.
 1. Perform all sampling and laboratory testing necessary to characterize the treated timber components for disposal.
 2. Load, transport, and dispose of the treated timber components at an appropriate disposal facility licensed to accept treated wood products. Submit disposal manifests to the Engineer prior to the completion of the project.
- K. Any additional applicable pre-disposal testing requirements of the receiving facility of the demolition debris, or as required by any applicable codes or regulations, shall be identified and performed by the Contractor. The Contractor is responsible for determining the demolition procedures and the resulting required testing and disposal required to comply with all applicable codes and regulations.
- L. Per MassDEP, no painted or coated concrete or brick shall be recycled on-site.

3.03 Application

- A. The work shall be conducted with prime consideration given to the following:
 1. Compliance with applicable laws and building codes.
 2. Safety, protection, and convenience of the Owner's tenants, public, and workmen.
 3. Minimization of dirt and dust proliferation.
 4. Protection of the existing building structure, materials, and finishes from damage.
 5. Neat and accurate cutting and trimming of elements to be partially removed, subject to Engineer's approval.
 6. Minimum interruption to the continuous operation of the Facility.
- B. All work shall be done in accordance with applicable Federal, State and local laws, rules, regulations, codes and ordinances and all necessary permits required for the demolition work shall be procured by the General Contractor, including DPS Demolition Permit, State Plumbing Permit (as required), and City of Boston Electrical Permit (where required). Provide unobstructed exits approved by the Owner at all times.
- C. All materials removed during demolition designated for disposal shall become the property of the Contractor unless otherwise noted.
- D. All materials removed during demolition, except those which are to be reused, shall be disposed of off the site in conformance with all municipal, state and federal regulations.

- E. Do not work in affected areas until the various dust and protective barriers have been installed.
- F. Contractor shall be responsible for all concrete saw cutting and removal and disposal of material.
- G. Debris shall not be allowed to accumulate and shall be sprinkled during handling and loading to reduce dust. All debris shall be either stored temporarily in Contractor furnished dumpster type container(s) provided by the Contractor at his expense, or shall be removed from the site daily, to ensure absolute minimization of dusting and other pollution. Segregate debris as required for disposal.
- H. Contractor shall demolish the specified portion of the outfalls in a controlled manner. Contractor shall submit a controlled demolition plan detailing phased demolition, dewatering, and filling. The dewatering shall be limited to displaced water during placement of fill only.

3.04 Demolition

- A. General: Completely demolish specified portion of existing outfalls, including below grade features such as, but not limited to, footings, foundations, slabs, piping, conduit, and wiring structures as shown on the plans. Use methods required to complete the work within limitations of governing regulations and as follows:
 - 1. Proceed with demolition systematically, from higher to lower level. Complete demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 4. Maintain adequate ventilation when using cutting torches.
 - 5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 7. Locate demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 8. Dispose of demolished items and materials promptly in accordance with the requirements of this specification and all applicable local, state, and federal regulations.
- B. Material Segregation
 - 1. Separate Asphalt, Brick and Concrete (ABC) rubble from wood, mechanical equipment, and steel. Any coated ABC shall be separated and properly disposed. The remaining ABC rubble may be crushed onsite for onsite reuse or transported off-site for recycling or disposal. If the Contractor elects to reuse materials onsite, the material shall be crushed to pieces less than 4-inches in any

dimension. Reuse, salvage, and recycle materials from the demolition to the greatest extent possible.

3.05 Protection of Public Property

- A. Provide all measures required by federal, state, and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Owner's employees during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes, and temporary lighting.
- B. Protect all buildings, fences, walks, roads, streets, curbs, pavements, trees, plantings, utilities, and other features on and off premises. Should any such items be damaged by the Contractor during the execution of the work, the Contractor shall bear all costs for correcting such damage as directed by the Engineer, and to the satisfaction of the Owner.
- C. Perform demolition in a manner that will ensure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other causes. Do not interfere with the use of adjacent buildings or the free access and safe passage to and from the same.
- D. Prevent movement or settlement of sidewalks, roads, streets, curbs, and pavements. Install all necessary bracing and shoring in connection with demolition and removal work.
- E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing building structures both internal and external of the particular work area.
- F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress, to prevent dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.

3.06 Discovery of Hazardous Materials

- A. If hazardous materials or unmarked containers are discovered, cease work in the affected area and immediately notify the Engineer and the Owner. Do not proceed with work in such areas until approved by the Owner. Continue work in other areas.
- B. If Asbestos Containing Materials are identified allow for 10-day asbestos notification prior to start of asbestos abatement.
 - 1. Handle, manage, and dispose of Asbestos Containing Materials in accordance with the requirements of this specification and applicable local, state, and federal regulations.

3.07 Cutting

- A. Contractor shall be responsible for all concrete saw cutting and removal and disposal of material
- B. Provide a flush, full depth saw cut edge where pavement, curb, and concrete removals abut existing surfaces to remain undisturbed
- C. Take care to avoid damage to existing structures or part structures to remain as noted within the Contract Documents.

3.08 Disposal of Demolished Materials

- A. General:
 - 1. Do not burn demolished materials.
 - 2. Do not allow demolished materials to accumulate on-site.
 - 3. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 4. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Asphalt, Concrete, and Masonry: Remove reinforcement and other metals from concrete and sort with other metals. The Contractor may pulverize uncoated asphalt, brick, and concrete to a maximum 4-inch size and reuse the material as backfill on-site in accordance with MassDEP's Guide for Recycling Asphalt, Brick and Concrete – Revised February 2000 which are attached to these specifications as Attachment A.
- C. Manage and dispose of materials in accordance with applicable local, state, and federal regulations.

3.09 Cleaning

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Leave premises in a clean condition.

END OF SECTION

SECTION 03 31 30 - REINFORCED CONCRETE

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.

1.02 Work Included

- A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials, equipment, labor, testing, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:
 - 1. Reinforced Concrete Splash Wall
 - 2. Miscellaneous reinforced concrete items including, but not limited to:
 - a. Utility protection
 - b. Drainage structures
 - c. As otherwise shown on contract documents or needed to complete the work
- B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.03 Related Work Specified in Other Sections

- A. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Demolition under DEMOLITION, SECTION 02 41 00
 - 2. Earthwork under EARTHWORK, SECTION 31 00 00
- B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.04 Quality Assurance

- A. Except as noted, work shall conform to the latest edition of the following code specifications and standards:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Concrete Institute (ACI):
 - a. "Building Code Requirements for Reinforced Concrete", ACI 318.
 - b. "Specifications for Structural Concrete for Buildings", ACI 301.
 - c. "Recommended Practice for Measuring, Mixing, and Placing Concrete", ACI 304.
 - d. "Recommended Practice for Cold (Hot) Weather Concreting", ACI 305 and ACI 306.

- e. "Guide to Formwork for Concrete", ACI 347.
3. Concrete Reinforcing Steel Institute (CRSI):
 - a. Design of Reinforced Concrete Structures - "A Manual of Standard Practice".
 - b. "Placing Reinforcing Bars".
 - c. "Field Handling Techniques for Galvanized Reinforcing Bar"
4. The Commonwealth of Massachusetts, Department of Public Works "Standard Specifications for Highways and Bridges" (MHD)

1.05 Submittals

A. Shop Drawings:

1. Reinforcing steel shop drawings:
 - a. Shall be of such detail and completeness that all fabrication and placement at the site can be accomplished without the use of Contract Drawings for reference.
 - b. Shall include number of pieces, sizes, and grade of reinforcing steel, accessories, and any other information required for fabrication and placement.
 - c. Shall show joint layout and design
2. Contractor shall check structural and site drawings for anchor bolts, anchors, inserts, conduits, sleeves, and any other items which are required to be embedded in concrete and shall make necessary provisions as required so that reinforcing steel will not interfere with the placement of such embedded items.

- B. Concrete mix designs for each type of work, each supplier and as specified in this Section
- C. Concrete break history on the mix design for no less than 2 years of history
- D. Concrete repair mortar/manufacturer/design mix
- E. Name and address of Independent Testing Laboratory in conformance with ASTM E329 for approval by Engineer
- F. Cold weather concrete protection and curing details in conformance with ACI 305R
- G. Hot weather concrete protection and curing details in conformance with ACR 306R
- H. Concrete wind protection and curing details

1.06 Testing of Concrete

A. Quality Control:

1. Test Specimens: The Contractor will be required to make, cure, and have tested a minimum of one set of five test specimens from the concrete of each day's pour and for each fifty cubic yards of concrete cast in accordance with ASTM Designations C172, C31, and C39. Two cylinders shall be broken after seven days and two cylinders after twenty-eight days. The fifth cylinder shall be stored on the site to the same conditions of the ongoing work as reserve to break if and when the placed concrete does not achieve the required strength at 28 days.

2. Slump: A slump test shall be made for each truckload of concrete in accordance with ASTM Designation C143. Slumps greater than design mix limit will be grounds for rejection of the concrete.
 3. Air Content: The Contractor shall make an air content test from each day's pour of concrete by the pressure method in accordance with ASTM Designation C231. Air contents above or below the limits specified will be grounds for rejection of the concrete.
 4. Testing: All personnel and laboratories testing concrete shall be licensed by the Commonwealth of Massachusetts.
 5. Test Failures: In the event the compressive strength of the cylinders, when tested, is below the specified minimum, the Engineer may require test cores of the hardened structure to be taken by the Testing Laboratory in accordance with ASTM C-42. If such test indicates that the core specimen is below the required strength, the concrete in question shall be removed and replaced without cost to The Authority. Any other work damaged because of this concrete removal shall be replaced with new materials to the satisfaction of the Engineer at no additional cost to The Authority. The cost of coring will be deducted from the Contract amount. Where core cylinders have been taken by the Testing Laboratory and the concrete proves to be satisfactory, core holes shall be filled in a manner satisfactory to the Engineer at no additional cost to The Authority.
- B. The Contractor shall coordinate the date and location of tests with the Engineer before any concrete work is started.
- 1.07 Product Delivery, Storage, and Handling
- A. Reinforcing steel shall be transported to the site, stored, and covered in a manner which will ensure that no damage shall occur to it from moisture, dirt, grease, or any other cause that might impair bond to concrete or chip coating. A sufficient supply of approved reinforcing steel shall be stored on site at all times to ensure that there will be no delay of work. Identification of steel shall be maintained after bundles are broken.

PART 2 - PRODUCTS

2.01 Materials

- A. The following materials shall be used unless specifications define elsewhere with a specific construction element.
- B. Portland Cement: ASTM C 150, Type II or V of U.S. manufacture. Only one brand of cement shall be used on the project.
- C. Aggregates:
 1. Fine aggregate. ASTM C 33, clean and graded from 1/4 inch to fines.
 2. Coarse aggregate. ASTM C 33, clean and graded from 1/4 inch to maximum sizes hereinafter specified.
- D. All admixtures shall all be from the same manufacturer.
- E. Air Entraining Agent: Conforming to ASTM C 260 for Air-Entraining Admixtures for Concrete.
- F. Water Reducing Agent: Conforming to ASTM C 494 Type A for Chemical Admixtures for Concrete.

- G. Shrinkage-Reducing Agent: Conforming to ASTM C 494 Type S and suitable for use in salt water environment. Admixture shall be non-expansive and able to reduce shrinking by a minimum of 40%. Shrinkage reducing agent shall be used in all concrete used for the Reinforced Concrete Splash Wall..
- H. Microsilica Admixture (if required): Packaged in easily dispersing form.
- I. All chemical admixtures shall be by the same manufacturer.
- J. Water: Clean and potable, free of impurities detrimental to concrete.
- K. Reinforcing Bars: New, deformed billet steel bars conforming to ASTM A 615, Grade 60, either hot dip galvanized after fabrication in accordance with ASTM A767 Class 1 or continuous hot dip galvanized in accordance with ASTM A1094. Bend diameters for steel supplied in accordance with ASTM A767 shall comply with ASTM A767.
- L. Accessories: Reinforcement accessories, consisting of spacers, chairs, ties, and similar items shall be provided as required for spacing, assembling, and supporting reinforcement in place. All accessories shall be dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of the CRSI Standards herein before specified.
- M. Mechanical splices shall meet or exceed ASTM A615 and be hot dip galvanized.
- N. Tie wire for reinforcement shall be 16 gauge or heavier dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of ASTM A-82.
- O. Form Ties and Spreaders: Standard metal form clamp assemble and plastic cone, of type acting as spreaders and leaving no metal within 1 inch of concrete face. Inner tie rod shall be left in concrete when forms are removed. No wire ties or wood spreaders will be permitted. Use 1/2" x 1" C.T. plastic cones for sinkages.
- P. Form Coatings: Non-grain raising and non-staining type that will not leave residual matter on surface of concrete or adversely affect proper bonding of subsequent application of other material applied to concrete surface. Coating containing mineral oils or other nondrying ingredients will not be permitted.
- Q. Concrete Repair Mortar: A fast setting, high-strength, non-shrink repair mortar with saltwater resistance suitable for overhead and vertical repairs, such as SikaRepair SHA with Sika Latex R, Five Star EZ-Cure Repair Mortar, Prospec Vertical Leveling Mortar, or approved equal. Surfaces shall be prepared and Concrete Repair Mortar shall be mixed and applied in accordance with the manufacturer's recommendations.
- R. Epoxy
 - 1. Epoxy shall be a two-component, epoxy-resin bonding system conforming to the requirements of ASTM C 881, Type I, Grade 2, Class A, B, or C. The Class supplied shall be governed by the range of temperatures for which the material is to be used. The resin shall contain a white pigment and the hardener shall contain a black pigment in such proportions that the resulting mixture is concrete gray.
 - 2. The two-component, epoxy-resin grout shall be furnished by the manufacturer in premeasured, preassembled cartridges suitably designed for mixing and application of the grout or in containers individually marked to clearly identify each component.
 - 3. Packaging: The epoxy adhesive shall be packaged in a kit with each component in a separate container. The containers of each kit shall be filled with the adhesive components in exact mixing proportions and one container shall be large enough to mix both of the components. The size of the kit shall be the total volume of the mixed adhesive which shall be one gallon or five gallons as

specified. Regardless of how it is furnished, the manufacturer shall supply mixing instructions.

- S. Prior to approval and use of the epoxy-resin grout, the Contractor shall submit notarized certification by the formulator, stating that the epoxy-resin grout meets the requirements as set forth herein. Bonding agents suitable for concrete and grout. Agent shall be resistant to saltwater environment such as SIKA Armatec 110, EUCO #452 epoxy system or approved equal.
- T. Bond Breaker:
 - 1. Tape for Joints: Adhesive-backed glazed butyl or polyethylene tape. Same width as joint that will adhere to premolded joint material or concrete surface.
 - 2. Nonstaining type, providing positive bond prevention
- U. Premolded Joint Filler:
 - 1. Bituminous Type: ASTM D994 or ASTM D1751.
 - 2. Sponge Rubber:
 - 3. Neoprene, closed-cell, expanded; ASTM D1056, Type 2C5, with compression deflection, 25 percent deflection (limits), 119 kPa to 168 kPa (17 psi to 24 psi) minimum. Use in joints for potable and non-potable water containment structures.
- V. Pourable Joint Fillers:
 - 1. General: Although product is a sealant, it is being specified as a filler to prevent debris accumulation and allow expansion and contraction under shrinkage and thermal loads. It does not need to meet proportional sealant geometry requirements.
 - 2. Multicomponent sealant, self-leveling or nonsag as required for level, sloping, or vertical joints.
 - 3. Color: White.
- W. Steel Expansion Joint Dowels:
 - 1. Dowels: ASTM 276, round smooth stainless steel bars, Type 316L, min yield stress 50ksi.
- X. Curing Compound

2.02 Concrete Strengths and Proportions

- A. Cast-in-place concrete shall have the following minimum compressive strength at 28 days and shall be proportioned within the following limits:

Class	Minimum Strength at 28 days	Maximum Size of Aggregate	Water Cement Ratio	Minimum Cementitious Material Content	Maximum Cement Replacement	Air Entrainment (air content)
A	5000 psi	3/4"	0.40	660 lbs./CY	Per ACI 318 Except Max slag 25%	5 to 7%

- B. Air-Entrainment: The air content in all concrete shall be maintained as defined above.

- C. Slump: The slump in 5000psi concrete shall be between 3 inches to 5 inches and in accordance with ASTM C 143.
- D. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement with the method of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.
- E. Concrete mix design by supplier shall have been in satisfactory use for a minimum of 2 years.

PART 3 - EXECUTION

3.01 Cast-In-Place Concrete General

- A. Falsework for Forms:
 - 1. The Contractor shall build and maintain necessary falsework for the forms.
- B. Construction of Forms:
 - 1. Forms shall be constructed of sound material, of the correct shape and dimensions, mortar tight, of sufficient strength, and so braced and tied together that the movement of men, equipment, materials, or placing and vibrating the concrete will not throw them out of line or position. Cold joint forms shall have a roughened profile for adjacent pours.
 - 2. During pumping, forms shall be inspected to guarantee that no leaks are present and Contractor shall ensure that concrete, when cured, will result in a composition as specified herein.
 - 3. Embedded Items:
 - a. Provisions shall be made for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, waterstops, and other features. No wood other than necessary nailing blocks shall be embedded in concrete. Complete cooperation shall be extended to suppliers of embedded items in their installation. Secure information for embedded items from other trades as required. All embedded items shall be securely anchored in correct location and alignment prior to placing concrete.
 - 4. Openings for Items Passing Through Concrete:
 - a. Contractor shall establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections. Contractor shall be held responsible for proper coordination of all work of this nature in order that there will be no unnecessary cutting and patching of concrete. Any cutting and repairing to concrete, required because of failure to provide for such openings, shall be paid for by the Contractor at no additional expense to The Authority.
- C. Removing Forms and Falsework:
 - 1. Wood forms shall not be removed for at least 48 hours after concrete has been placed.
 - 2. Forms shall not be removed until the concrete has attained sufficient strength to ensure stability.
- D. Reinforcing Steel:

1. Reinforcing Steel: Shall be placed in accordance with the drawings and approved shop drawings and the applicable requirements of the "Codes and Standards" herein before specified. Install reinforcement accurately and secured against movement, particularly under the weight of workmen and the placement of concrete.
2. Reinforcing Steel Supports: Bars shall be supported on approved plastic or dielectric-coated metal chairs or spacers, accurately placed, and securely fastened to forms or steel reinforcement in place. Additional bars shall be supplied, whether specifically shown on the drawings or not, where necessary to securely fasten reinforcement in place. Support legs of accessories in forms without embedding in form surface. Spacing of chairs and accessories shall conform with CRSI's "Recommended Practice for Placing Bar Support". Hooping and stirrups shall be accurately spaced and wired to the reinforcement. No wood will be permitted inside forms. Lifting of welded wire fabric into proper position while concrete is being poured, rather than supporting fabric on chairs, will not be permitted.
3. Placing and Tying: All reinforcement shall be set in place, spaced, and rigidly and securely tied or wired with tie wire at all splices and at all crossing points and intersections in the positions shown, or as directed. Rebending of bars on the job to accommodate existing conditions will not be permitted without the written approval of the Engineer. Point ends of wire ties away from forms.
4. Spacing: Minimum center to center distance between parallel bars shall be in accordance with the details on the drawings, or, where not shown, the clear spacing shall be 2 times the bar diameter, but in no case less than 1-1/2 inches or 1-1/2 times the maximum sized aggregate.
5. Minimum edge distance of 3" unless otherwise noted on the Contract Drawings.
6. Splices shall be in accordance with the following:
 - a. Lap Splicing:
 - 1) Maximum 50% of steel spliced occurring within lap length.
 - 2) Top bars shall be 1.4 times values given below.
 - 3) Splice lengths - #6 bars and smaller 40 bar diameters
 - 4) Splice lengths - #7 bars and greater 47 bar diameters
 - b. Mechanical Splicing:
 - 1) Mechanical butt splices shall be the tension-compression shear screw and wedge coupling sleeve type, with smooth converging sides and cone-pointed hex-head screws, to develop a strength in the bar equal to $1.25F_y$
 - 2) Mechanical lap splices shall be the shear screw and double wedge coupling sleeve type, with converging sides and cone-pointed hex-head screws opposite the wedges.
7. Protective Concrete Covering: Except where shown otherwise on drawings, the minimum concrete coverage for steel reinforcement shall conform with the applicable revisions of the "Codes and Standards" herein before specified.
8. Reinforcement Around Openings: On each side and above and below pipe or opening, place an equivalent area of steel bars to replace steel bars cut for opening. Extend steel reinforcing a standard lap length beyond opening at each end.

9. Bar Cutting: Reinforcement bars shall not be cut in the field, unless permitted by Engineer.
 10. Welding: Welding of reinforcement is not permitted. Coating damaged incurred during shipment, handling and placing of zinc-coated (galvanized) reinforcing bars must be repaired in accordance with ASTM A780, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings. Damaged areas must not exceed 2 percent of the surface area in each linear foot of each bar or bar must not be used.
- E. Mixing of Concrete:
1. All concrete shall be ready-mixed concrete and shall be mixed and delivered in accordance with the "Specification for Ready-Mixed Concrete", ASTM C-94. The batch plant of the concrete producer shall be certified for compliance with the standards established by the National Ready-Mixed Concrete Association.
 2. In the event concrete is mixed at a central batching plant, the delivery shall be arranged so that intervals between batches are kept to a minimum, and in any event, not more than thirty (30) minutes. Trucks shall be in first class condition and kept in constant rotation during delivery.
 3. Concrete shall be placed within 90 minutes after cement has been mixed with aggregate or 45 minutes after addition of water and admixtures.
 4. No admixtures, except those mentioned in paragraph 2.1 shall be used. Calcium chloride will not be permitted.
 5. Truck delivery slips of all concrete delivered to the job shall be presented to the Engineer and shall indicate the quantity and quality of concrete, additives, date and time of batching and delivery, and the location of placement. No concrete shall be placed until the Engineer has reviewed and approved the delivery slip for that placement.
- F. Cold Weather Requirements:
1. Concrete shall not be mixed or placed when the temperature is below 40 degrees F., or when conditions indicate that the temperature will fall below 40 degrees F. within 72 hours unless precautions are taken to protect the concrete.
 2. Concrete temperature shall be maintained, when deposited, at not less than 60 degrees F. Reinforcement, forms, and ground which concrete will contact must be completely free of frost.
 3. Concrete and formwork must be kept at a temperature of not less than 50 degrees F. for not less than 96 hours after placing.
 4. Calcium chloride shall not be used.
 5. Contractor shall provide heating and/or insulation to formwork as required to comply with these minimum temperature requirements.
- G. Hot Weather Requirements:
1. The maximum temperature of the concrete, when deposited, shall be 85 degrees F. If the weather causes the placing temperature to exceed 85 degrees F., the mix shall be cooled by appropriate methods, if approved by the Engineer.
 2. No concrete shall be deposited when the air temperature is greater than 90 degrees F.
- H. Conveying and Placing Concrete:

1. Notification: Contractor shall notify Authority's Representative at least 48 hours in advance of any placement of concrete.
2. Form Preparation: Before placing concrete, forms shall be thoroughly inspected. All chips, dirt, etc., shall be removed, all temporary bracing and cleats taken out, all openings for pipes, etc., properly boxed, all forms properly secured in their correct position and made tight, all reinforcement, anchors, and embedded items secured in their proper places. Concrete which may be on the forms or reinforcement, and which is set and dry, shall be cleaned off, and the forms and steel washed off before proceeding. Remove all foreign matter from forms and excavations.
3. Excess Water: Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the Engineer. Any flow of water into an excavation shall be diverted through proper side drains into a sump or shall be removed by other approved methods which will avoid washing away the freshly deposited concrete.
4. Soil on which concrete will be poured shall be thoroughly wetted (except in freezing weather).
5. Existing Concrete Preparation: All existing concrete that is to have fresh concrete placed against shall be surfaced roughened to a minimum of $\frac{1}{4}$ " amplitude within 2 inches of the edges and shall be coated with approved bonding agent.
6. Anchors and Embedded Items: Anchors, bolts, sleeves, inserts, wood blocking, and any other items to be embedded in concrete shall be accurately secured in position before the concrete is placed. Aluminum shall not be embedded in concrete.
7. Handling and Depositing of Concrete:
 - a. Before any concrete is placed, the Contractor shall notify all whose work is in any way connected with or influenced by the concrete work and give them reasonable time to complete all portions of their work that must be completed before concrete is deposited.
 - b. Immediately before concrete is placed, the Contractor shall inspect all forms to be sure that they are in proper position, sufficiently rigid, thoroughly clean, properly oiled and free from foreign materials and that all reinforcement is in proper position.
 - c. Concreting, once started, shall be carried on as a continuous operation until the section of approved size and shape is completed. Cold joints will not be accepted.
 - d. Concrete shall be conveyed as rapidly as practicable from the mixer to the place of final deposit by methods, which prevent the separation or loss of ingredients. It shall be deposited, as nearly as practicable, in its final position to avoid rehandling or flowing.
 - e. Concrete shall not be dropped freely where reinforcement will cause segregation, nor shall it be dropped freely more than six (6) feet. Concrete shall be deposited to maintain a plastic surface approximately horizontal.
 - f. Concrete that has partially hardened shall not be deposited in the work.
8. Pumping:
 - a. Concrete may be placed by pumping if first approved in writing by the Engineer for the location proposed.

- b. Equipment for pumping shall be of such size and design as to ensure a practically continuous flow of concrete at the delivery end without separation of materials.
 - c. The concrete mix shall be designed to the same requirements as herein before specified and may be richer in lubricating components to allow proper pumping.
 - d. Concrete shall not be pumped through aluminum pipes.
 - e. All pumping operations must have full-time inspection by a recognized testing laboratory approved by the Engineer and paid for by the Contractor. The cost of this full-time inspection shall be included in the Contractor's bid proposal if the option of pumping is elected.
9. Vibrating and Compacting:
- a. All concrete shall be thoroughly consolidated and compacted by suitable means during the operation of placing, and shall be thoroughly worked around reinforcement, embedded items, and into the corners of the forms. All concrete against forms shall be thoroughly spaded. Internal vibrators shall be used under experienced supervision and shall be kept out of contact with reinforcement and wood forms. Vibrators shall not be used in a manner that forces mortar between individual form members.
 - b. Vibrators shall be flexible electric type or approved compressed air type, adequately powered and capable of transmitting to the concrete not less than seven thousand (7,000) impulses per minute. Vibration shall be sufficiently intense to cause the concrete to flow or settle readily into place without separation of the ingredients. A sufficient number of vibrators shall be employed so that complete compaction is secured throughout the entire volume of each layer of concrete. At least one (1) vibrator shall be kept in readiness as a spare for emergency use. Vibrators shall be such that the concrete becomes uniformly plastic with their use.
 - c. Vibration shall be close to the forms but shall not be continued at one spot to the extent that large areas of grout are formed or the heavier aggregates are caused to settle. Care shall be taken not disturb concrete which has its initial set. Vibrations shall not be used to walk concrete from one side to another within given form. Walking concrete will cause separation of the mix.
 - d. Where conditions make compacting difficult, or where the reinforcement is congested, batches of mortar containing the same proportions of cement to sand as used in the concrete shall first be deposited in the forms, to a depth of at least on inch.
 - e. The responsibility for providing fully filled out, smooth, clean, and properly aligned surfaces free from objectionable pockets shall rest entirely with the Contractor.
- I. Construction Joints:
- 1. Construction joints shall be located as shown on the Contract Drawings or where approved in joint location submittal. Horizontal construction and contraction joints shall be spaced at a maximum of 30 feet apart, unless shown or approved otherwise. If, for any reason, the Contractor feels a change is necessary, he shall prepare a placing plan and submit it to the Engineer for approval. Where a joint is to be made, the surface of the concrete shall be sandblasted or thoroughly picked, thoroughly cleaned, and all laitance removed. In addition to

the foregoing, joints shall be thoroughly wetted, but not saturated, and slushed with a thin coat of grout immediately before the placing of new concrete. Approved keys shall be used at all joints, unless detailed otherwise. Forms shall be retightened before placing of concrete is continued. There shall be an interval of at least 48 hours between adjacent pours.

J. Expansion Joints:

1. Expansion joints shall be located as shown on Contract Drawings. Unless otherwise designed the joint shall include a joint filler, a bond breaker, and joint sealant, and be installed as indicated on Contract Drawings.
2. Surface Preparation:
 - a. Use wire brush or motorized device to mechanically roughen and thoroughly clean concrete surfaces on each side of joint from plastic waterstop to top of joint.
 - b. Use dry, high-pressure air to remove dust and foreign material, and dry joint.
 - c. Prime surfaces as required before placing joint filler.
 - d. Avoid damage to waterstop.
3. Installation:
 - a. Premolded Joint Filler:
 - 1) Sufficient in width to completely fill joint space where shown.
 - 2) Install per manufacturer's written instructions.
 - 3) If waterstop is in joint, cut premolded joint filler to butt tightly against waterstop and concrete face.
 - 4) Precut premolded joint filler to required depth at locations where joint filler or sealant is to be applied.
 - 5) Form cavities for joint filler with either precut, premolded joint filler, or smooth removable accurately shaped material. Entire joint above waterstop, in slabs, shall be formed and removed so that entire space down to waterstop can be filled with the pourable joint filler.
 - 6) Vibrate concrete thoroughly along joint form to produce dense, smooth surface.
 - b. Bituminous Type Premolded Joint Filler:
 - 1) Drive nails approximately 1 foot 6 inches on center through filler, prior to installing, to provide anchorage embedment into concrete during concrete placement.
 - 2) Secure premolded joint filler in forms before concrete is placed.
 - 3) Sponge Rubber Joint Filler: Install per manufacturer's written instructions.
 - c. Pourable Joint Filler:
 - 1) Install in accordance with the manufacturer's written instructions, except as specified below:
 - 2) Apply primer prior to pouring joint filler.
 - 3) Fill entire joint above the waterstop with joint filler as shown.

- 4) Use masking tape on top of slabs at sides of joints; clean spillage. Remove masking tape afterwards.
 - 5) Sealant products used as fillers need not meet sealant geometry parameters. Do not use backing rods.
- d. Steel Expansion Joint Dowels:
- 1) Install coated and lubricated bars parallel to wall or slab surface and in true horizontal position perpendicular to joint in both plan and section view, so as to permit joint to expand or contract without bending dowels.
 - 2) Secure dowels tightly in forms with rigid ties.
 - 3) Install steel reinforcement in concrete as shown.
- K. Patching:
1. Immediately after stripping forms, patch minor defects, form-tie holes, honeycombed areas, etc., before concrete is thoroughly dry. Repair gravel pockets by cutting out to solid surface, form key, and thoroughly wet before placing patching mortar consisting of 1 part cement to 2 parts fine sand; compact into place and neatly finish. Honeycombed areas or gravel pockets which, in the Engineer's opinion are too large and unsatisfactory for mortar patching as described above, shall be cut out to solid surface, keyed, and packed solid with matching concrete to produce firm bond and surface.
 2. The Contractor shall do the entire cutting as required by himself or other trades. All such work shall be of the minimum size required. No excessive cutting will be permitted; nor shall any structural members or reinforcement be cut.
 3. The Contractor shall do all patching after work by other trades has been installed, where required, using Portland Cement Mortar 1:2 sand mix.
- L. Protection and Curing:
1. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.
 2. Protect fresh concrete from drying winds, rain, damage, or spoiling. Curing paper shall be lapped 4 inches minimum at joints and sealed with waterproof tape.
 3. Keep concrete in a thoroughly moist condition from the time it is placed until it has cured, for at least seven (7) days.
 4. Carefully protect exposed concrete corners from damage.
 5. Allow no slabs to become dry at any time until curing operations are complete. In general, slabs shall be cured with non-staining curing paper, hosing or fog spray; vertical surfaces shall be cured with wetted Burlene or fog spray unless otherwise approved.
- M. Concrete Finishes:
1. Unexposed Surfaces: All unexposed surfaces shall have form finish at the Contractor's option.
 2. Wearing Surface Finish
 - a. The wear surface shall receive a monolithic steel trowel finish. Surfaces shall be finished with a screed, float, or steel trowel. Trowel shall be vigorously used at an angle under pressure by the finisher until troweling gives evidence of shine or gloss as required to make a smooth, hard, dense, impervious surface, free of defects. Finishers shall work from

kneeboards laid flat upon the surface. Mechanical troweling machines may be used if the desired finish and level tolerances can be obtained by their use, but finishing shall be by hand troweling.

- b. Where directed, finish surfaces by scoring in parallel lines with a fine hair stable broom, perpendicular to the direction of traffic or as indicated on the drawings.
3. Exposed Surfaces:
- a. Surfaces exposed to view shall be finished. Within 48 hours after the forms have been removed and form ties cut back from the face of the concrete, all voids and cavities shall be filled with a stiff mortar of the same composition and air-entrainment as the mortar in the original concrete mix. The same brand and color of cement, and the same kind and color of aggregate as was used in the original concrete mix shall be used in this mortar. The mortar for filling shall have been mixed and let set for 30 minutes and then remixed before placing in the work. The surface film of all such pointed surfaces shall be carefully removed before setting of the mortar occurs.
 - b. If the Engineer determines these surfaces as prepared do not present a uniformly smooth, clean surface of even texture and appearance, the surface shall be treated and rubbed to obtain a satisfactory finish. The Engineer shall be the sole judge of the amount of rubbing which will be required.
 - c. If rubbing is required, the rubbing will start within 48 hours of notification that the rubbing is required; the surface should be wetted with clean water and rubbed with a No. 16 carborundum brick or other abrasive of equal quality until even and smooth and of uniform appearance, without applying any cement or other coating. If additional finishing is necessary, it shall be obtained by a thorough rubbing with a No. 10 carborundum brick or other abrasive of equal quality. Subject to approval by the Engineer, rubbing may be performed by use of satisfactory power equipment and tools, providing the operational procedures shall be the same as those outlined above for hand rubbing.
 - d. Rubbing will be kept to the minimum found necessary to produce smooth, even surfaces of uniform appearance. Rubbing will not be required to fill very small surface air bubble holes.
 - e. Patches required for form ties, if carefully and properly done, may not necessitate rubbing. However, if the work is done in such a way that the patches are conspicuous; the entire exposed face on which they occur shall be rubbed.
 - f. After the final rubbing is completed, and the mortar has set up, the surface shall be thoroughly drenched and kept wet with clean water for a period of five days, unless otherwise directed.
 - g. No rubbing will be permitted when the air temperature is below 40 °F.
 - h. Any formed surfaces not exposed to view, including the underside of concrete decking, shall be finished. Immediately after forms have been removed and form ties cut back from the face of the concrete, all voids and cavities shall be fixed with a stiff mortar of the same composition and air-entrainment as the mortar in the original concrete mix. The mortar for filling shall have been mixed and let set for 30 minutes and then remixed before placing in the work. In case the operation of filling is delayed, the

surface of the concrete shall be thoroughly cleaned and washed with water, if necessary, before the mortar is applied.

4. Addition of Material:
 - a. The addition of cement, sand, water, or mortar to any surface while finishing concrete is strictly prohibited.
- N. Backfill Against Structures:
 1. Do not backfill against walls until concrete has obtained specified 28-day compressive strength.
 2. Unless otherwise permitted, place backfill simultaneously on both sides of structure, where such fill is required, to prevent differential pressures.
- O. Defective Work:
 1. The following concrete work shall be considered defective and may be ordered by the Engineer to be removed and replaced at Contractor's expense:
 - a. Incorrectly formed.
 - b. Not plumb or level.
 - c. Not specified strength.
 - d. Containing rock pockets, voids, honeycomb, or cold joints.
 - e. Containing wood or foreign matter.
 - f. Otherwise not in accordance with the intent of the Drawings and Specifications.
- P. Concrete Repair:
 1. Inject cracks that leak with crack repair epoxy.
 2. Repair defective areas of concrete.
 3. Repair concrete surfaces using specified materials. Select system, submit for review, and obtain approval from Engineer prior to use.
 4. Develop repair techniques with material manufacturer on surface that will not be visible in final construction prior to starting actual repair work. Obtain approval from Engineer.
 5. Obtain quantities of repair material and manufacturer's detailed instructions for use to provide repair with finish to match adjacent surface or apply sufficient repair material adjacent to repair to blend finish appearance.
 6. Repair of concrete shall provide structurally sound surface finish, uniform in appearance or upgrade finish by other means until acceptable to Engineer.
- Q. Remove metal objects not intended to be exposed in as-built condition of structure including wire, nails, and bolts, by chipping back concrete to depth of 1 inch and then cutting or removing metal object.
- R. Slip Form Paving:
 1. Deliver from hauling vehicles to paving machine hopper.
 2. Contractor's equipment hauling Portland cement concrete or reinforcement will not be permitted on subgrade, but will be allowed on base, with turns or other maneuvering kept to a minimum. Damage to subgrade or base shall be corrected to satisfaction of Engineer.

3. Place in final position uniformly in one layer, so a minimum of finishing will be necessary to provide a dense, homogenous pavement conforming to true grade and cross section.
 - a. Spreader shall receive Portland cement concrete mixture in its hopper and uniformly spread and strike it off at proper thickness for full width of area being paved.
 - b. Paver shall vibrate, consolidate, and finish slab to proper grade and cross section.
 4. Paver:
 - a. Operated with as continuous forward movement as possible.
 - b. Coordinate mixing, delivering, and spreading Portland cement concrete to provide uniform progress.
 - c. Stopping and starting paver shall be held to a minimum. If, for any reason, it is necessary to stop forward motion of paver, vibratory and tamping elements shall also be stopped immediately.
 - d. No external force shall be applied to paver, except with approval of Engineer.
 5. While placing Portland cement concrete, provision shall be made for constructing joints, placing dowels, tie bars, and other devices as called for by Drawings and as provided in Article Joints.
 - a. Portland cement concrete shall be rejected if it:
 - b. Is not in place within 1 hour after being mixed.
 - c. Has begun to take an initial set prior to placement.
 - d. Has been re-tempered with water.
 6. If necessary, supplemental hand spreading and distributing shall be with shovels. Rakes will not be permitted.
 7. Portland cement concrete shall not be fouled with foreign matter.
 8. Use vibrators to consolidate Portland cement concrete pavement at least 6 feet each side of construction joints and expansion joints.
- S. Stationary Side Form Construction:
1. Where width of pavement is narrow, tapering, or of irregular pattern not lending itself to being constructed by prescribed machine methods, Contractor shall be permitted to [place concrete as specified in Section 03 30 00, Cast-in-Place Concrete. Perform strike off, consolidation, final floating, and surface finishing with equipment, tools, means, labor, and methods other than those specified, provided the Work meets approval of Engineer and the following requirements:
 - a. As concrete is being placed, striking off and consolidating Portland cement concrete shall be done without causing segregation of material and shall include thorough uniform vibration throughout the mass until it is uniformly compacted.
 - b. Portland cement concrete shall be struck off by means of templates or screeds designed and manipulated to shape Portland cement concrete to specified cross section between forms, carrying a slight excess of Portland cement concrete in front of leading edge of templates or screeds at all times. Tamp Portland cement concrete to reduce voids to a minimum.

- c. Floating shall follow vibrating, striking off, and tamping operations and shall include transverse floating or other smoothing and finishing action. This shall provide a surface and evenness within a 12 foot straightedge tolerance of 0.01 foot. Test hardened surface in presence of Engineer. Surface shall be free from laitance, soupy mortar, marks, or irregularities.
2. Defects:
- a. Fill areas of minor honeycomb or other minor defect in composition of Portland cement concrete along exposed edges of Portland cement concrete with a stiff mortar of cement and fine aggregate. Apply to moistened Portland cement concrete to satisfaction of Engineer.
 - b. Area showing serious defects in composition of concrete shall be removed and replaced with pavement of specified quality for full width of strip between longitudinal joints or edges and for a length not less than between the nearest transverse joints.
- T. Pavement Joints:
- a. General:
 - 1) Referred to as contraction or construction, either of which may be transverse or longitudinal, as called for by Drawings or as approved by Engineer.
 - 2) Joints, backer material, joint filler, and joint sealants shall extend to pavement edges or to each other, as the case may be, and shall be constructed perpendicular to surface of pavement.
 - 3) Joints shall not vary from specified or indicated line by more than 1/4 inch.
 - 4) Place manhole or similar large structure in line of joint, or if impractical, isolate structure from pavement with premolded joint filler, 1/2 inch wide, conforming to AASHTO M213 and ASTM D1751.
 - b. Joints:
 - 1) Sawed Type with Poured Filler:
 - a) Joints shall be constructed as indicated on the drawings.
 - b) Perform saw cuts as soon as Portland cement concrete has set enough to permit sawing without tearing or raveling, before uncontrolled cracking results, and within 24 hours of placing Portland cement concrete.
 - c) Saws may be single or tandem, as Contractor may elect, and shall be controlled by guides to true line.
 - d) Clean joints thoroughly of foreign matter before pouring approved rubber asphalt filler.
 - e) Tops of joint filler shall be true to pavement cross section within 1/8 inch and shall be protected from damage by Portland cement concrete operations.
 - f) Areas containing uncontrolled cracks shall be removed and replaced.
 - g) Restore curing agents broken or damaged by sawing operations.

- 2) Construction Joints:
 - a) Construct when there is an interruption of longer 45 minutes in Portland cement concrete placing operations or where specified.
 - b) Place parallel with intended contraction joint.
 - c) Tool both free edges of joints with 1/8 inch radius rounder to remove laitance and mortar resulting from finishing operations and to provide clean rounded edge. Tooling shall not form ridges on surface of concrete.
 - d) New Portland cement concrete placed contiguous to joint shall conform to proportions and consistency of previously placed concrete.
 - e) If sufficient Portland cement concrete has not been mixed at the time of interruption to place a construction joint at least 3 feet from a planned contraction joint, remove excess Portland cement concrete back to a position to satisfactorily meet these criteria and to satisfaction of Engineer.
 - f) Fill joint which has opened to a width of 1/8 inch or greater during construction or maintenance periods with poured filler.
 - g) Do not construct within 3 feet of a transverse contraction joint.
- c. Surface Finishing:
 - 1) Use temporary screeds. Wet screeding and jitterbugging shall not be permitted.
 - 2) Pavement shall have surface tolerance of 1/4 inch in 10 feet in accordance with ACI 325.9R.
 - 3) Salting, spreading of cement or cement and sand mixture to speed up hardening shall not be permitted.
 - 4) Exposed pavement edges shall be edged to a 1/2 inch radius and construction joints shall be edged to 1/8 inch radius after finishing. Edging shall not form ridges on pavement surface.
 - 5) Pavement shall be treated and protected by use of evaporation retardant applied in accordance with manufacturer's written instructions. Flat surfaces shall be treated immediately after screeding and floating or if time period greater than 15 minutes occurs between finishing operations.
 - 6) Pavement shall be screeded, floated, and given heavy nylon bristle-broomed skid-resistant surface.
 - a) Broomed surface with hand broom or mechanical broom device to produce 1/16 inch to 1/8 inch deep striations oriented perpendicular to the direction of travel.
- d. Curing of Portland Cement Concrete:
 - 1) Immediately after the final floating, surface finishing, and edging has been completed, and while Portland cement concrete

surface is still moist, cover and cure entire exposed surface for at least 72 hours in accordance with one of the following provisions:

- 2) Ensure that concrete is not exposed for more than 30 minutes after finishing.
- 3) Liquid Membrane-Forming Compounds: Apply compound uniformly to Portland cement concrete by pressure spray methods at a rate which will form an impervious membrane, but at least at a rate of 1 gallon per 150 square feet.
- 4) Other Membranes:
 - a) Apply to damp Portland cement concrete as soon as it can be placed without marring surface.
 - b) Place in contact with surface, extend beyond sides or edges of slabs or forms, and fasten down to hold it in position as a waterproof and moisture proof covering.
 - c) Laps shall be sufficient to maintain tightness equivalent to sheeting.
 - d) Transverse laps for waterproof paper shall be at least 18 inches, and longitudinal seams shall be cemented.
 - e) Cotton or jute mats shall be saturated with water prior to placing and kept fully wetted during curing period.
- 5) Concrete shall be cured by use of curing compound, for minimum of 7 days after concrete placement, in accordance with ACI 308. Curing compounds shall be applied in accordance with manufacturer's written instructions.
- 6) Exposed surfaces shall be sprayed with curing compound immediately after free surface water has disappeared from finished surface.
- 7) Concrete temperature shall be maintained in accordance with ACI 306R.
- 8) Curing compounds shall not come in contact with hardened concrete that is to be concreted against.

END OF SECTION

SECTION 31 00 00 - EARTHWORK

PART 1 GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.
- C. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the Work of this Section.

1.02 Work Included

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Furnishing, excavation, filling, and compaction of borrow materials.
 - 2. Segregation and stockpiling different materials
 - 3. Grading and compaction for surface areas.
 - 4. Preparation of granular base for the gravel borrow and dense graded crushed stone.
 - 5. Installation and compaction of stone and granular material.
 - 6. Removal, transportation, and stockpiling of material
 - 7. Backfilling trenches for new utilities and from removed/abandoned utilities.
- B. Incidental materials necessary for the completion of the work of this section and usually furnished in connection therewith, shall be furnished and installed whether specifically mentioned.
- C. Should drawings not agree within themselves or not agree with the specifications, the greater quantity, or superior quality of work or materials, shall be included.

1.03 Related Work Specified in Other Sections

- A. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Site Preparation under SITE PREPARATION, SECTION 02 10 00
 - 2. Demolition under DEMOLITION, SECTION 02 41 00
 - 3. Concrete under REINFORCED CONCRETE, SECTION 03 31 30
 - 4. Geotextiles in GEOTEXTILES, SECTION 31 05 19
 - 5. Loam and seeding in SOD LAWN, SECTION 32 92 23
 - 6. Rip Rap in RIP RAP, SECTION 35 31 19

1.04 Definitions

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
- B. Base Course: Course placed between the asphalt pavement and the subbase and consisting of dense graded crushed stone.

- C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions authorized by Engineer.
 - 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
 - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as the resulting remedial work directed by Engineer, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation or 3/4 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment without systematic drilling, ram hammering, or ripping, when permitted.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- H. Subbase Course: Course placed between the subgrade and the base course and consisting of gravel borrow.
- I. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.05 Quality Control

- A. Except as noted, work shall conform to the latest editions of the following codes, specifications, and standards:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. The Commonwealth of Massachusetts, Massachusetts Department of Transportation "Standard Specifications for Highways and Bridges" (latest edition). (MassDOT)
- B. Soil testing and inspection service:
 - 1. Provide independent soil testing and inspection service for quality control testing during all earthwork operations of this specification section and other applicable specification sections. All testing shall be performed by an independent firm certified in soil testing and who is acceptable to The Owner or Engineer.
 - 2. The Engineer may perform additional testing during earthwork operations.
- C. Report Test Results: Preliminary report reflecting the days testing/observations shall be delivered to the Engineer by the beginning of the next workday. The preliminary report shall include a plan showing the area of fill placement and compaction, test locations, tabulated test data, and a summary of the work performed including any deviations from the Contract Documents and the resulting remedial measures. Formal typed reports shall be submitted to the Engineer within one week of the date of observation.
- D. Upon completion of project, Contractor shall submit drawings detailing locations of all density tests including pertinent supporting data such as proof-rolling, undercuts, one-point Proctor

verifications, and any other data relating to soils work performed on the project site. Final payment will not be made until the Engineer receives this documentation.

1.06 Submittals

- A. Name and address of testing service for approval by The Owner or Engineer.
- B. Product Data: A minimum of 15 working days before delivery to the site, submit information for the below listed products. For the warning tape, geotextile and geogrid provide manufacturer's product data as well as quality control test results for the actual geotextile and geogrid materials delivered to the project site.
 - 1. Each type of plastic warning tape.
 - 2. Controlled low-strength material, including design mixture.
- C. Material Test Reports: From a qualified testing agency submit the following:
 - 1. Submit copies of the following reports to The Owner or Engineer a minimum of 15 working days before delivery to the site:
 - a. Test reports on all imported fill materials.
 - b. Perform a laboratory Modified Compaction Test in accordance with ASTM D1557 for each soil material to be used as fill or backfill (on site soils and imported soils). Perform additional tests at the direction of the Engineer or if soils change, but at a minimum perform one test for every 5,000 cubic yards of material placed.
 - c. Field density test reports.
 - d. Results of recent (within previous month) grain size analyses for each soil material.
- D. The Contractor shall engage a Soils Engineer/testing laboratory to make such tests of materials and samples as necessary to ensure materials and compaction requirements are achieved and as directed by the Engineer. Costs for such tests shall be borne by the Contractor. Submit daily field reports from the geotechnical testing laboratory documenting all Earth Moving activity and field testing for each day. The field reports shall include as a minimum the following:
 - 1. A description of the day's activities, including specific procedures, methods, and materials.
 - 2. The results of in-place density testing including in-place dry density, moisture content, percent compaction, elevation and location of test and a description of the soil.
 - 3. A sketch indicating the extent of each day's work and the location of each in-place density test.
- E. Submit the qualifications of the independent geotechnical testing laboratory and the technician/engineer performing soil testing and inspection services during Earthwork operations. The geotechnical testing laboratory must demonstrate that it has the experience and capability to conduct required field and laboratory geotechnical testing.
- F. Pre-excavation Photographs and Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by the earthwork operations. Submit one week before earthwork begins. Maintain a catalog of up-to-date photographs at the site.

1.07 Testing

- A. Testing during construction: Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.

1. Maximum soil density shall be the density at optimum moisture as determined by ASTM Standard Methods of Test for Moisture-Density Relations of Soil Using 10-lb. hammer and 18-in. Drop, Designation D 1557, using Method A, B, C, or D whichever is applicable.
 2. The in-place soil density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by the Sand-Cone Method, Designation D 1556 or ASTM Standard Method of Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (shallow depth), Designation D-2922.
 3. Gradation Analysis shall be performed in accordance with the applicable sections of ASTM D422 Particle-Size Analysis of Soils.
- B. If subgrade or material has been placed are below specified density, based on reports of testing service and inspection, the Contractor shall provide additional compaction and testing at no additional expense to The Owner.

1.08 Project Conditions

A. Site Information:

1. The results of a subsurface exploration performed by John Turner Consulting and are presented in the Contract Document. The subsurface information was obtained primarily for use in design. Interpretation of the subsurface data for purposes of the work of the Contract shall be the sole responsibility of the Contractor. The Contractor should note that the subsurface data pertains only to the conditions at the boring locations at the time of the investigations.
2. The Contractor may perform additional test borings and other explorations at no cost to the Owner.

B. Existing Utilities:

1. Locate existing underground utilities in areas of work. Contact utility-locator before excavating. Provide adequate means of support and protection for utilities during earthwork operations.
2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the utility owner immediately for directions. Cooperate with the Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner and document location of piping or utility.
3. Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services in accordance with the following requirements.
 - a. Notify the Owner's Project Manager not less than two days in advance of proposed utility interruptions.
 - b. Do not proceed with utility interruptions without written permission from The Owner's Project Manager.

C. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

D. Protection of Existing Structures: Provide bracing, shoring, sheeting, underpinning or other retaining structures necessary to prevent movement or settlement of existing or new construction, utilities, paving, light standards, piping or conduit. The Contractor shall be responsible for the strength and adequacy of retaining structures, and for the safety and support of construction, utilities, or paving, and for any movement, settlement, or damage thereto. In exercising this responsibility, the Contractor shall, if required, retain a qualified consultant

who is a licensed Professional Engineer registered in the Commonwealth of Massachusetts to design, check, and approve all temporary retaining structures and other items pertinent to this work.

- E. Use of explosives:
 - 1. Use of explosives is prohibited.

1.09 Layout and Grades

- A. Lay out all needed lines and grades in accordance with the Contract Documents. Establish permanent benchmarks by employment of a registered land surveyor or professional civil engineer. Maintain all established bounds and benchmarks and replace any that are destroyed or disturbed. Bring any deviations from the locations and elevations indicated on the Drawings to the attention of the Engineer immediately.
- B. Verify all existing ground surface elevations within the contract limits.

PART 2 - PRODUCTS

2.01 Soil Materials

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- C. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- D. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.
- G. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- H. Sand: ASTM C 33; fine aggregate.
- I. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.02 Controlled Low-Strength Material

- A. Controlled Low-Strength Material: Self-compacting, flowable concrete material produced from the following:
 - 1. Portland Cement: ASTM C 150, Type II.
 - 2. Fly Ash: ASTM C 618, Class C or F.
 - 3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.

4. Water: ASTM C 94/C 94M.
5. Air-Entraining Admixture: ASTM C 260.

2.03 Use of Soil Materials

- A. If directed by the Engineer, use Gravel Borrow as specified on the Drawings and wherever other materials such as Ordinary Borrow or On-Site Fill have not been specified herein or shown on the Drawings.
- B. Use On-Site Fill at locations approved by the Engineer. Use Ordinary Borrow if additional fill is required.
- C. Use Dense Graded Crushed Stone as specified on the Drawings.
- D. Use Gravel Borrow as specified on the Drawings

2.04 Flow-Fill

- A. Controlled density fill meeting the requirements of MassDOT Standard Specification M4.08.0, Type 2E (Flowable, Excavatable).

2.05 Accessories

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep
- C. Warning tape shall be colored as follows:
 1. Red: Electric.
 2. Yellow: Gas, oil, steam, and dangerous materials.
 3. Orange: Telephone and other communications.
 4. Blue: Water systems.
 5. Green: Sewer systems.

PART 3 - EXECUTION

3.01 Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect and maintain erosion and sedimentation controls during earthwork operations.
- C. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.
- D. Perform excavation work in compliance with OSHA guidelines and regulations.

3.02 Dewatering

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to remove water from excavations.
 - 3. Provide filters for all pumps to prevent silt and fine sand from being pumped with the water.
- C. Establish and maintain temporary drainage ditches outside excavation limits to convey rainwater and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.
- D. Handle and manage water from excavations in a manner that does not damage adjacent property.

3.03 Explosives

- A. Explosives: Do not use explosives for work associated with this specification.

3.04 Excavation, General

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.

- d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
- e. 6 inches beneath bottom of concrete slabs on grade.
- f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

3.05 Excavation for Pavements

- A. Excavate surfaces under future walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.06 Subgrade Inspection

- A. Notify Engineer when excavations and backfills have reached required subgrade. Prepare/proof roll all subgrades in the presence of the Engineer to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
- B. If Engineer determines that unsuitable soil is present, continue excavation and replace with compacted backfill or fill material as directed by the Engineer after placing a geotextile separation layer between the subgrade and fill materials.
- C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.07 Unauthorized Excavation

- A. Fill unauthorized excavations as directed by the Engineer with compacted Ordinary Borrow, Gravel Borrow, Excavatable Flowable Fill, or lean concrete fill (minimum 28-day compressive strength of 2,500 psi).

3.08 Excavation Support

- A. Slope sides of excavations to comply with OSHA regulations. Apply for and obtain a Massport Trench Permit Application at least 2 weeks in advance of any excavation which constitutes a "trench" as defined by OSHA and Massachusetts Regulations.
- B. Shore and brace, or use trench boxes, where sloping is not feasible because of space restrictions or slope instability.
- C. Do not excavate below a line drawn downward at 2 horizontal on 1 vertical from the underside of the closest edge of any proposed or in-place footing or utility at a higher elevation without providing adequate shoring and bracing to prevent loss of support of the footing or utility.
- D. Do not excavate below a line drawn downward at 1 horizontal on 1 vertical from the underside of the closest edge of any section of concrete pavement at a higher elevation without providing adequate shoring and bracing to prevent loss of support for the concrete apron. Remove any section of the concrete pavement that becomes undermined. Alternatively, the contractor may backfill beneath undermined sections of the concrete apron with Flow Fill.

3.09 Storage of Materials

- A. Stockpile borrow soil materials and excavated satisfactory on-site fill materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations.
 - 2. Stockpile soil materials in a location, acceptable to the Engineer, that will preclude having to relocate stockpiled soil materials that would otherwise delay or impact the Work.
- B. Store Geotextile materials in accordance with manufacturer's recommendations. Do not store directly on the ground. Cover Geotextile materials to protect from UV exposure.

3.10 Backfill - General

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Acceptance by The Owner or Engineer of construction below finish grade.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring and bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, ice, or other deleterious materials.

3.11 Soil Moisture Control

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost, ice, or other deleterious materials.
 - 2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and/or is too wet to compact to the specified dry percent compaction.

3.12 Placement and Compaction of Soil Backfills and Fills

- A. Place backfill and fill soil materials in maximum 9-inch thick loose lifts for material compacted by heavy compaction equipment, and in maximum 6-inch thick loose lifts for material compacted by hand-operated tampers and vibratory plates.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight determined in accordance with ASTM D 1557:
 - 1. Under pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material to at least 95 percent of the maximum dry density. The entire area disturbed by the current construction falls within this category.

2. Under areas outside the limits of, but within 10 feet of the outside edge of structures, building slabs, steps, and pavements compact each layer of soil to at least 92 percent of the maximum dry density.
3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material to at least 90 percent of the maximum dry density.
4. For utility trenches beneath structures, building slabs, steps, and pavements, compact each layer of initial and final backfill soil material to at least 95 percent of the maximum dry density.

3.13 Grading

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Lawn or Unpaved Areas: Plus or minus 1 inch.
 2. Pavements: Plus or minus 1/2 inch.

3.14 Subbase and Base Courses

- A. Place subbase and base course on firm, non-yielding subgrades free of mud, frost, snow, ice, or other deleterious materials.
- B. For non-firm and yielding subgrades, over excavate unsuitable soils in the presence of the Engineer. Document the volume of over excavation and then backfill the excavation as follows:
 1. Install Geotextile with minimal wrinkles and in general accordance with the manufacturer's recommendations. Overlap Geotextile edges and ends a minimum of 24 inches. Overlap seams in the direction of fill placement. Anchor the leading edge of the Geotextile to prevent it from being displaced during fill placement. Allow Engineer to observe Geotextile placement before placing any fill. Place and spread fill materials in a manner to maintain the Geotextile in tension. Repair torn or displaced Geotextile to the satisfaction of the Engineer.
 2. Place and compact Ordinary Fill or Gravel Borrow up to the subgrade elevation in accordance with this Specification to achieve a firm, non-yielding surface.

3.15 Field Quality Control

- A. The Contractors geotechnical testing agency shall inspect and test subgrades and each layer of fill or backfill layer. The Contractor may proceed with subsequent earthwork only after test results for previously completed work comply with the requirements of this Specification.
- B. Test compaction of soils in place in accordance with ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Future Paved Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 2,000-sq. ft. or less of paved area, but in no case fewer than 3 tests.
 2. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 150 feet or less of trench length, but no fewer than 2 tests.
- C. When testing agency reports that subgrades, fills, or backfills have not achieved the degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained. Testing agency to retest all areas that did not achieve the specified degree of compaction. For each failing test, a minimum of one passing test is required for the failed area.
- 3.16 Protection
- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
 - B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or when they become loosened or disturbed due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Engineer; re-shape and recompact.
 - C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

END OF SECTION

SECTION 31 05 19 - GEOTEXTILES

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.

1.02 Description

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to, furnishing and installing the following:
 - 1. Separation geotextile fabric.
 - 2. Filtration/Drainage geotextile fabric.
- C. Related work specified elsewhere includes:
 - 1. Excavation, backfill and compaction under EARTHWORK, SECTION 31 00 00.
 - 2. Rip rap under RIP RAP, SECTION 31 35 19.
 - 3. Granite Seawall under GRANITE SEAWALL 31 35 29.

1.03 Quality Assurance

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards:
 - 1. American Society for Testing and Materials (ASTM), Specifications:
 - D 1682 - Test methods for break in load and elongation of textile fabrics.
 - D 3787 - Test method for bursting strength of knitted rows.
 - D 4355 - Test method for determination of geotextile from exposure to ultraviolet light and water.

1.04 Submittals

- A. Submit for approval by the Owner the following items:
 - 1. Geotextile technical specification noting intended application.
- B. Certificates
 - 1. Certify that materials to be used in the construction are new and meet or exceed specification requirements.
 - 2. Certify that the materials to be used meet or exceed the performance specifications.

PART 2 - PRODUCTS

2.01 Materials

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
1. Grab Tensile Strength: 157 lbf ; ASTM D4632.
 2. Tear Strength: 56 lbf; ASTM D 4533.
 3. Puncture Strength: 56 lbf ; ASTM D 4833.
 4. Permittivity: 0.5 per second, minimum; ASTM D4491.
 5. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.
- B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
1. Grab Tensile Strength: 247 lbf; ASTM D 4632.
 2. Tear Strength: 90 lbf; ASTM D 4533.
 3. Puncture Strength: 90 lbf ; ASTM D 4833.
 4. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
 5. Permittivity: 0.02 per second, minimum; ASTM D 4491.
 6. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

PART 3 - EXECUTION

3.01 Placement of Geotextile

- A. All geotextile fabrics shall be handled and installed in accordance with the manufacturer's guidelines.
- B. All geotextile shall be placed in the manner, location and configuration indicated on the Contract Drawings. The slope which receives the fabric shall be carefully checked to insure a relatively smooth condition free of obstructions, depressions and debris. The fabric shall not be laid in a stretched condition, but shall be laid loosely.
- C. Adjacent panels of the Filtration/Drainage shall be overlapped a minimum dimension as listed below for each type of geotextile. Minimum overlaps may be reduced if all fabric sections are either factory or field sewn and approved by the Owner.

<u>Geotextile Type</u>	<u>Minimum overlap</u>
Separation	24"
Filtration/Drainage	18"

- D. Erosion control/Slope protection geotextile shall be secured with pins and toed-in as indicated on Contract Drawings.
1. Securing pins with washers shall be inserted through both strips of overlapped cloth at no greater than 3 foot intervals along a line through the midpoint of the overlap. Additional pins shall be installed as necessary to prevent any slippage of the filter cloth regardless of location. Each securing pin shall be pushed through the cloth until the washer bears against the cloth and secures it firmly to the foundation.
 2. Securing pins shall be 3/16 inch in diameter, of steel, pointed at one end, fabricated with a head to retain a steel washer having an outside diameter of no less than 1.5 inches. The lengths of the pins shall be no less than 18 inches.

- E. Placement of filter fabric shall conform to MDOT Standard Specification Section 620 – Geotextiles for the specified type of geotextile.

3.02 Damage

- A. The Contractor shall take care to avoid damage to geotextile. Rocks shall not be dropped onto the fabric. Any geotextile damaged, torn or displaced before or during installation shall be replaced or repaired to the satisfaction of the Owner at no additional cost to the Owner.

END OF SECTION

SECTION 31 23 19 – DEWATERING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.

1.02 Summary

- C. Section includes construction dewatering.

1.03 Performance Requirements

- D. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of groundwater or seawater and permit excavation and construction to proceed on dry, stable subgrades.
 - 1. Delegated Design: Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
 - 2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.
 - 3. Prevent surface water from entering excavations by grading, dikes, or other means.
 - 4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
 - 5. Remove dewatering system when no longer required for construction.

1.04 Submittals

- E. Shop Drawings: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and means of discharge, control of sediment, and disposal of water.
 - 1. Include a written plan for dewatering operations including control procedures to be adopted if dewatering problems arise.

1.05 Quality Assurance

- F. Regulatory Requirements: Comply with governing regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.

- G. Preinstallation Conference: Conduct conference at the project site to review installation requirements and locations, including the following:
1. Review methods and procedures related to dewatering including, but not limited to, the following:
 - a. Inspection and discussion of condition of site to be dewatered including coordination with temporary erosion control measures and temporary controls and protections.
 - b. Geotechnical report.
 - c. Proposed site clearing and excavations.
 - d. Existing utilities and subsurface conditions.
 - e. Coordination for interruption, shutoff, capping, and continuation of utility services.
 - f. Construction schedule. Verify availability of Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - g. Testing and monitoring of dewatering system.

1.06 Project Conditions

- H. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:
- I. Project-Site Information: Geotechnical information has been gathered for this Project and is available for information only. The data provided within the drawings represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Owner will not be responsible for interpretations or conclusions drawn from this data.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.
1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.
 2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.
- B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 - C. Provide temporary grading to facilitate dewatering and control of surface water.
 - D. Monitor dewatering systems continuously.
 - E. Promptly repair damages to adjacent facilities caused by dewatering.
 - F. Protect and maintain temporary erosion and sedimentation controls during dewatering operations.
- 3.02 Installation
- G. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.
 1. Space well points or wells at intervals required to provide sufficient dewatering.
 2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.
 - H. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
 - I. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
 1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
 - J. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.
 - K. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to Owner.
 1. Remove dewatering system from Project site on completion of dewatering. .
 - L. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations.

3.03 Field Quality Control

- M. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.

END OF SECTION

SECTION 32 12 16 - BITUMINOUS PAVING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his materials and excavation activities.

1.02 Work Described

- A. Placement of new bituminous pavement base course and top course or wearing course to the thickness and to the lines and grades shown on the Drawings, including pavement base, as specified herein, and as approved by the Engineer.

1.03 Submittals

- A. Submit proposed mix design of each class of mix for review prior to commencement of paving operations.
- B. Material Certificates: Provide copies of material certificates signed by material producer and/or subcontractor certifying that each material item complies with or exceeds specified requirements.

1.04 References

- A. The following standards shall apply to the work of this Section.
 - 1. American Association of State Highway and Transportation Officials (AASHTO):
 - M 20 Penetration Graded Asphalt Cement
 - M 82 Cut-Back Asphalt (Medium Curing Type)
 - M 140 Emulsified Asphalt
 - 2. American Society of Testing Materials:
 - D 1557 Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-pounds Rammer and 18-in. drop.
 - 3. Commonwealth of Massachusetts Highway Department (MHD):
 - Specifications Standard Specification for Highway and Bridges
 - 4. Federal Specifications (Fed. Spec.):
 - SS-S-1401 Sealing Compound, Hot Applied, for Concrete and Asphalt Pavements

PART 2 - PRODUCTS

2.01 General

- A. All materials shall conform to the requirements of the Massachusetts Highway Department (MHD) Standard Specifications for Highways and Bridges, formally the Massachusetts Department of Public Works (MDPW), latest edition.
- B. Crushed stone (if required) shall be in conformance with MHD Section M2.01.7.

2.02 Bituminous Concrete Pavement

The binder (base) and wearing (top) courses for Class I, Type I-1, bituminous concrete pavement shall conform to the requirements of Subsection MHD Standard Specifications.

2.03 Job-Mix Formula

- A. The general composition limits of materials shall conform to columns entitled "Binder Course" and "Top Course" as listed in Subsection 3.11.03 of the MHD Standard Specifications. No bituminous concrete pavement shall be placed until the Engineer approves the job mix formula.
- B. Top course shall be comprised of aggregate with color similar to existing adjacent pavement, approved by the Engineer, prior to installation.

PART 3 - EXECUTION

3.01 Paving Preparations

- A. To receive payment, all surfaces shall be examined by the Engineer to see that they are in proper condition to receive the work specified. The Engineer shall review and mark all deteriorated areas to be removed in the field with the Contractor prior to saw-cutting of existing pavement.
- B. The edge of all damaged pavements or deteriorated pavements within the project limits shall be cut back a sufficient distance to form a clean, sharp, straight edge. Cut back pavement shall be carefully removed to minimize any disturbance to foundation materials. The exposed surface of the foundation material shall then be compacted, wetting the surface as necessary to obtain a firm, even surface. Any depressions or uneven areas shall be regraded and recompact until the surface is smooth and satisfactorily compacted.
- C. Areas where erosion has resulted in lowering or damage of the base course shall be filled by the Contractor utilizing compacted granular backfill or crushed stone as approved by the Engineer. Sub-base shall be maintained in satisfactory condition and properly drained until final pavement is placed.

3.02 Permanent Surfacing

- A. Permanent bituminous concrete surfacing shall be laid consisting of a 3-inch minimum top or finished course. Each course shall be thoroughly rolled and compacted to form a smooth dense surface. The finished surface elevation of the top course shall match those adjoining undisturbed existing paved surfaces.
- B. New bituminous concrete pavement and existing bituminous concrete pavement shall meet with a stacked joint at the sawcut. After sawcutting, a depth equal to the top course of the new pavement shall be removed along a 12 inch width of the existing pavement as measured from the sawcut. The new top course pavement shall extend across the sawcut line to meet the existing pavement surface.
- C. The edges of abutting bituminous concrete surfacing shall be painted with a bituminous coating to assure a satisfactory, watertight bond between the existing and new pavements.

Construction requirements for placement of bituminous concrete surfacing shall conform to the applicable

requirements of Section 460 of the MHD Standard Specifications, and as herein specified. A tack coat shall be applied to all existing bituminous surfaces.

3.01 Bituminous Concrete Pavement

- A. Construction requirements for bituminous concrete pavement shall conform to Section 460.60 of the MHD Standard Specifications.
- B. Material for proposed bituminous concrete roadway shall be spread on the existing surface or sub-base in two courses in the compacted thickness indicated.

3.02 Quality Assurance

- A. Installer Qualifications: Imprinted-asphalt manufacturer's authorized installer who is trained and approved for installation of imprinted asphalt required for this Project.
- B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated

END OF SECTION

SECTION 32 92 23 - SOD LAWN

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.

1.02 Work Included

- A. The work of this Section includes all labor, materials, equipment, appliances and transportation necessary to provide 4 inch depth supplemental loam and establish sod lawn as indicated on the plans and at any additional disturbed areas.
- B. The Contractor shall coordinate his work with that of other trades affecting or affected by his work, cooperating as necessary with other trades to assure the steady progress of all work under this Contract. The Contractor shall verify that all preceding work has been completed and shall check that grading, installation of the irrigation system, and all other subsurface work and construction in lawn areas has been completed before installing loam and sod.
- C. Turf work season shall be as follows:
 - 1. Sodding: April 15 through July 15 or August 15 through November 1.
- D. Sodding shall only be performed when weather and soil conditions are suitable for planting the specified material. Upon written request to the Landscape Architect time extensions may be considered if weather permits, but a written authorization is required.

1.03 Related Work in Other Sections

- A. The following areas of related work are specified and indicated in other Sections:
 - 1. Earthwork in EARTHWORK, SECTION 31 0000.
 - 2. Planting in PLANTING, SECTION 32 9300.

1.04 Submittals

- A. Submit sod grower's certification.
- B. Submit certificate with each shipment of sod. Certificate shall indicate the grass species, source, grower location, date of harvest and shipment. No sod shall be placed prior to certificates being submitted.
- C. Submit results from a soil analysis test completed by the State Agricultural Soils Laboratory for review by the Landscape Architect prior to shipment of loam to the site. If on site loam is used, soil analysis test results will be required. Contractor shall request that the report contain specific recommendations for turf.

1.05 Storage, Delivery, and Handling of Sod

- A. Sod shall be cut, delivered and installed within a 36 hour period.
- B. Before stripping sod shall be mowed to a uniform height of 2 inches.
- C. Sod shall be cut to the specified thickness and to the standard width and length desired.
- D. Sod shall not be harvested or transported when moisture content could adversely affect the installation of the sod or growth of the lawn.
- E. Sod shall be protected from sun, wind and dehydration during transportation and installation.

PART 2 - PRODUCTS

2.01 Materials

- A. Sod:
 - 1. Sod shall be a mix of fine fescues, bluegrass, and perennial ryegrass as defined below, or equal, as approved by the Landscape Architect:

% by weight	Grass species	Germination
65%	Fine leaf fescues (chewings, creeping red or hard fescues)	98-99%
25%	Kentucky Bluegrass Cultivars (two or more cultivars)	98-99%
10%	Perennial Ryegrass (two or more cultivars)	98-99%

Cultivars and varieties shall be ones shown to preform well in Massachusetts.

2. Sod shall be nursery grown for a minimum of one year from seed to harvest, on cultivated mineral agricultural soils. It shall have been mowed regularly and maintained from planting to harvest. Sod shall be well-rooted, healthy, free of diseases, nematodes, soil borne insects, grassy and broadleaf weeds, stones and any extraneous material. Sod shall be of uniform color and texture
3. Thickness: Sod shall be machine cut to a uniform thickness of ¾ inch plus or minus ¼ inch at time of cutting. Measurement for thickness excludes top growth and thatch.
4. Size: Individual pieces shall be cut to the manufacturer’s standard width and length with a maximum deviation of 5%. Broken pads or torn or uneven ends will not be accepted.
5. Strength of sod strips: Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape if suspended vertically when grasped in the upper 10% of the section.
6. Moisture content: Sod shall not be harvested or transplanted when moisture content (excessively wet or dry) may adversely affect its survival.

B. Loam:

1. Screened loam: The Contractor shall provide all topsoil required to complete the sod lawn operation. Topsoil shall be natural, fertile, friable loam typical of cultivated topsoils of the locality, containing at least 2% decayed organic matter (humus). Topsoil shall be taken from a well drained, arable site, free of subsoil, large stones greater than 2 inches in diameter, earth clods, sticks, stumps, clay lumps, roots or other objectionable, extraneous matter or debris.
2. Loam shall be free of Quackgrass rhizomes, Agropyron repens, and all other primary noxious weeds. Loam shall not have a pH factor of less than 6.0 or greater than 7.0, nor contain toxic substances which may be harmful to grass growth. Topsoil shall not be delivered to the site while in a frozen or muddy condition. On site topsoil may be used if it is tested and meets texture, nutrient, ph and othe standares for plant growth.
3. Contractor shall submit soil analysis test report by the State Agricultural Soils Laboratory and a soil sample for review and approval by the Landscape Architect prior to installation of the loam both for on site and off site material.

C. Fertilizer for Loam: Material shall be a complete, standard product complying with State and Federal laws. The fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original unopened containers, each bearing the manufacturer's guaranteed analysis, and shall be submitted to the Landscape Architect for approval. Fertilizer shall contain the following minimum percentage of available plant food by weight 10% Nitrogen, 20% Phosphorus, 10% Potash, in which 75% of the nitrogenous elements shall be derived from organic sources or Urea-form. Nitrogen shall be in slow release form. At least 50% by weight of the nitrogen shall be derived from organic materials.

D. Maintenance Fertilizer: Fertilizer to be used during the maintenance period shall be made from all natural ingredients complying with State and Federal fertilizer laws. Fertilizer shall be delivered in unopened bags showing the weight, analysis of ingredients and manufacturer's name. Fertilizer shall contain the following available plant food by weight:

- E. For Lawns: 5% Nitrogen 3% Phosphorus 4% Potash
- F. Lime: Lime shall be standard commercial ground limestone containing at least 50% total oxides (calcium oxide and magnesium oxide) and 50% of the material must pass through a #100 mesh sieve, with 98% passing a #20 sieve.
- G. Water: shall be suitable for irrigation and free from ingredients harmful to hydroseeded areas.

PART 3 - EXECUTION

3.01 Placement

A. Preparing of Subgrade

1. Sub grade shall be examined to ensure that rough grading, irrigation system installation and all other subsurface work in lawn areas are done prior to start of loam and sod installation.
2. Existing sub grade shall be loosened or scarified to a minimum depth of 3 inches prior to spreading topsoil. Sub grade shall be brought to true and uniform grade, and shall be cleared of stones greater than 3 inch, sticks, and other extraneous material.

B. Spreading Topsoil

1. Topsoil shall be spread to a minimum depth of 4 inches, or more as necessary to meet adjacent existing grades or proposed grades, over prepared sub grade.
 - a. Peat Moss: one inch depth
 - b. Limestone: As required by soil test results and/or as specified herein.
 - c. Fertilizer: As required by soil test results and/or as specified herein.
2. Spread peat, limestone and fertilizer at required rates over entire area to be sodded and mix thoroughly and uniformly into the top 4 inches of topsoil by discing.
3. Bring the surface to finish sub grade (so that when sod is placed, top of turf will be at finish grade), smooth down all lumps and ridges, fill in all holes and crevices.
4. Roll with a light roller.
5. Scarify surface by cross raking areas to receive sod.
6. In the event of settlement, the Contractor shall readjust to work to the required finished grade.

C. Application of Fertilizer

1. Fertilizer shall be as required by test results of topsoil. Fertilizer shall be spread over the entire area at the application rates indicated above. Materials shall be uniformly and thoroughly mixed into the top 4 inches of topsoil by disking, rototilling, or other approved method.

D. Planting Sod

1. Work shall be scheduled so that sod shall be placed during favorable weather conditions. This may preclude placement on days which in the judgement of the Landscape Architect are too hot, sunny, dry or windy for optimal installation.
2. Before sod is laid, and after all fine grading is complete, the soil shall be irrigated to an optimum moisture content. Soil shall not be dry or saturated.
3. The first row of sod should be laid in a straight line, with subsequent parallel rows tightly abutting each other. Lateral joints shall be staggered. Care should be taken to ensure that sod is neither stretched nor overlapped. Joints must be abutted tightly to prevent voids that could permit air drying of roots. Contractor shall rake lawn sufficiently with screened loam to fill all voids.

4. On slopes greater than 1:4 lay sod with the length perpendicular to the slope. Begin at the base of the slope. Peg each length.
5. After laying an area of sod, roll with a 100 pound per foot of width hand roller or other approved method to eliminate air pockets and ensure contact between the sod and soil bed.
6. Water sod so that the underside of the sod and soil below are thoroughly wet.

3.02 Maintenance

- A. Maintenance shall begin immediately after installation and shall continue until acceptance as described in 4.2 Acceptance. It shall include watering, mowing, fertilization, repair of all areas of sod installation.
- B. Watering: During the first week daily watering may be required depending on weather conditions. Soil shall be kept moist to a depth of 2 inches. During the second and subsequent weeks maintain soil moisture to a depth of 5 inches. Apply water uniformly. Take care not to damage surface with equipment.
- C. Mowing: Mow sod when it has grown to 2 ½ inch height to a height of 1 ¾ inch to 2 inch height.
- D. Fertilize: Thirty days after sod installation apply uniform application of maintenance fertilizer (5 – 3 -4) at a rate of 20 lbs per 1000 square feet.
- E. Repair: Any areas failing to show a uniform thick stand of grass shall be immediately resodded until all areas are covered with a satisfactory stand of grass as determined by the Landscape Architect. Any damage from erosion shall be immediately repaired by filling with top soil, tamping refertilizing and resodding.
- F. Maintenance shall consist of watering, weeding, cutting, fertilizing, aeration, repair of eroded areas and resodding which in the opinion of the Landscape Architect is required to establish a uniform stand of the specified grasses.

3.03 Acceptance

- A. Sodded areas will be accepted when in compliance with the following conditions:
 1. The roots are thoroughly knit to the soil.
 2. All areas show a uniform stand of specified grass in healthy condition.
 3. At least 60 days have elapsed since completion of sod planting.
- B. The Contractor shall submit a request for acceptance in writing to the Landscape Architect. The letter must be received not less than ten calendar days before the anticipated date for substantial completion inspection.
- C. Upon completion of all repairs and/or renewals required by the Landscape Architect, the Landscape Architect will verify the completeness of the work and then notify the Owner in writing if the work is accepted. Upon acceptance, the Owner will assume maintenance of all lawn areas. The contractor will supply the owner with written care instructions.

3.04 Warranty

- A. The Contractor shall warrant the turf for a period of one (1) year from the date of substantial completion. The turf shall be free from defects in material or installation. The Contractor shall repair or replace, at the sole option of and at no additional cost to the Owner, the turf found to be defective or non-conforming during the Warranty Period. Replacement turf shall be warranted for an additional year and subject to the same replacement requirements.

END OF SECTION

SECTION 32 93 00 - PLANTING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- B. The extents of planting must be coordinated with the Boston Fire Department (BFD) before commencement of construction.

1.02 Work Included

- A. The work in this section is to provide all equipment supplies, materials, accessories, incidentals, labor and supervision required to perform all site preparation and plant installation work as shown on the drawings and as specified herein.
- B. Planting shall be done within the following dates for each season, or as directed by the Designer:

Spring - Deciduous material March 21 – May 1
 Evergreen material April 15 – June 1
Fall - Deciduous material October 1 – December
 1 Evergreen Material August 15- October 15

- 1. If special conditions exist that may warrant a variance in the above planting dates, a written request shall be submitted to the Designer stating the special conditions and the proposed variance. Permission may be given, if in the opinion of the Designer, the variance is warranted.

- C. Materials stockpiled on site should be kept to a minimum and shall not exceed the quantities required for planting each day unless written authorization is granted by the Designer.
- D. Repair and establish a seed lawn in all areas where existing lawn has been damaged.
- E. Supply and install steel landscape edge.

1.03 Related Work in Other Sections

- A. Examine all other Sections of the Specification and all Drawings for the relationship of the work of this Section to the work of other trades. Cooperate with all trades and coordinate all work under this Section with them.
- B. The following related items are as specified and included in other Sections:
 - 1. Earthwork in EARTHWORK, SECTION 31 00 00.
 - 2. Sod Lawn in SOD LAWN, SECTION 32 92 23.

1.04 Standards

- A. Planting materials and planting practices shall conform to the following standards
 - 1. "Standardized Plant Names" as last amended by the American Committee on Horticultural Nomenclature.
 - 2. "American Standard of Nursery" (1959) as last amended by the American Association of Nurserymen.

1.05 Samples

- A. Samples of all non-plant materials described within this Section of the specifications and listed below shall be submitted to the Designer for approval prior to delivering these items to the construction site.
 - 1. Mulch
 - 2. Compost
 - 3. Topsoil
 - 4. Commercial fertilizer, ground limestone and aluminum sulfate in the original unopened containers.
 - 5. Fungal Mycorrhizae
- B. Test reports from an approved agency indicating compliance with the specification shall be submitted for compost, and any other materials designated by the Designer.
- C. The Designer shall tag plant material at the nursery. Request for nursery visit shall be made a minimum of two weeks prior to anticipated planting date. Tagging of plant material does not preclude the Designer or the Town from rejecting plant material on the site.

1.06 Delivery, Storage, and Handling

- A. Plants transported to the project in open vehicles shall be covered with tarpaulins or other suitable covers securely fastened to the body of the vehicle to prevent injury to the plants. Closed vehicle shall be adequately ventilated to prevent overheating of the plants.
- B. Plants shall be kept moist, fresh and protected at all times. Such protection shall encompass the entire period during which the plants are in transit, being planted or are in temporary storage.
 - 1. The Contractor shall notify the Designer at least two days in advance of the anticipated delivery date of any plant material. A legible copy of the bill of lading, showing quantities, kinds, and sizes of the materials included for each shipment shall be furnished to the Designer.
- C. Storage
 - 1. Unless specific authorization is obtained from the Designer, plants shall not remain on the site longer than one day prior to being planted.
 - 2. Plants that are not immediately planted shall be protected as follows:
 - a. Earth balls shall be kept moist and their solidity carefully preserved.
 - b. Plants shall not be allowed to dry or freeze.
 - c. Both the duration and the method of storage of plant materials shall be subject to the approval of the Designer.
- D. Handling of plant material
 - 1. Contractor shall exercise care in handling of the plant materials to avoid stress and damage.

PART 2 - PRODUCTS

2.01 Materials

- A. Plant Materials
 - 1. Plants shall be nursery grown in accordance with good horticultural practice and grown under climatic conditions similar to those in the locality of the project for at least two years.
 - 2. Plants shall have been freshly dug. No heeled-in plants or plants from cold storage shall be accepted.
 - 3. Unless specifically noted otherwise, all plants shall be specimen quality, exceptionally heavy, symmetrical, tightly knit plants, so trained or favored in their development and appearance as to be unquestionably and outstandingly superior in form, number of branches, compactness and symmetry.

4. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well-developed root systems. They shall be free from physical or adverse conditions that would prevent thriving.
5. Plants shall be true to species and variety and shall conform to measurements and conditions specified in the Plant List shown on the Drawings.
6. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not to branch tip to branch tip. Caliper measurement shall be taken at a point on the trunk twelve (12) inches above the ground line for trees.
7. If a range of size is given, no plant shall be less than the minimum size and not less than 50% of the plants shall be as large as the maximum size specified. The measurements specified are the minimum size acceptable and are measurements after pruning, where pruning is required.
8. Plants that meet the requirements specified, but do not possess a normal balance between height and spread will be rejected.
9. Plants shall not be pruned before delivery. Trees that have a damaged or crooked leader, multiple leaders, unless specifically called for, will be rejected. Trees with abrasion of the bark, sunscald, disfiguring knots or fresh cuts of limb over 1-1/4 inches that have not completely callused will be rejected.
10. Container grown plants shall be well rooted and established in the container in which they are growing. They shall have been grown in the container for a sufficient length of time for the root system to hold the planting medium when taken from the container, but not long enough to become root bound. Container grown plants exceeding the sizes indicated in ANSI Z60.1 shall have containers that are not less than 75% of the ball sizes for comparable B&B plant material.
11. Substitutions of plant material shall not be permitted unless authorized in writing by the Designer.
12. All plants shall be labeled. Plant material labels shall be durable and legible and shall state the correct plant name, and size in weather resistant ink or embossed process. Attach securely to all plants, bundles and containers of plant materials delivered, being careful that those attached directly to the plants will not restrict growth.

B. Related Materials

1. Topsoil shall be fertile, friable, natural loam capable of sustaining vigorous plant growth. It shall be free of any admixture of subsoil, stones one inch in diameter or larger, clods of hard earth, plants or roots, sticks or other extraneous material.
 - a. Topsoil shall have a pH of between 5.0 and 7.0.
 - b. Topsoil shall have an organic content of 5-12, determined by the Thomas Rapid test method.
 - c. Topsoil shall meet the following mechanical analysis:

	Percent Passing	Percent Retained
1 inch screen	100	0
½ inch screen	97-100	0-3
No. 100 Mesh Sieve	60-40	40-60
 - d. The clay content of the material passing the US No. 100 mesh shall not be greater than 60%, as determined by the Bouyoucous hydrometer or by the decantation method.
 - e. A certified analysis of the topsoil from each source shall be submitted to the Town before delivery to the site. Soil added to the site shall be tested for hazardous materials.
 - f. If deficiencies in the topsoil are found as a result of the analysis, they shall be corrected at no expense to the Owner.

2. Compost: Blended and ground leaf, wood and other plant based material, composted for a minimum of 9 months and at temperatures sufficient to break down all woody fibers, seeds and leaf structures, free of toxic material at levels that are harmful to plants or humans. Source material shall be yard waste trimmings blended with other plant or manure based material designed to produce Compost high in fungal material. Compost shall comply with the following parameters:
 - a. pH: 5.5 – 8.0.
 - b. Soil salt (electrical conductivity): maximum 5 dS/m (mmhos/cm).
 - c. Moisture content %, wet weight basis: 30 –60.
 - d. Particle size, dry weight basis: 98% pass through ¾ inch screen or smear.
 - e. Stability carbon dioxide evolution rate: mg CO₂-C/ g OM/ day < 2.
 - f. Solvita maturity test: > 6.
 - g. Physical contaminants (inerts), %, dry weight basis: <1%.
 - h. Chemical contaminants, mg/kg (ppm): meet or exceed US EPA Class A standard, 40CFR § 503.13, Tables 1 and 3 levels.
 - i. Biological contaminants select pathogens fecal coliform bacteria, or salmonella, meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) level requirements.
3. Planting Soil
 - a. Planting soil shall be a mixture of 9 parts topsoil and 1 part compost by volume.
 - b. Planting soil shall have a pH value of 5.5 to 7.0.
4. Ground Limestone shall be an approved agricultural limestone and shall be ground so that 90% will pass through a 20-mesh sieve
5. Aluminum Sulfate shall be unadulterated and delivered in unopened containers labeled with the name of the material, name of the manufacturer and net weight of the contents.
6. Pine Bark Mulch shall be shredded 100% evergreen bark and shall be aged between 6 months and 2 years. The bark must be free of dirt and material deleterious to plant life. Chunks bigger than 3 inches or thicker than ¼ inch shall not be left on the site.
7. Fertilizer shall be controlled release product, “Osmocote” (17-7-12), or equal, and be a standard product complying with state and federal fertilizer laws. The fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacture’s guarantee analysis, which shall be submitted to the Town for approval. Manufacturer’s application instructions shall be followed using quantities recommended by the soil testing laboratory and approved by the Town.
8. Water shall be suitable for irrigation and shall be free from ingredients harmful to plant life.
9. Fungal Mycorrhizae shall include at least three species of vesicular arbuscular (endomycchorizal) fungi as well as ectomycorrhizal fungi. Mycorrhizae shall be shipped in individual dosage packets.

PART 3 - EXECUTION

3.01 General

- A. Certificates of inspection shall accompany the invoice for each shipment of plants, as may be required by law for transportation. Inspection by Federal and State Governments at place of growth does not preclude rejection of the plants at the site.
- B. Plants shall be tagged by the Designer at their place of growth. Such approval does not impair the right of inspection and rejection upon delivery or during the process of the work.
- C. Dig ball and burlap plants with firm natural balls of earth of a diameter not less than recommended by the American Standard for Nursery Stock and of sufficient depth to include

- the fiberus and feeding roots. Plants moved with a ball will not be accepted if the ball is cracked or broken before or during planting operations. Natural burlap is to be used.
- D. Subgrade of the planting areas shall be loosened or scarified to a minimum depth of 3" prior to spreading planting soil.
- E. Excavation of shrub and tree pits shall be as follows:
1. Stake the ground locations for the trees and shrubs and obtain approval of Designer before excavation or plant removal.
 2. Shrub planting shall be done by hand.
 3. All materials excavated from the planting areas and considered detrimental to the growth of plant material, such as rock, subsoil and debris, shall not be reused for fill or in the planting operation and must be removed from the site as directed by Designer.
 4. Test drainage of the plant pits by filling with water twice in succession. Conditions permitting the retention of the water in pits for more than 24 hours shall be brought to the attention of the Designer.
 5. Planting areas shall be free of debris or other deleterious matter prior to the placing of planting soil mixture.
 6. Plant pits shall be excavated according to the typical planting details, as shown on the Drawings.
- F. Protection of Plant Material
1. Protect plants at all times from sun and drying winds. Plants that cannot be planted immediately on delivery shall be kept in the shade, well watered with soil, wet moss or other acceptable material covering their root balls. Plants shall not remain unplanted for longer than one day after delivery.
 2. Plants shall not be bound with wire or rope at any time so as to damage their bark or break branches. Plants shall be lifted and handled from the bottom of the ball only.
- G. Balled and Burlapped Planting:
1. Set plants so that the root crown is 2" above finished grade. Set plant materials plumb. Cut ropes and remove burlap from around the top of the ball. Cut sides of wire basket and remove from planting pit. After the plant has been set, turn under and bury portions of burlap, so that 2/3 of the ball is exposed. Remove all synthetic burlap.
 2. Use specified planting mixture to backfill plant pits and plant beds. When plant pits have been backfilled approximately 2/3 full, water thoroughly before installing remainder of the specified planting mixture to top of pit or bed, eliminating all air pockets. Form saucer around individual pits as shown in the planting details, but do not form saucers around individual plants in beds.
- H. Container Planting:
1. Remove pots just before planting. Loosen perimeter roots and soil prior to placement. Handle plants carefully to prevent damage to roots and stem. Set plants so root crown is 2" above finish grade.
 2. Use specified planting mixture to backfill plant pits and plant beds. When plant pits have been backfilled approximately 2/3 full, water thoroughly before installing remainder of the specified planting mixture to top of pit or bed, eliminating all air pockets. Form saucer around individual pits as shown in the planting details, but do not form saucers around individual plants in beds.
- I. Fungal Mycorrhizae: add mycorrhizal fungi per manufacturer specifications.
- J. Watering: water all plants immediately after planting. The contractor is responsible for supplying water on site.
- K. Fertilizer: apply fertilizer as per manufacturer's recommendations and soil report instructions

- L. Mulching: immediately after planting operations are complete, all tree and shrub saucers, and plant beds shall be covered with an approved mulch, as specified herein and on the Drawings.
- M. Pruning shall be as follows:
 - 1. Prune new plant material at the direction of the Designer and according to standard horticultural practice, to preserve the natural character of the plant.
- N. Repair and seed damaged lawn areas.
- O. Install landscape edge as shown on the drawings and as per manufacturers recommendations.

3.02 Maintenance

- A. Maintenance shall begin immediately after each plant is planted and shall continue until the end of the Guarantee Period, one year after the Substantial Completion of the planting.
 - 1. Planting areas and plants shall be watered, cleaned and protected at all times against damage of all kinds for the duration of the construction period until the end of the Guarantee Period. If any plants become damaged or injured, they shall be treated or replaced as directed by the Designer at no additional cost to the Owner until the one year Guarantee Period is completed.
 - 2. Maintenance shall consist of pruning, watering, cultivating, weeding, mulching removal of dead material, resetting plants to proper grades and upright position, and furnishing and applying such sprays as are necessary to keep the plantings free of insects and disease, and in healthy growing condition.
 - 3. Planting area shall be kept free of weeds and other undesired vegetative growth.
- B. After Substantial Completion maintenance shall consist of the following: during the Guarantee Period, the Contractor shall inspect the site every four weeks from April 15th – October 15th or at the request of the Town to identify necessary maintenance. The Contractor shall water, prune, clean, fertilize, weed, maintain tree saucers and otherwise maintain the plantings. If rainfall is not sufficient enough to provide plants enough moisture for healthy growth the contractor shall water the plants by-weekly.

3.03 Inspections

- A. The Designer shall approve staked locations of trees and marked locations of plant masses prior to planting. The request shall be made at least (10) working days before the anticipated date of inspection.
- B. The Designer shall inspect all Planting work for Substantial Completion upon written request of the Contractor. Substantial Completion shall be the request shall be made at least (10) working days before the anticipated date of inspection. The Contractor shall provide a performance bond for 100% percent of the in place value of the plant materials for the one year Guarantee Period. The bond will be released upon final acceptance of the plant materials.

3.04 Final Acceptance of Planting

- A. Upon completion of the work of this section and at the end of the one-year Guarantee Period after Substantial Completion and upon written request of the Contractor, the Designer shall inspect all warranted planting work for Final Acceptance. The request shall be received at least (10) calendar days before the anticipated date for Final Acceptance of the project.
- B. Contractor shall provide a record of Maintenance and watering visits to the Designer. Record shall include dates of watering visits and any weed, pest or invasive species treatments.

- C. Upon completion of the reinspection of all repairs or renewals necessary in the judgment of the Designer at the time, these replacement plantings are subject to a one-year Guarantee Period. If these plants do not survive the Contractor has the option of requesting a substitution in material type or a financial settlement in lieu of additional replacements. At the end of the Final Guarantee Period for replacements, the Designer shall certify in writing to the Owner as to the Final Acceptance of the planting.

END OF SECTION

SECTION 35 31 19 - RIP RAP STONE

PART 1 - GENERAL

- 1.01 General Requirements
- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- 1.02 Work Included
- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to removal, storage, furnishing and installing the following:
1. Removal and resetting of existing stone revetment stone as shown on the contract drawings and specified herein including:
 - a. Temporary removal of existing revetment
 - b. Installation of bedding stone
 - c. Re-installation of existing armor stone
- 1.03 Related Work in Other Sections
1. Demolition under DEMOLITION, SECTION 02 41 00
 2. Fill or Excavation under EARTHWORK, SECTION 31 0000.
 3. Filter Fabric under GEOTEXTILES, SECTION 31 05 19.
 4. Granite Seawall under GRANITE SEAWALL, SECTION 35 31 29.
- 1.04 Quality Assurance
- A. Except as noted, work shall conform to the latest edition of the following codes, specifications and descriptions.
1. American Society for Testing and Materials (ASTM)
 2. Massachusetts Highway Department - Standard Specifications for Highways & Bridges - 1988 with revisions.
- B. Installation of all work specified in this Section and associated work specified elsewhere will be performed by individuals who have had 5 years of prior experience in installing similar work in term of type and magnitude of project. Contractor and/or subcontractors must show evidence of successful completion of similar and comparable work. Crew foremen must have experience as foremen for this type of construction.
- 1.05 Submittals
- A. Contractor experience and references of similar work including crew foreman experience
- B. Submit copies of results for all required testing and name and location of the material supplier.
- C. Submit details of all methods and equipment to be used to construct stone revetment.

PART 2 - PRODUCTS

- 2.01 Materials
- A. Stone Quality
1. All stone used in this work shall be sound, dense, hard and desirable stone of good quality, free from cracks, seams and other defects and resistant to weathering and disintegration from the marine environment and freezing/thawing cycles. Except as otherwise specified, the rock fragments shall be angular to sub-rounded in shape. The least dimension of an individual rock fragment shall be not less than one-third

the greatest dimension of the fragment. The rock shall have the physical properties required by ASTM C33 for quarry rock suitable for producing coarse aggregate for concrete and abrasion resistance in accordance with ASTM C88 and C535.

2. All stone shall weigh not less than 160 pounds per cubic foot as determined by the ASTM C127 test for apparent specific weight.
3. The stone shall meet the following requirements:

<u>Test</u>	<u>Requirement</u>
Apparent Specific Gravity	2.5 min.
Absorption	2 % max.
Sodium Sulfate Soundness (5 cycles)	5 % max.
Los Angeles Abrasion Test	50 % max. loss

- B. Imported Armor Stone: Armor stone shall consist of sound, durable rock or stone with stone weight gradation as shown on the Contract Drawings. Armor stone shall be angular and be of such shape as to form a stable protection structure for the required riprap sections. Rounded cobbles or boulders shall not be used nor flat or needle shapes, where the length of the individual piece is greater than three times its thickness.

- C. Underlayer Stone: Underlayer stone shall be whole or crushed clean tough durable rock fragments, free from an excess of flat, elongated, soft, or disintegrated pieces and conforming to the general requirements above and the following specific requirements:

<u>Test</u>	<u>Requirement</u>
Sodium Sulfate Soundness (5 cycles)	12 % max.

Grading –Underlayer Stone

<u>Sieve size</u>	<u>Percentage Passing (by weight)</u>
8"	100%
6"	50% max
3"	10% max

- D. The contractor may utilize concrete recycled from the demolition of the existing revetment within the Underlayer Stone based on the following:
1. Gradation used must meet the gradation requirements for Underlayer Stone.
 2. Maximum percentage of concrete material used in an area shall be 50 percent of the total Underlayer Stone material

PART 3 - EXECUTION

3.01 Subgrade Preparation

- A. Before placing the bedding stone, the subgrade shall be shaped to a true surface conforming to the cross section shown. All depressions shall be filled with suitable material and high spots removed and such areas again compacted. A tolerance of 0.1 feet above or below the required finished subgrade line and grade will be allowed.
- B. Filter fabric is to be placed over subgrade. See specification section GEOTEXTILES, SECTION 30 05 19 for installation procedure.
- C. All work in wave impacted areas including intertidal and under water work shall be performed in sections. Contractor shall excavate and stabilize the work area within a single tidal cycle to prevent disturbed areas from being exposed to tidal/wave action. Contractor shall excavate toe, lay geotextile and backfill with bedding stone before next high tide and moving to next section.

3.02 Sorting of Stone

- A. Stones shall be sorted to ensure an even distribution of stones in the work. Any stone not complying with any part of the Specification shall be removed from site.
- B. Onsite Armor stone complying with these specifications may be reused. No onsite armor stone shall be removed without prior approval by the Owner.
- C. Existing stones shall be reused to the maximum extent possible.
- D. Owner shall approve all new stone to be used.
- E. No undersize armor stone shall be used at the crest of the revetment slope.
- F. Imported armor stone shall be sorted and stockpiled according to size and proposed use. Toe stones and other oversize armor stone shall not be used for revetment slope construction.

3.03 Placement of Stone

- A. Placement of Bedding Stone:
 - 1. Underlayer shall be placed to the required thickness on the prepared subgrade as indicated on the Contract Drawings.
 - 2. Layer shall be placed carefully on filter fabric layer to prevent ripping/tearing of fabric.
 - 3. Stone shall be bedded to form a dense, stable and uniform stone layer.
 - 4. Finished face tolerance shall be 0.25 feet above or below the required finished lines and grades.
- B. Placement of Armor Stone:
 - 1. Stones shall be sorted as required to ensure an even distribution of stone sizes in the work.
 - 2. Armor Stone shall be placed to the required thickness on the bedding stone as indicated on the Drawings to form a smooth contoured revetment outer face.
 - 3. Armor Stone shall not be dumped or dropped into place in such a manner leading to breaking or other damage to the stone, geotextile or bedding stone.
 - 4. Stone shall be deposited uniformly so as to provide a minimum of voids in the outer facing and carefully placed and fitted to the neighbouring stones so as to produce a minimum of voids within each layer.
 - 5. All stone shall be placed in such a fashion to ensure no loose stones or poor foundation support to stones allowing rocking or other movement under wave action. Each stone shall have a minimum of 3-point bearing on the underlying stones. Bearing on smaller stones used for chinking voids will not be acceptable.
 - 6. Individual layer thicknesses shall be within 5% of the specified thicknesses. The surface of the riprap shall not deviate more than 1/4 of the diameter of the largest specified stone from the finished grade indicated on the Drawings.
 - 7. Contractor shall be responsible for resetting any stone to protect slope from washout in the event of wave action or flooding during construction.
 - 8. All stones shall be placed to limit the voids between stones, and use of chinking stones

3.04 Revetment Sample

- A. The Contractor shall construct a sample of the complete revetment at least 30 feet in length for the approval of the Engineer. No revetment work shall be constructed until the sample has been approved by the Engineer. Sample may be constructed on working surface and, if approved, will form part of the permanent work.

3.05 Examination of the Works

- A. No material shall be placed to cover a previous layer until the Engineer has approved the sizes, lines, levels and slope of the previous layer. The Contractor shall provide all assistance necessary as required by the Engineer for checking the work. If subsequent

layers are placed without first obtaining the approval of the Engineer, the Contractor shall remove all or part of the covering layer, as directed by the Engineer, to enable the Engineer to check revetment construction is in compliance with the Contract Documents at no additional cost to the Employer.

END OF SECTION

SECTION 35 31 29 - GRANITE SEAWALL

PART 1 - GENERAL

- 1.01 General Requirements
- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work within this section.
- 1.02 Work Included
- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to removal, storage, furnishing and installing the following:
1. Recovery of fallen stone
 2. Partial removal of existing seawall
 3. Doweling and epoxy anchoring of stones
 4. Reconstruction of seawall
- C. Related work specified elsewhere includes:
1. Demolition under DEMOLITION, SECTION 02 41 00.
 2. Fill or Excavation under EARTHWORK, SECTION 31 00 00.
 3. Filter Fabric under GEOTEXTILES, SECTION 31 05 19.
 4. Rip Rap under RIP RAP, SECTION 35 31 19.
- 1.03 Quality Assurance
- A. Except as noted, work shall conform to the latest edition of the following codes, specifications and descriptions.
1. American Society for Testing and Materials (ASTM)
- B. Installation of all work specified in this Section and associated work specified elsewhere will be performed by individuals who have had 5 years of prior experience in installing similar work in term of type and magnitude of project. Contractor and/or subcontractors must show evidence of successful completion of similar and comparable work. Crew foremen must have experience as foremen for this type of construction.
- C. Source Limitations: Obtain each type of material for stone restoration (stone, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.
- D. Appearance Standard: Repaired areas are to have a uniform appearance as viewed from 50 feet away by the Engineer and Owner. Perform additional resetting so that surface blends smoothly into surrounding areas.
- 1.04 Submittals
- A. Contractor experience and references of similar work including crew foreman experience
- B. Materials and methods for replacement of any stone units
- C. Materials and methods for replacement and repair anchors, including drilled dowels. Include details of anchors within individual stone units, with locations of anchors and dimensions of holes and recesses in stone required for anchors, including direction and angle of holes for pins.
- 1.05 Delivery, Storage, and Handling
- A. Deliver each piece of granite with code mark or setting number on unexposed face, corresponding to Shop Drawings, using nonstaining paint.
- B. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

PART 2 - PRODUCTS

2.01 Stone Materials

- A. Granite: Comply with ASTM C 615
 - 1. Existing stone exhibits a range of colors, texture, grain, veining, finishes, sizes, or shapes.
 - 2. Any supplemental stone imported to site shall proportionally match the range of existing stone characteristics rather than stone that matches an individual color, texture, grain, veining, finish, size, or shape.
- B. Salvaged Stone: Obtain salvaged stone from Owner from location shown on Drawings. Clean off residual mortar and marine growth.

2.02 Accessory Materials

- A. Stone Anchors and Pins: Fabricate anchors and pins from Type 316 stainless steel.
- B. Joint-Sealant Backing:
 - 1. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin or Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
 - 2. 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.

PART 3 - EXECUTION

3.01 Stone Resetting and Replacement

- A. At locations indicated, carefully demolish or remove entire units from joint to joint, without damaging surrounding stone, in a manner that permits replacement with full-size units.
- B. Support and protect remaining stonework that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Engineer of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing stone or unit masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged condition as many whole stone units as possible.
 - 1. Remove mortar, loose particles, and soil from stone by cleaning with hand chisels, brushes, and water.
 - 2. Remove sealants by cutting close to stone with utility knife and cleaning with solvents.
 - 3. Store stone for reuse. Store off ground, on skids, and protected from weather.
 - 4. Deliver cleaned stone not required for reuse to Owner unless otherwise indicated.
- E. Clean stone surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- F. Install replacement stone into bonding and coursing pattern of existing stone. If cutting is required, use a motor-driven saw designed to cut stone with clean, sharp, unchipped edges. Finish edges to blend with appearance of edges of existing stone.
 - 1. Maintain joint width for replacement stone to match existing joints.

3.02 Pinning

- A. Lay out the locations of epoxied-in dowels according to the drawing and specifications.
- B. Holes shall be drilled in the concrete to 1/4-inch larger diameter than the diameter of the anchor rods or bolts and to the depth shown on the plans. A template or other approved method shall be used to accurately locate the drilled holes. All holes shall be blown free of stone dust and chips and shall be absolutely dry prior to placing the epoxy grout.

- C. Prior to inserting the anchor rod or bolt into the hole, the hole shall be filled approximately 1/3 full of the mixed epoxy grout. The anchor rod or bolt shall be inserted into the partially filled hole and moved up and down several times to insure total contact of the grout with stone as well as the rod or bolt. Extrude additional grout to top of stone level and finish as necessary. Align anchor rod or bolt to maintain perpendicular plane. No load or torque shall be applied to the anchors until the grout has cured for at least 24 hours.
- D. Epoxy-coated reinforcing steel for epoxied-in dowels shall be dry and free from contaminants, such as rust, dirt, oil, and grease. Remove epoxy coating from end of bars to be inserted in hole. Epoxy shall be removed for a length 3/4 in. less than the embedment length shown on the Drawings so that all areas of bar will be coated with epoxy after completion. Epoxy shall be removed by sandblasting. Cover tops of bars during sandblasting to prevent damage to epoxy surface which will be above top of hole (existing concrete surface) after installation. Do not allow sandblasted section of bars to rust prior to grouting.
- E. If epoxy coating is not removed from reinforcement, increased required embedment length specified by manufacturer by 15%.
- F. Rods shall be epoxy grouted into drilled and cleaned holes at locations shown on the Drawings. The Contractor shall provide suitable methods to keep epoxy in place until hardened.
- G. Individual anchor locations shall be shifted at least five (5) inches away from existing cracks.

END OF SECTION

APPENDIX



Allium

Stainless Clad Rebar (SCR)

Product Guide Specification

SECTION 03 21 00

REINFORCEMENT BARS

(STAINLESS STEEL-CLAD REINFORCEMENT)

Specifier Note: This product guide specification is written in accordance with the Construction Specifications Institute (CSI) MasterFormat® 2020. It covers Allium Stainless Steel Clad Reinforcing bars (SCR-316L). The Engineer should review and edit this section to meet specific project requirements and local building codes. Delete all "Specifier Notes" after editing.

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stainless steel clad (SCR) deformed and plain steel bars for concrete reinforcement.
2. End protection and repair materials for clad reinforcement.

1.2 RELATED REQUIREMENTS

Specifier Note: Include only those sections that directly affect the work of this section.

- A. Section 03 21 00 – Reinforcement Steel.
- B. Section 03 30 00 – Cast-in-Place Concrete.
- C. Section 03 40 00 – Pre-cast Concrete.

1.3 REFERENCES

- A. AASHTO M 329M/M 329: Standard Specification for Stainless-Clad Deformed and Plain Steel Bars for Concrete Reinforcement.
- B. ASTM A615/A615M: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
- C. ASTM A706/A706M: Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement (Seismic).
- D. CRSI Manual of Standard Practice.



14 QUALITY ASSURANCE

- A. Installer Qualifications: Reinforcement shall be placed by a firm with a minimum of [2] years experience in reinforcing steel placement.
- B. Pre-Installation Meeting: Conduct a meeting at the project site one week prior to the start of reinforcement placement.
 - 1. Attendees: Contractor, Installer, and [Architect/Engineer].
 - 2. Agenda: Review handling procedures, storage requirements to prevent carbon steel contamination, and the specific application method for Allium end protection.

15 DELIVERY, STORAGE, AND HANDLING

- A. Handling: Use synthetic or padded slings for lifting bundles. Do not use bare chains, cables, or steel hooks.
- B. Storage: Store bundles off the ground on timber cribbing or dunnage.
- C. Protection: Maintain separation from unprotected carbon steel bars to prevent surface contamination or abrasion of the stainless cladding.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer supplying reinforcing bar: Allium Engineering; 19 Sterling Rd, Suite 2, North Billerica, MA 01862;
Website: www.alliumeng.com; Email: rebar@alliumeng.com.

2.2 [MATERIALS supplied by manufacturer

- A. Reinforcing Bars: Deformed stainless steel clad bars conforming to AASHTO M 329M/M 329.
 - 1. Core Steel: [ASTM A615] [ASTM A706] [Grade 60] [Grade 80].
 - 2. Cladding Alloy: Type 316 Stainless Steel (UNS S31600) or 316L Stainless Steel (UNS S31603).
 - 3. Bond: Cladding shall be metallurgically bonded to the core and shall not delaminate when cut, bent, or fabricated.
 - 4. Cladding Thickness: Minimum of 175 μm (0.007 in.) for 90% of measurements, with no single measurement below 125 μm (0.005 in.). A thickness measurement is defined as the average of three individual readings obtained between three consecutive deformations.
 - 5. Dimensions: Bars shall conform to the weight, dimensions and deformation spacing, height, and gap requirements prescribed in AASHTO M329M/M 329]



2.3 ACCESSORIES

- A. Tie Wire: Type 316 Stainless Steel tie wire.
- B. Bar Supports: [Solid plastic] [Stainless steel] [Plastic-protected steel] chairs and spacers.
- C. End Protection: Manufacturer-approved end protection complying with AASHTO M329M/M 329
- D. Repair Material: Manufacturer-approved two-part epoxy or liquid coating for repair of cladding damage. Bars that have damage exceeding 2 percent of the surface area in any 0.3-m (1-ft) length shall be replaced, not repaired.

PART 3 – EXECUTION

3.1 FABRICATION

- A. General: Fabricate in accordance with CRSI Manual of Standard Practice.
- B. Cutting: Cut bars using abrasive saws, bandsaw, or power shears. Flame cutting is strictly prohibited.
- C. Bending: Use standard fabrication equipment. Ensure bending pins are clean and free of carbon steel debris.

3.2 INSTALLATION

- A. Handling: Exercise care when handling bars to avoid damage to bundles and cladding layer. Use protected contact areas on handling equipment. Lift bundles with a strong back, spreader bar, multiple supports, or a platform bridge to prevent bar-to-bar abrasion from sags in the bundles of coated steel reinforcing bars. Do not drop or drag bars.
- B. Placement: Place concrete reinforcing bars within concrete forms in accordance with manufacturer's written recommendations, and to CRSI Placing Reinforcement Bars recommendations.
- C. Tying and supports: Secure bars with plastic, plastic coated, or Type 316 stainless steel wire supports, spacers, and tying wire
- D. Contact: Store stainless-clad rebar separately from regular steel and minimize any contact.

3.3 FIELD MODIFICATION AND REPAIR

- A. Cutting: Cut bars using abrasive saws, bandsaw, or shears. Flame cutting is strictly prohibited.
- B. Cut End Finishing: Manufacturer-approved end protection complying with AASHTO M329M/M 329
- C. Cladding Damage: Manufacturer-approved two-part epoxy or liquid coating for repair of cladding damage following ASTM D3963/D3963M-21 (Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars) repair methods. Bars that have



damage exceeding 2 percent of the surface area in any 0.3-m (1-ft) length are to be replaced, not repaired.

3.4 CLEANING

A. Remove form oil, dirt, or other deleterious materials from SCR bars before placing concrete.

3.5 TESTING AND INSPECTION

A. Field inspection performed in accordance with local Building Code or agency requirements.

B. Upon request, provide the Engineer with access to mill test reports for all delivered heats/lots.

END OF SECTION

