

CONTRACT DOCUMENTS
FOR
Shore Drive Sidewalk Improvements

CONTRACT P24-1

BID NO. 8245-M5

DEPARTMENT OF PUBLIC WORKS AND PARKS
CITY OF WORCESTER, MASSACHUSETTS

October 2024

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BID APPROVED BY:

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CHRIS J. GAGLIASTRO
Purchasing Agent

**PURCHASING DIVISION
CITY OF WORCESTER
MASSACHUSETTS 01608-1895
ROOM 201 - CITY HALL, 455 MAIN ST.
PHONE (508) 799-1220**

**SEALED BID INVITATION
(Labor, - Filed Sub-Bids NOT Required)
M.G.L. Chapter 30, §39M /
M.G.L. Chapter 149, s.44A (C)**

SEALED BID NO. 8245-M5
DATE: September 6, 2024
CITY OF WORCESTER Christopher J. Gagliastro, MCPPO Purchasing Agent
Buyer: Stephen R. McDonald

All bids are subject to the terms and conditions and specificity herein set forth.

COMPLETE FORM FOR GENERAL BID (ENCLOSED) MUST BE SUBMITTED IN A SEALED ENVELOPE:

DATE: October 9, 2024 TIME: 10:00 A.M. LOCAL TIME

PLACE: Purchasing Division, Room 201, City Hall, Worcester, Massachusetts

MARK SEALED ENVELOPE **"Sealed Bid No. 8245-M5 Shore Drive Park & Sidewalk Improvements (P24-1) / DPW & Parks"**

The name and address of the bidder must appear in the upper left-hand corner of the envelope. The City of Worcester is not responsible for bids not properly marked.

A COMPLETE BID PACKAGE SUBMISSION CONSISTS OF THE FOLLOWING:

- Form for General Bid (81 – 86, & Unit Pricing Pages)
- Bid Security (5% of Total Bid)
- Forms required by City Policies & Programs

OTHER CONDITIONS:

- All questions **must** be referred in writing to Stephen McDonald via email at: MCDONALDS@WORCESTERMA.GOV
- Pre-bid meeting to be held on September 25, 2024 at 11:00 AM at 20 E. Worcester Street, 1st Floor Conference room.

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ARTICLE 101: INSTRUCTIONS TO BIDDERS

SECTION 1 - INTRODUCTION; DEFINITIONS

1.1 In accordance with an Advertisement for Bids, the City of Worcester (the "Owner") has invited bids for the project described in the specifications contained herein.

1.2 These Instructions to Bidders (the "Instructions") are intended to assist bidders in the preparation of their bids, to call attention to various legal requirements and to set forth certain conditions upon which bids are submitted and received.

1.3 The award of the contract is governed by Chapter 30, s. 39M of the Massachusetts General Laws. Certain provisions of the foregoing statute and of other applicable statutes are summarized in these Instructions. Whenever these Instructions or any other contract documents set forth or summarize applicable statutory provisions, whether or not the statutes have been specifically referred to, such summaries are for convenience only, do not purport to be complete or correct as summaries of any particular material, and shall in no respect supersede, expand or limit rights or duties of the Owner or bidders in matters governed by the statute.

1.4 The following definitions shall apply in these Instructions and in the other Contract Documents:

- 1) The term "bidding documents" shall include the Advertisement for Bids, these Instructions, the bid forms, contract forms and other Contract Documents bound herewith, the Drawings, the Specifications, and all Addenda issued prior to receipt of bids.
- 2) The terms "Addenda" and "Addendum" shall mean written documents and/or drawings issued by the Owner prior to execution of the contract which supplement, modify, correct, explain or interpret the bidding documents.
- 3) All definitions set forth in the Conditions of the Contract or the other Contract Documents as therein defined are applicable to these Instructions and to the other bidding documents
- 4) On any project for the construction, reconstruction, installation, demolition, maintenance or repair of any building, or public work, to be funded in whole or in part by city funds, or funds which, in accordance with a federal or state grant, program, or otherwise, the city expends or administers, or any such project to which the city is a signatory to the contract therefore, the provisions of this section shall apply and the same shall be referenced in every invitation to bid for such project and,

the following paragraphs shall be contained in every resulting contract there from: "It shall be a material breach of this contract if the contractor and each subcontractor shall not at all times adhere to the provisions of § 1A(e)(9) of chapter nine of the Revised Ordinances of the city by limiting their on- site, noise producing construction and related work to the hours specified by said ordinance".

- 5) The director of purchasing, commissioner of code enforcement and the head of any department shall have the authority to adopt any rules and regulations they deem necessary to implement this subsection with respect to contracts generally and the head of the department awarding any such contract shall have the authority to adopt any rules and regulations he or she deems necessary to implement this subsection with respect to any particular project.

SECTION 2 - AVAILABILITY OF CONTRACT DOCUMENTS

2.1 Each person requesting Contract Documents including bid forms, plans and specifications shall proceed as directed in the Advertisement for Bids.

SECTION 3 - EXAMINATION OF SITE AND CONTRACT DOCUMENTS; PRE-BID CONFERENCE

3.1 Before submitting a bid, each bidder must: (a) thoroughly examine the Contract Documents (b) visit the site to fully examine and acquaint himself with local conditions that may in any manner affect cost, progress, or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work, and (d) study and carefully correlate his observations with the requirements of the Contract Documents. Failure of a bidder to visit the site and acquaint himself with the Contract Documents or to attend the pre-bid conference, if any, shall in no way relieve the bidder from any obligation with respect to his bid.

3.2 On request, the Owner will provide each bidder access to the site to conduct such reasonable investigations and tests as such bidder deems necessary to prepare his bid.

3.3 Each bidder shall promptly notify the Contracting Officer of any ambiguity, inconsistency or error he may discover upon examination of the Contract Documents, the site or other local conditions. Whenever the title "Contracting Officer" is referenced it shall be interpreted as follows: Purchasing Director, City of Worcester. The submission of a bid will constitute a representation by the bidder that he has complied with every requirement of this Section 3 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work of this contract.

SECTION 4 - ADDENDA AND INTERPRETATION OF CONTRACT DOCUMENTS

4.1 All questions and requests for clarifications or interpretations of the meaning of the Contract Documents shall be in writing, addressed to the Purchasing Department, City of Worcester, and to be given consideration must be received at least five (5) days prior to the date fixed for opening of bids.

4.2 Clarifications or such interpretations and any supplemental instructions or forms, if issued, will be issued in the form of written Addenda and when possible, not later than two days before the date fixed for opening of bids. Each bidder shall be responsible for determining that he has received all Addenda issued, and failure of any bidder to receive any such Addendum shall not relieve such bidder from any obligation under its bid as submitted.

4.3 All Addenda so issued shall become part of the Contract Documents.

4.4. Oral clarifications or interpretations will be of no legal effect. The Owner will not be responsible for, and no bidder may rely upon or use as the basis of a claim against the Owner or the Owner's agent, any information, explanation or interpretation of the Contract Documents rendered in any fashion except as herein provided.

SECTION 5 - WAGE RATES

5.1 Minimum rates of wages for work performed under this contract will be as predetermined by the state Department of Labor and Workforce Development, in accordance with the provisions of Sections 27 of Chapter 149 of the Massachusetts General Laws.

5.2 Section 27B of said Chapter 149 provides record-keeping requirements for contractors and subcontractors with respect to employees, hours, wages and other matters.

5.3 Bidders' attention is called to Section 148 of Chapter 149 of the Massachusetts General Laws, relating to the weekly payment of wages.

SECTION 6 - SALES TAX

6.1 Section 6(f) of Chapter 54H of the Massachusetts General Laws exempts from Massachusetts sales tax, building materials and supplies to be used in the project, and bidders shall not include in their bids any amount therefor. The number of the certificate granted by the Commissioner of Revenue for use in obtaining the exemption may be obtained from the City of Worcester.

SECTION 7 - PREPARATION AND SUBMISSION OF BIDS

7.1 Each bid shall be submitted upon the bid forms furnished by the Owner, copies of which are bound with the bid documents. The bid forms shall be submitted, as bound, with the balance of the Contract Documents. All blank spaces shall be filled in, in ink or typewritten, in words or figures. The bid prices for each item on the bid forms shall be stated in both words and figures. Where itemized lump sum or unit prices are called for, all such prices shall be provided by the bidder. In the event of a discrepancy between prices written in words and prices written in figures, the written words shall govern. In the event of a discrepancy between the indicated sum of any column of figures and the correct sum thereof, the correct sum shall govern. The bid shall state the legal name of the bidder and shall be signed in ink by a person or persons legally authorized to bind the bidder to a contract. The name and title of the person or persons signing the bid shall be typed or printed below the signatures.

7.2 Each bid and the bid deposit (described below) shall be submitted to the Owner at the place stated in the Advertisement for Bids in a sealed opaque envelope bearing on the outside the name of the bidder, his address and the title of the project for which the bid is submitted. If forwarded by mail, the sealed bid and the bid deposit shall be enclosed in an envelope with the notation "BID ENCLOSED" on the face and addressed as indicated in the Advertisement for Bids.

7.3 Section 39L of Chapter 30 of the Massachusetts General Laws prohibits the Owner from entering into a contract for this work with, and shall not approve as a subcontractor furnishing labor and materials for a part of any such work, a foreign corporation which has not filed with the Owner, a certificate of the state secretary stating that such corporation has complied with M.G.L. c. 181, sections 3 and 5. Therefore, every Foreign Corporation must furnish a certified copy of its Certificate of Registration that has been duly filed with the state secretary's office. Any bid, general or sub, of a foreign corporation submitted without a Certificate may be rejected pursuant to Section 11.

SECTION 8 - RECEIPT OF BIDS

8.1 All bidders are cautioned to allow ample time for transmittal of bids. Bidders are solely responsible for delivery to and receipt by the Owner of bids at the place stated in the advertisement for Bids. Bids received after the specified time or at other than the specified location will not be accepted or recognized. The time of receipt will determine the acceptability of mailed bids, regardless of postmark.

8.2 Any bid may be withdrawn by the bidder or his duly authorized representative by written notice received by the Owner at the address for receipt of bids specified in the Advertisement for Bids prior to the time scheduled for the opening of such bids or authorized postponement thereof. No bid may be withdrawn for sixty (60) days, Saturdays, Sundays and legal holidays excluded, after the opening of general bids. No telephone or telegraphic bid, change in bid or withdrawal of bid

will be received or recognized. A bid may be amended or modified only by withdrawing the bid and resubmitting another bid prior to the time for the opening of bids.

8.3 Bids will be opened and read publicly at the place and time stated in the Advertisement for Bids or the authorized postponement thereof. Bidders or their authorized representatives are invited to be present.

SECTION 9 - BID DEPOSIT

9.1 Each bid must be accompanied by a bid deposit in the form of a bid bond, or a certified check on, or a treasurer's or cashier check issued by, a responsible bank or trust company, payable to the City of Worcester. A bid bond shall be

- a) in form satisfactory to the Owner substantially conforming to the sample contained in the Contract Documents,
- b) with a surety company qualified to do business (licensed) in the Commonwealth of Massachusetts and satisfactory to the Owner, and
- c) conditioned upon the faithful performance by the principal of the agreements contained in the bid. The bid deposit shall be in the amount of 5% of the value of the bid.

SECTION 10 - REJECTION OF BIDS

10.1 The Owner shall reject every general bid which is not accompanied by the required bid deposit, or which otherwise does not conform to the statutory requirements or the bid documents.

10.2 The Owner reserves the right to reject any and all general bids which contains erasures, alterations, additions, errors or irregularities of any kind, or which contains proposed prices for any class or item of work which are, in the judgment of the Owner, substantially less or more than the actual cost to complete the work; provided, however, that the Owner reserves the right to waive any and all informalities as to form. Matters as to substance shall not be waived.

SECTION 11 - AWARD OF CONTRACT

11.1 The general contract will be awarded to the lowest responsible and eligible general bidder complying with the conditions and requirements provided in these Instructions, the bid forms and the other bid documents.

11.2 Award of the contract will be made within ninety (90) days, Saturdays, Sundays and legal holidays excluded, after (i) the opening of the bids or (ii) the

receipt by the Owner of any approvals necessary from federal or state agencies in connection with the project, whichever is later.

11.3 The successful bidder will be notified in writing, by mail or otherwise, that his bid has been accepted and that he has been awarded the contract. The successful bidder shall execute the contract and furnish the required bonds, at the offices of the Owner within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation of the contract to him or notice to him that the contract is ready for execution.

11.4 If the bidder selected as the general contractor fails to perform his agreement to execute the contract in accordance with the terms of his bid and furnish a performance bond and also a labor and materials payment bond as stated in his bid, the award will be made to the next lowest responsible and eligible general bidder.

SECTION 12 - CERTIFICATES AND DOCUMENTS TO BE FURNISHED UPON EXECUTION OF THE CONTRACT

12.1 Pursuant to Sections 49A of Chapter 62C of the Massachusetts General Laws the contractor must certify that it has complied with all laws of the Commonwealth of Massachusetts relating to taxes. A form of certificate for this purpose is included in the Contract Documents.

12.2 Prior to commencement of work, the contractor must furnish to the Owner certificates evidencing required insurance coverage in accordance with the provisions of the insurance requirements contained in the Supplementary Conditions of the Contract.

12.3 The affidavit of compliance with certain laws of the Commonwealth relating to corporations, and evidence of corporate authority with respect to execution of the contract documents on behalf of the contractor, on the form contained in the bidding documents, must be furnished by the contractor to the Owner at the time of execution of the contract.

12.4 A performance bond and a labor and materials payment bond, each in the amount of the contract sum, must be furnished by the general contractor as stated in the bid form. Such bonds must be on the forms contained in the bid documents and must be executed and delivered to the Owner at the time of execution of the contract. Each attorney-in-fact who executes such a bond on behalf of the surety must affix thereto a certified and current copy of his power of attorney.

SECTION 13 - MINORITY/WOMEN BUSINESS ENTERPRISE PROGRAM

- 13.1 The Owner has established goals for the participation of minority and women contractors and subcontractors on all City projects. In furtherance thereof, the City of Worcester's Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program is included in the Bidding Documents, and all bidders shall comply with the requirements set forth therein.

**ARTICLE 102:
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

**SECTION 1
GENERAL PROVISIONS**

1.1 DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary and other Conditions), Performance Bond, Payment Bond, Vote of Corporation, Information to Bidders, Bid Proposal, the Drawings, the Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Contracting Officer pursuant to Subparagraph 2.2.3, or (4) a written order for a minor change in the Work issued by the Contracting Officer pursuant to Paragraph 12.3. The Contract Documents do not include Bidding Documents such as, sample forms, or portions of Addenda relating to any of these, or any other documents, unless specifically enumerated in the Owner-Contractor Agreement. The Drawings of this Contract shall be as listed on the cover sheet of the Drawings, as applicable. The Specifications of this Contract shall be listed on the Index to the Technical Specifications. In the event of any conflict among the Contract Documents, the Documents shall be construed according to the following priorities: Highest Priority - Modifications, Second Priority-Agreement, Third Priority - Addenda-later date to take precedence, Fourth Priority - Special Requirements, Fifth Priority - Special Conditions, Sixth Priority - Supplementary General Conditions, Seventh Priority - General Conditions, Eighth Priority - Specifications, Ninth Priority - Drawings.

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1. These General Conditions, wherever applicable, shall be construed consistent with, and terms of the Owner-Contractor Agreement, provided further however, that the terms of such Agreement shall take

precedence, as provided in Subparagraph 1.1.1. Except for the special agreements in Paragraph 4.18, nothing contained in the Contract Documents shall be construed to create any contractual relationship of any kind between the Architect and the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner or the Architect and any Subcontractor or Sub-subcontractor.

1.1.3 THE WORK

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

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.2 EXECUTION, CORRELATION AND INTENT

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

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

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings. All work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such work is to be done by others. Should the drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of work and/or materials unless otherwise directed by written addendum to the Contract.

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

Drawings, including those showing primarily the work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all work reasonably inferable therefrom as being necessary to produce the indicated results.

1.2.5 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

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

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

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

1.2.9 Any test boring or soil test information included with the Contract Documents or otherwise made accessible to the Contractor was obtained by the Owner or Architect for use by the Architect in the design. The Owner and Architect do not hold out such information to the Contractor as an accurate or approximate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed except as provided in M.G.L. c. 30, section 39N.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All Drawings and Specifications furnished by the Architect, and all copies thereof and the copyright therein, are the property of the Architect or the Owner. They are to be used only with respect to this Project and are not to be used on any other project. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Architect on request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Owner's common law copyright or other reserved rights.

SECTION 2 ARCHITECT

2.1 DEFINITION

2.1.1 The term Architect refers to either, (a) a professionally licensed architect, engineer, or landscape architect, hired or used by the City, or in the absence of thereof, (b) the Contracting Officer identified in the Instruction to Bidders. The Architect is referred to throughout the Contract Documents as if singular in number and masculine in gender.

2.2 ADMINISTRATION OF THE CONTRACT

2.2.1 The Architect will provide administration of the Contract as herein described and pursuant to the terms of the contract between the Architect and the Owner.

2.2.2 The Architect will be the Owner's representative during construction and until final payment is due. The Architect will advise and consult with the Owner. The Owner's instructions to the Contractor shall be forwarded through the Architect. The Architect will have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents and the Design Services Agreement between the two, unless otherwise modified by written instrument in accordance with Subparagraph 2.2.17.

2.2.3 The Architect will visit the site at intervals appropriate to the stage of construction to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of his on-site observations as an architect, he will keep the Owner informed of the progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.

2.2.4 The Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the Work.

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

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

2.2.7 The Architect will be the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder by both the Owner and Contractor.

2.2.8 The Architect will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with M.G.L. c. 30, section 39P, or any lesser time limit agreed upon. Either party to the Contract may make written request to the Architect for such interpretations.

2.2.9 Claims, disputes and other matters in question between the Contractor and the Owner relating to the execution of progress of the Work or the interpretation of the Contract Documents shall be referred initially to the Architect for decision, which he will render in writing within a reasonable time.

2.2.10 All interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. In his capacity as interpreter and judge, he will endeavor to secure faithful performance by both the Owner and the Contractor, will not show partiality to either, and will not be liable for the result of any interpretation or decision rendered in good faith, and in the absence of negligence, in such capacity.

2.2.11 The Architect's decisions in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents.

2.2.12 The Architect will have authority to reject Work that does not conform to the Contract Documents. Whenever, in his opinion, he considers it necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work in accordance with Subparagraph 7.7.2, whether or not such Work be then fabricated, installed or completed. However, neither the Architect's authority to act under this Subparagraph 2.2.12 nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect to the Contractor, any Subcontractor, any of their agents or employees, or any other person performing any of the Work.

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

2.2.14 The Architect will prepare Change Orders in accordance with Article 12, and will have authority to order minor changes in the Work as provided in Subparagraph 12.3.1.

2.2.15 The Architect will conduct inspections to determine the dates of Substantial Completion and final completion, will receive and forward to the Owner for the Owner's review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate of Payment upon compliance with the requirements of Paragraph 9.9.

2.2.16 If the Owner and Architect agree, the Architect will provide one or more Project Representatives to assist the Architect in carrying out his responsibilities at the site. The duties, responsibilities and limitations of authority of any such Project Representative shall be as set forth in an exhibit to be incorporated in the Contract Documents.

2.2.17 The duties, responsibilities, and limitations of authority of the Architect as the Owner's representative during construction, as set forth in the Contract Documents and the contract between the two, will not be modified or extended without consent of the Owner and the Architect.

2.2.18 In case of the termination of the employment of the Architect, the Owner shall appoint an architect against whom the Contractor makes no reasonable objection whose status under the Contract Documents shall be the same as that of the former architect.

SECTION 3 OWNER

3.1 DEFINITION

3.1.1 The term Owner means the city of Worcester.

INFORMATION AND SERVICES REQUIRED OF THE OWNER

3.2.1 The Owner shall, at the time of execution of the Owner-Contractor Agreement, furnish the certification of adequate appropriation pursuant to M. G. L. Chapter 44, section 31C of the General Laws.

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

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

3.2.4 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness after receipt from the Contractor of a written request for such information or services.

3.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, three (3) copies of Drawings and Specifications reasonably necessary for the execution of the Work.

3.2.6 The Owner shall forward all instructions to the Contractor through the Architect.

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

3.3 OWNER'S RIGHT TO STOP THE WORK

3.3.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2 or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner, by a written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3.

3.4 OWNER'S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedy he may have, make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and the amount charged to the Contractor are both subject to prior notice being given to the Architect by the Owner. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

SECTION 4 CONTRACTOR

4.1 DEFINITION

4.1.1 The Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if

singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 REVIEW OF CONTRACT DOCUMENTS

4.2.1 Before starting the Work, and at frequent intervals during the progress thereof, the Contractor shall carefully study and compare the Agreement, Conditions of the Contract, Drawings, Specifications, Addenda and other Contract Documents and shall at once report to the Architect any error, inconsistency or omission he may discover. Any necessary change shall be ordered as provided in Article 12, subject to the requirements of paragraph 1.2 and other provisions of the Contract Documents. If the Contractor proceeds with the Work without such notice to the Architect, having discovered such errors, inconsistencies or omissions, or if by reasonably study of the Contract Documents he could have discovered such, the Contractor shall bear all costs arising therefrom.

4.2.2 The Contractor shall give the Architect timely notice of any additional design drawings, specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work.

4.2.3 The Contractor shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from the Architect as provided in subparagraph 4.2.2. If the Contractor proceeds with such Work without obtaining further drawings or instructions, he shall correct Work incorrectly done at his own expense.

SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.

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

4.3.4 Where the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the Contractor shall be as to produce at least the quality of work implied by the operations described, but the actual determination of whether or not

the described operations may be safely and suitably employed on the Work shall be the responsibility of the Contractor, who shall notify the Architect in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage, or liability, or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless the Contractor has given timely notice to the Architect in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Contractor has then been instructed in writing by the Owner to proceed at the Owner's risk.

4.4 LABOR AND MATERIALS

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

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

4.5 WARRANTY

4.5.1 The Contractor warrants to the Owner and the Architect that all materials and equipment furnished under this Contract will be new and of recent manufacture unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective.

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

4.5.3 If the Contractor proposed to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, he shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents.

4.5.4 In requesting approval of the deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.

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

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

4.5.7 The warranty provided in this paragraph 4.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

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

4.6 TAXES

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

4.6.2 IMPORTANT TAX NOTE: This project, being constructed for a political subdivision of the Commonwealth of Massachusetts, is exempt from certain taxes. It is therefore required that the Contractor and all Subcontractors purchasing taxable goods covered by the governing tax codes make known to suppliers the tax-exempt status of the institution in order that such taxes will not appear in the Contract Sum. The Owner will provide the necessary evidence and certificates of its tax exemption upon request of those concerned. The most applicable taxes concerned are:

- a. Federal Excise Taxes as applied to articles which are taxable under Chapter 12 of the Internal Revenue Code of 1954, as amended.
- b. Commonwealth of Massachusetts Sales tax.

4.7 PERMITS, FEES AND NOTICES

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

4.7.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work.

4.7.3 It is not the responsibility of the Contractor to make certain the Contract Documents are in accordance with the applicable laws, statutes, building codes and regulations. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Architect in writing, and any necessary changes shall be accomplished by appropriate Modification.

4.7.4 If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

4.8 ALLOWANCES

4.8.1. The Contract shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom he makes a reasonable objection. Note, however, that the use of such allowances are prohibited in any contract or work subject to the provisions of M.G.L. c. 149, section 44A.

4.8.2 Unless otherwise provided in the Contract Documents:

.1 these allowances shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes;

.2 the Contractor's costs for unloading and handling of the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowance;

.3 whenever the cost is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

4.9 SUPERINTENDENCE

4.9.1 The Contractor shall employ one (1) competent superintendent who shall be in attendance at the Project site full time during the progress of the Work until the date of substantial completion, and for such additional time thereafter as the Architect may determine to be necessary for the expeditious completion of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

4.9.2 The Contractor shall retain a competent Registered Professional Engineer or Registered Land Surveyor, registered in the Commonwealth of Massachusetts, acceptable to the Architect, who shall establish, where necessary, the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated work such as, but not limited to, layout, utilities and site grading. The Engineer or Land Surveyor shall certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries and shall establish survey control points onsite.

4.9.3 The Contractor shall establish the grades, lines, levels, and necessary layout required by the various subcontractors in laying out their work.

4.9.4 The Contractor shall coordinate and supervise the work performed by Subcontractors to the end that the work, is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. The Contractor and all Subcontractors shall at all times afford each trade, any separate contractor, or the Owner, every reasonable opportunity for the installation of work and the storage of materials.

4.10 PROGRESS SCHEDULE

4.10.1 The Contractor shall prepare and submit to the Landscape Architect a progress schedule as described in subparagraphs 8.2.3 through 8.2.9.

4.11 DOCUMENTS AND SAMPLES AT THE SITE

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

4.11.2 Refer to Specifications Section entitled CONTRACT CLOSEOUT, for additional requirements for Record Drawings and Maintenance and Operating Manuals.

4.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

4.12.4 The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.

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

4.12.6 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data or Samples under Subparagraph 2.2.14 unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's approval thereof.

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

4.12.8 No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Architect as provided in Subparagraph 2.2.14. All such portions of the Work shall be in accordance with approved submittals.

4.12.9 Refer to Specifications Section entitled, SUBMITTALS, for additional requirements.

4.13 USE OF SITE

4.13.1 The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times in the Owner. The Contractor's right of entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, the Contract Documents and permits and/or directions by the Architect and shall not unreasonably encumber the premises with his materials.

4.14 CUTTING AND PATCHING WORK

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

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

4.15 CLEANING UP

4.15.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials. Immediately prior to the Architect's inspection for Substantial Completion, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures, and equipment shall be thoroughly cleaned. Stains, spots, dust, marks and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly

cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the Contractor at this expense.

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

4.15.3 Refer to Specifications Section entitled, PROJECT CLOSEOUT, for additional requirements.

4.16 COMMUNICATIONS

4.16.1 The Contractor shall forward all communications to the Owner through the Architect.

4.17 ROYALTIES AND PATENTS

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

4.18 INDEMNIFICATION

4.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Architect and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph 4.18.

4.18.2 In any and all claims against the Architect or any of his agents or employees, by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.18 shall

not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

4.18.3 The obligations of the Contractor under this Paragraph 4.18 shall not extend to the liability of the Architect, his agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, his agents or employees provided, such giving or failure to give is the primary cause of the injury or damage.

SECTION 5 SUBCONTRACTORS

5.1 DEFINITION

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site and as further defined by M.G.L. c. 30, section 39F(3). The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractors.

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

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

5.2.1 Unless otherwise required by the Contract Documents or the Bidding Documents, the Contractor, as soon as practicable after the award of the Contract, shall furnish to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection.

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

5.2.3 If the Owner or the Architect has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner or the Architect has no reasonable objection, and the Contract Sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued; however no increase in the Contract Sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting names as required by Subparagraph 5.2.1

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

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By an appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume to the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner and the Architect. Said agreement shall preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to his Sub-subcontractors.

SECTION 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

6.1.3 The Owner will provide for the coordination of the work of his own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 6.2.

6.1.4 The Contractor shall permit the Owner to place and install as much equipment during the progress of the work as is possible before the completion of the various parts of the work, and agrees that such placing and the installation of equipment shall not in any way evidence the completion of the work or any portion of it, nor shall it signify the Owner's completion of the work or any portion thereof.

6.2 MUTUAL RESPONSIBILITY

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

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

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

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

6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor.

6.3 OWNER'S RIGHT TO CLEAN UP

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

SECTION 7 MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 The Contract shall be governed by the law of the Commonwealth of Massachusetts.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party with respect to all covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

7.2.2 If, after making final payment, the Owner conveys to a third party any building or other improvement constructed under the Contract, any rights with respect to the property so conveyed which the Owner may have against the Contractor under Article 13 or by virtue of claims which, under the terms of subparagraph 9.9.4, are reserved to the Owner after the making and acceptance of final payment, shall automatically transfer to such third party.

7.3 WRITTEN NOTICE

7.3.1 Written notice shall be deemed to have been duly served if delivered in person to an authorized representative of the person or entity for whom it was

intended, or if delivered at or sent by registered or certified mail or by telegraph to the address of such person or entity set forth in the Agreement or in a subsequent written notice.

7.4 CONSENT OR WAIVER

7.4.1 No consent or waiver, express or implied, by the Owner or the Architect to, or of, any breach of any covenant, condition or duty of the Contractor shall be construed as a consent to or waiver of any other breach of the same or any other covenant, condition or duty.

7.5 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.5.1 The Owner shall have the right to require the Contractor to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder if and as required in the Bidding Documents or in the Contract Documents.

7.6 RIGHTS AND REMEDIES

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

7.7 TESTS

7.7.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Architect timely notice of its readiness so the Architect may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, tests or approvals conducted by public authorities. Unless otherwise provided, the Owner shall bear all costs of other inspections, tests or approvals.

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

7.7.3 The Contractor shall obtain and deliver promptly to the Architect any occupancy permit or any certificates of final inspection of any part of his work or

operating permits for any mechanical apparatus, such as elevators, escalators, boilers, air compressors, etc., which may be required by law to permit full use and occupancy of the premises by the Owner. Receipt of such permits or certificates by the Architect shall be a condition precedent to Substantial Completion of the Work.

SECTION 8 TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.

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

8.1.3 The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Architect when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended and only minor items which can be corrected or completed without substantial interference with the Owner's use of the Work remain to be corrected or completed.

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

8.1.5 The term "working day" shall mean any calendar day except Saturdays, Sundays, and legal holidays at the place of the project.

8.2 PROGRESS AND COMPLETION

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

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

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

Completion. All calculations shall be on the basis of work in place, but not including the value of materials delivered but not in place.

8.2.4 The Progress Schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation, and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The Progress Schedule will be reviewed by the Architect for compliance with the requirements of this article and will be accepted by him or returned to the Contractor for revision and re-submittal. Unless specifically required by law, no payment under this Contract shall be due until the Progress Schedule has been approved by the Architect.

8.2.5 If in any Application for Payment the total value of the completed Work in place, as certified by the Architect, is less than 90% of the total value of the Work in place estimated in the Progress Schedule, the Owner may, at his option, require the Contractor to accelerate the progress of the work without cost to the Owner by increasing the work force or hours of work, or by other reasonable means approved by the Architect.

8.2.6 If each of three successive applications, as certified by the Architect, indicate that the actual work completed is less than 90% of the values estimated in the Progress Schedule to be completed by the respective dates, the Owner may at his option, treat the Contractor's delinquency as a default justifying the Owner to initiate a termination of the Contract.

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

8.2.8 If the Contractor fails to submit any Application for Payment in any month, the Architect shall, for the purpose of this evaluation of progress, certify separately to the actual value of the work in place and completed as of the first of the month, to the best of his knowledge.

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

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 Any delay and subsequent request for an extension of time shall be governed by M.G.L. c. 30, section 39(O) and the Owner-Contractor Agreement.

8.3.2 No work shall be suspended without the written permission of the Owner or his representative.

8.3.3 If no agreement is made stating the dates upon which interpretations as provided in Subparagraph 2.2.8 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until thirty days after written request is made for them, and not then unless such claim is reasonable.

8.3.4 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

SECTION 9 PAYMENTS AND COMPLETION

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

9.2 SCHEDULE OF VALUES

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

9.3 APPLICATIONS FOR PAYMENT

9.3.1 At least ten days before the date for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment notarized if required, supported by such data substantiating the Contractor's right to payment as the Owner or the Architect may require, and reflecting retainage, if any, as provided in Supplemental General Conditions-Part I, Article I, Paragraph 1.8 or 1.9; whichever is applicable. The format and number of copies of such Applications for Payment shall be as directed by the Architect.

9.3.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner,

payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site. The Contractor shall reimburse the Owner for any loss or damage to such unincorporated materials or equipment not covered by insurance.

9.3.3 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens". The Contractor further agrees that the submission of any Application for Payment shall conclusively be deemed to waive all liens with respect to said work, materials and labor to which the Contractor then may be entitled; provided, however, that in no event shall such waiver of lien rights waive right to payment for said Work, materials and labor.

9.3.4 Each Application for Payment or periodic estimate requesting payment must be accompanied by a certificate from each subcontractor stating that he has been paid all amounts due him on the basis of the previous periodic payment to the Contractor, or else stating the amount not so paid and the reason for the discrepancy. In the event of any such discrepancy, the Contractor shall be required to furnish his own written explanation.

9.4 CERTIFICATES FOR PAYMENT

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

9.4.2 The certification of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on his observations at the site as provided in Subparagraph 2.2.3 and the data comprising the Application for Payment, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his Certificate); and that the Contractor is entitled to payment in the amount certified. However, by certifying a Certificate

for Payment, the Architect shall not thereby be deemed to represent that he has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work or that he has reviewed the construction means, methods, techniques, sequences or procedures, or that he has made any examination to ascertain how or for what purpose the Contractor has used the moneys previously paid on account of the Contract.

9.5 PROGRESS PAYMENTS

9.5.1 After the Architect has certified a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents.

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

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

9.5.4 Neither the Owner nor the Architect shall have any obligation to pay or to see the payment of any moneys to any Subcontractor except as may otherwise be required by law.

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

9.6 PAYMENTS WITHHELD

9.6.1 The Architect may decline to certify payment, in whole or in part, to the extent reasonably necessary to protect the Owner, if in his/her opinion he/she is unable to make representations to the Owner as provided in Subparagraph 9.4.2. If the Architect is unable to make representations to the Owner as provided in Subparagraph 9.4.2 and to certify payment in the amount of the Application, he/she will notify the Contractor as provided in Subparagraph 9.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly certify a Certificate for Payment for the amount for which he/she is able to make such representations to the Owner. The Architect may also decline to certify payment or because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any Certificate for Payment

previously certified, to such extent as may be necessary in his/her opinion to protect the Owner from loss because of:

1. defective Work not remedied
2. third party claims filed or reasonable evidence indicating probable filing of such claims,
3. failure of the Contractor to make payments properly to subcontractors or for labor, materials or equipment
4. reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum,
5. damage to the Owner,
6. reasonable evidence that the Work will not be completed within the Contract Time or
7. persistent failure to carry out the Work in accordance with the Contract Documents
8. failure of mechanical trades or electrical trades subcontractors to comply with mandatory requirements for maintaining record drawings. The Contractor shall be required to check record drawings each month. Written confirmation that the record drawings are "up-to-date" shall be required by the Architect before approval of the Contractor's monthly payment requisition will be considered.

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

9.7 FAILURE OF PAYMENT

9.7.1 If the Architect does not certify a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor as required by the Contract Documents any amount certified by the Architect, then the Contractor may, upon seven additional days written notice to the Owner and the Architect, stop the Work until payment of the amount owing has been received.

9.8 SUBSTANTIAL COMPLETION

9.8.1 When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete as defined in subparagraph 8.1.3, the Contractor shall submit to the Architect (1) a list of items to be completed or corrected, and (2) all special

warranties required by the Contract Documents endorsed by the Contractor and in a form reasonably acceptable to the Architect. The failure to include any items on the list mentioned in the preceding sentence does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect on the basis of an inspection determines that the Work or designed portion thereof is substantially complete, and when the Contractor has submitted to the Architect the special warranties, as provided in the first sentence of this subparagraph, the Architect will then certify a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

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

9.9 FINAL COMPLETION AND FINAL PAYMENT

9.9.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when he finds the Work acceptable under the Contract Documents and the Contract fully performed, he will promptly certify a final Certificate of Payment stating that to the best of his knowledge, information and belief, and on the basis of his observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said final Certificate, is due and payable. The Architect's certification of the final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.9.2 have been fulfilled.

9.9.2 Unless otherwise required by applicable law, neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3), if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens, arising out of the Contract, to the extent and in such form as may be designated by the Owner. If the Contractor fails to

furnish such releases or waivers as the Owner reasonably requires to satisfy that there are not outstanding claims, the Owner may require the Contractor, as a condition of final payment, to furnish a bond satisfactory to the Owner to indemnify the Owner against any such claims.

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

9.9.4 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from: (1) unsettled claims under the Bonds required elsewhere in the Contract Documents, (2) faulty or defective Work appearing after Substantial Completion, (3) failure of the Work to comply with the requirements of the Contract Documents, or (4) terms of any special warranties required by the Contract Documents.

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

SECTION 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: (1) all employees on the Work and all other persons who may be affected thereby; (2) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and (3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements,

roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

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

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

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

10.2.5 The Contractor shall promptly remedy all damage or loss (other than damage or loss insured under Paragraph 11.3) to any property referred to in Clause 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone whose acts any of them may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to the acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either by of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 4.18.

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

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

10.3 EMERGENCIES

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

SECTION 11 INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

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

- 1) claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts;
- 2) claims for damages because of bodily injury, occupational sickness or disease, or death of his or her employees
- 3) claims for damages because of bodily injury, sickness or disease, or death of any person other than his or her employees
- 4) claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the contractor or, (2) by any other person;
- 5) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- 6) claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle

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

1. Workmen's Compensation -Statutory/Employers Liability \$500,000.

2. Commercial General Liability - Per Occurrence / Aggregate
\$1,000,000 / 2,000,000
3. Automobile Liability – Combined Single Limit
4. Bodily Injury & Property Damage combined single limit of \$ 1,000,000 (all owned, hired and non-owned autos).
5. Excess / Umbrella Liability – Per Occurrence / Aggregate \$ 1,000,000 / \$ 1,000,000
6. Independent Contractors -Same limits as above
7. Products and Completed Operations -Same limits as above commencing with issuance of final Certificate of Payment.
8. Contractual Liability - Same limits as above.

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

11.1.4 Certificates of Insurance acceptable to the Owner shall be filed with the Owner. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least thirty days prior written notice has been given to the Owner.

11.1.4.1 These certificates shall set forth evidence of all coverage required by 11.1.1, 11.1.2 and 11.1.3. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending limits of coverage.

11.2 OWNER'S LIABILITY INSURANCE

11.2.1 The Owner shall be responsible for maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract.

11.3 PROPERTY INSURANCE

11.3.1 The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work and shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief.

11.3.2 The Owner shall purchase and maintain such boiler and machinery insurance as may be required by the Contract Documents or by law. This

insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

11.3.3 Any loss insured under Subparagraph 11.3.1 is to be adjusted with the Contractor and made payable to the Contractor as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgagee clause and of Subparagraph 11.3.8.

11.3.4. The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor, and by appropriate agreement, written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

11.3.5 The Contractor shall file a copy of all policies with the Owner before an exposure to loss may occur.

11.3.6 The Owner and Contractor waive all rights against (1) each other and the Subcontractors, Sub-subcontractors, agents and employees each of the other, and (2) the Architect and separate contractors, if any, and their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Paragraph 11.3 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Contractor as trustee. The foregoing waiver afforded the Architect, his agents and employees shall not extend to the liability imposed by Subparagraph 4.18.3. The Owner or the Contractor, as appropriate, shall require of the Architect, separate contractors, Subcontractors, and Sub-subcontractors by appropriate agreements, written where legally required for validity, similar waivers each in favor of all other parties enumerated in this Subparagraph 11.3.6.

11.3.7 If required in writing by any party in interest, the Contractor as trustee shall, upon the occurrence of an insured loss, give bond for the proper performance of his duties. He shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach or in accordance with the direction of a court of competent jurisdiction.

11.3.8 The Contractor as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five days after the occurrence of loss to the Contractor's exercise of this power. If such objection be made, the Contractor as trustee shall make settlement with the insurers in accordance with the direction of a court of competent jurisdiction.

11.4 LOSS OF USE INSURANCE

11.4.1 The Owner, at his option, may purchase and maintain such insurance as will insure him against loss of use of his property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of his property including consequential losses due to fire or other hazards however caused, to the extent covered by insurance under this Paragraph 11.4.

SECTION 12 CHANGES IN THE WORK

12.1 CHANGE ORDERS

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

12.1.2 A Change Order is a written order to the Contractor signed by the Owner and the Architect, issued after execution of the Contract, authorizing or directing a change in the Work and/or an adjustment in the Contract Sum or the Contract Time, or both. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement with the terms thereof, including the adjustment in the Contract Sum and/or the Contract Time.

12.1.3 If the Contractor does not agree with the terms of the Change Order, the Contractor shall return the unsigned Change Order to the Owner. In such event, the Work, Contract Sum and /or Contract Time shall be adjusted as reflected in the Change Order, subject to the Contractor's rights under M.G.L. Chapter 30, Section 39J, but in no event shall the Contractor refuse to perform the Work as modified by the Change Order.

12.2 CLAIMS FOR ADDITIONAL COST

12.2.1 If the Contractor claims that any instructions or orders, whether oral, written, drawings, or otherwise, involve extra cost or time, and such instructions or orders are not accompanied by a written acknowledgment by the Owner that extra payment will be made or time extended, he shall promptly so notify the Owner in writing and shall not proceed with the work until he has received a further written order to proceed; except, as provided in Paragraph 10.3, in the case of an emergency affecting life or property.

12.2.2 Upon receipt from the Contractor of a written notice of claim as provided in Paragraph 12.2.1, the Architect shall review such claim, and if he determines that any work in dispute should proceed, he shall issue to the Contractor a written order, signed by the Owner, (1) to proceed, which shall approve or deny the Contractor's claim, in whole or in part, or (2) to proceed subject to a later determination by the Architect of the Contractor's right to extra payment.

12.2.3 To the extent that the Architect, when issuing the written order to proceed described in 12.2.2, approves the Contractor's claim, the Contract Sum and/or Contract Time shall be adjusted by Change Order. If the Architect, when issuing his written order to proceed denies, in whole or in part, the Contractor's claim, the Contractor shall proceed with the work without delay, subject to the Contractor's rights under M.G.L. Chapter 30, Section 39J. If the Architect, when issuing his written order to proceed, instructs the Contractor to proceed with the work subject to a later determination by the Architect of the Contractor's right to extra payment or time, the Contractor shall proceed with the Work without delay.

12.3 MINOR CHANGES IN THE WORK

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

12.4 EQUITABLE ADJUSTMENTS

12.4.1 Equitable adjustments in the Contract Sum shall be determined according to one of the following methods, or a combination thereof; as determined by the Owner:

- 1) fixed price basis, provided that the price shall be inclusive of items 3(a) through 3(d), below, and shall be computed in accordance with those provisions.
- 2) Estimated lump sum basis to be adjusted in accordance with Contract unit prices, or other agreed upon unit prices, provided that the unit prices shall be inclusive of all costs related to such equitable adjustments.
- 3) Time and materials basis, based upon a not to exceed, predetermined set amount to be subsequently adjusted on the basis of actual costs comprised of items (a) through (d) below:
 - a) the costs at prevailing rates for direct labor, material and use of equipment;

- b) plus, the costs of Worker's Compensation Insurance, Liability Insurance, Federal Social Security and Massachusetts Unemployment Compensation; or as an alternative, the Contractor may elect to add a flat twenty-five (25%) percent to the total labor rate in (a), above;
- c) plus ten (10) percent of (a), above, for overhead, superintendence and profit which will be paid to the Contractor for the work of the Contractor and all subcontractors. The contracting parties referred to in this subparagraph shall agree upon the distribution of the ten (10) percent as a matter of contract between each other;
- d) plus actual direct premium costs of payment and performance bonds required of the Contractor provided there would be an appropriate credit for premiums for a credit change order
- e) if the extra work requires the use of heavy equipment, cranes and hoisting equipment, and special tools not on site and not originally required to be used upon the work, then the cost of transportation to and from the work site, not exceeding 100 miles, shall be included. The cost of extra work shall not include any cost or rental of small tools, buildings, or any portion of the time of the Contractor's management or office personnel, or any allowance for use of capital.

12.4.2 If the net change is an addition to the Contract Sum, it shall include the Contractor's overhead, superintendence and profit. On any change that involves a net credit, no allowance for overhead superintendence and profit shall be figured. For any change that does not include labor performed or materials installed in the Project, there will be no markup for the contractor's overhead, superintendence, and profit, notwithstanding any net increase in the Contract Sum. Charges for small tools known as "tools of the trade" are not to be computed in the amount of an equitable change.

SECTION 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

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

13.1.2 If any other portion of the Work has been covered which the Architect has not specifically requested to observe prior to being covered, the Architect, with the approval of the Owner, may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract

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

13.2 CORRECTION OF WORK

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

13.2.2 If, within one year after the Date of Substantial Completion of the Work or designated portion thereof or within one year after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This obligation shall survive termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

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

13.2.4 If the Contractor fails to correct defective or nonconforming Work as provided in Subparagraphs 4.5.1, 13.2.1, and 13.2.2, the Owner may correct it in accordance with Paragraph 3.4.

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

or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

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

13.2.7 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

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

SUPPLEMENTARY GENERAL CONDITIONS – PART I

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SUPPLEMENTARY GENERAL CONDITIONS – PART I
STATUTORY PROVISIONS FOR MASSACHUSETTS
PUBLIC CONSTRUCTION CONTRACTS

The following provisions are required by or are intended to be consistent with requirements of Massachusetts statutes governing public construction contracts in the Commonwealth of Massachusetts (hereinafter referred by statute to be included herein shall be deemed to be so included. In addition, the parties recognize that other rights, duties, and obligations with respect to public construction contracts are provided for in the Contract Documents. In case of conflict between the provisions of these Supplementary General Conditions and other provisions in the Contract Documents, the provisions of these Supplementary General Conditions shall govern. In case of conflict between the provisions of these Supplementary General Conditions and the provisions of any applicable statute, the statutory provisions shall govern. Where the term “awarding authority” appears in the following paragraphs, it shall be taken as meaning the Owner.

ARTICLE 1 – PAYMENT, CONTRACT ADMINISTRATION, etc.

1.1 “Or Equal” Clause: (Statutory reference: M.G.L. Chapter 30, Section 39M(b))

This Paragraph 1.1 applies to every contract subject to M.G.L. Chapter 30, Section 39M(b).

This Paragraph 1.1 applies to every contract for the construction, reconstruction or repair of any public work or for the purchase of any material by the Commonwealth, any political subdivision thereof, or any county, city, town, district or housing authority (above certain dollar limits, as stated in the statute), and to contracts awarded pursuant to M.G.L. Chapter 149, Sections 44A through 44H. The said Sections 44A through 44H apply to every contract for the construction, reconstruction, installation, demolition, maintenance or repair of any building by a department, agency, board, commission, authority, or other instrumentality of the Commonwealth or political subdivision thereof, or two or more subdivisions thereof, but not including the Massachusetts Bay Transportation Authority, estimated to cost more than a dollar amount set forth in M.G.L. Chapter 149, Section 44A.

Every such contract shall provide that an item equal to that named or described in the said specifications may be furnished. Where products or materials are prescribed by manufacturer name, trade name, or catalog reference, the words “or approved equal” shall be understood to follow. An item shall be considered equal to the item so named or described if, in the opinion of the awarding authority:

- a. It is at least equal in quality, durability, appearance, strength, and design;
- b. it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased, and
- c. it conforms substantially, even with deviations, to the detailed requirements for the items as indicated by the specifications. For each item of material the specifications shall provide for either a minimum of three named brands of material or a description of

material which can be met by a minimum of three manufacturers or producers, and for the equal of any one of said name or described materials.

Any structural or mechanical changes made necessary to accommodate substituted equipment under this paragraph shall be at the expense of the Contractor or Subcontractor responsible for the work item. See other paragraphs of General and Supplementary Conditions for procedures to be used in determining compliance with the standards of this paragraph.

1.2 Delays: (Statutory reference: Chapter 30, Section 39O). This Paragraph 1.2 applies to every contract subject to M.G.L. Chapter 30, Section 39M and to every contract subject to Chapter 149, Sections 44A through 44H.

In the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

Except as otherwise provided by law and by this Paragraph 1.2, the Contractor shall not be entitled to damages on account of any hindrances or delays, avoidable or unavoidable; but if such delay be occasioned by the awarding authority, the Contractor may be entitled to an extension of time only, in which to complete the work, to be determined by the Architect.

(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim.

1.3 Deviations: (Statutory referenced: M.G.L. Chapter 30, section 39I) This Paragraph 1.3 applies to every contract for the construction, alteration, maintenance, repair or demolition of,

or addition to, any public building or public works for the Commonwealth or any political subdivision thereof.

The Contractor shall perform all the work required by this 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 awarding authority or by the Engineer or Architect in charge of the work who is duly authorized by the awarding authority to approve such deviations. In order to avoid delays in the prosecution of the work required by such contract, such deviation from the plans or specifications may be authorized by a written order of the awarding authority or such Engineer or Architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the awarding authority 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 reasons for such deviation, giving justification therefor (2) that the specified deviation does not materially injure the project as a whole; (3) that either the work substituted for the work specified is the same cost and quality, or that an equitable adjustment has been agreed upon between the awarding authority and the Contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the awarding authority.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the work contracted for.

Whoever violates any provision of this section willfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both.

1.4 Finality of Decisions by Awarding Authority or Architect: (Statutory reference: M.G.L. Chapter 30, Section 39J) This Paragraph 1.4 applies to every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public works by the Commonwealth or by any county, city, district, board, commission, or other public body, when the amount of the contract exceeds the amount stated in M.G.L. Chapter 30, Section 39J.

Notwithstanding any contrary provision of this contract, a decision by the contracting body or by any administrative board, official or agency, or by any architect or engineer, on a dispute, whether of fact or of law, arising under said contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily, is unsupported by substantial evidence, or is based upon error of law.

1.5 Differing Site Conditions: (Statutory reference: M.G.L. Chapter 30, Section 39N) This Paragraph 1.5 applies to every contract subject to M.G.L. Chapter 30, Section 39M and to every contract subject to M.G.L. Chapter 49, Sections 44A through 44H.

If, during the progress of the work, the Contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the Contract Documents, either the

Contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a Contractor, or upon its own initiative, the awarding authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and Contract Documents and are such a nature as to cause an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly.

1.6 Timely Decision by Awarding Authority: (Statutory reference: M.G.L. Chapter 30, Section 39P) This Paragraph 1.6 applies to every contract subject to M.G.L. Chapter 30, Section 39M, and to every contract subject to M.G.L. Chapter 149, Sections 44A through 44H.

In every case in which this contract requires the awarding authority, any official, its Architect or Engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, the decision shall be made promptly and, in any event, no later than thirty days after the written submission for decision; but if such decision requires extended investigation and study, the awarding authority, the official, Architect or Engineer shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made.

1.7 Certificate of Appropriation: (Statutory reference: M.G.L. Chapter 44, Section 31C) This Paragraph 1.7 applies to contracts for construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public work by any city or town costing more than the amount set forth in M.G.L. Chapter 44, Section 31C.

This Contract shall not be deemed to have been made until the auditor or accountant or other officer of the city or town having similar duties has certified thereon that an appropriation in the amount of such contract is available therefor and that an officer or agent of the city, town, or awarding-authority has been authorized to execute said contract and approve all requisitions and change orders. No order to the Contractor for a change in or addition to the work to be performed under a contract subject to this section, whether in the form of a drawing, plan, detail or any other written instruction, unless it is an order which the Contractor is willing to perform without any increase in the contract price, shall be deemed to have been given until the auditor or accountant, or other officer of the awarding authority having similar duties, has certified thereon that an appropriation in the amount of such order is available therefor; but such certificate shall not be construed as an admission by the awarding authority of its liability to pay for such work. The certificate of the auditor or accountant or other officer of the awarding authority having similar duties, that an appropriation in the amount of such contract or order is available shall bar any defense by the awarding authority on the ground of insufficient appropriation; and any law barring payment in excess of appropriations shall not apply to amounts covered by any certificate under this section.

1.8 Method of Payment: (Statutory reference: M.G.L. Chapter 30, Section 39K) This Paragraph 1.8 applies to every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the Commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than two thousand dollars, or the amount set forth in M.G.L. Chapter 30, Section 39K.

1.8.1 Within fifteen days after receipt from the Contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the Contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the Contractor has title or to which a Subcontractor has title and has authorized the Contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances, but 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 Paragraph 1.10 of these Supplementary General Conditions, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the Contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of the original contract price, or (b) the Contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of Paragraph 1.10 of these Supplementary General Conditions, 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 Paragraph 1.10. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days...after receipt of such periodic estimate from the Contractor, at the place designated by the awarding authority if such a place is so designated. The Contractor agrees to pay to each Subcontractor a portion of any such interest paid in accordance with the amount due each Subcontractor.

1.8.2 The awarding authority may make changes in any periodic estimate submitted by the Contractor, and the payment due on said periodic estimate shall be computed in accordance with the change so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven days after receipt, return to the Contractor for correction, any periodic estimate which is not in

the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter.

1.8.3 All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the Contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each subtrade and each sub-subtrade listed in sub-bid form as required by the specifications, and a column listing the amount paid to each subcontractor and sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

1.8.4 A certificate of the Architect to the effect that the Contractor has fully or substantially completed the work shall, subject to the provisions of Paragraph 1.4 of these Supplementary General Conditions, be conclusive for the purposes of this Paragraph 1.8.

1.8.5 Notwithstanding the provisions of this section, at any time after the value of the work remaining to be done is, in the estimation of the awarding authority, less than 1 per cent of the adjusted contract price, or the awarding authority has determined that the contractor has substantially completed the work and the awarding authority has taken possession for occupancy, the awarding authority may send to the general contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including, for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The general contractor shall then complete all such work items within 30 days of receipt of such list or before the contract completion date, whichever is later. If the general contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the awarding authority or before the contract completion date, whichever is later, subsequent to an additional 14 days written notice to the general contractor by certified mail, return receipt requested, the awarding authority may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the general contractor and such termination shall be without prejudice to any other rights or remedies the awarding authority may have under the contract. The awarding authority shall note any such termination in the evaluation form to be filed by the awarding authority pursuant to the provisions of section 44D of chapter 149.

1.9 Method of Payment: (Statutory reference: M.G.L. Chapter 30, section 39G) This Paragraph 1.9 applies to every contract for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways; including bridges and other highway structures, sewers and water mains, airports and other public works entered into with the commonwealth, or any agency or political subdivision thereof.

1.9.1 Upon substantial completion of the work required by a contract with the commonwealth, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges and other highway structures, sewers and water mains, airports and other public works, the contractor shall present

in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority shall present to the contractor either a written declaration that the work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the contract sufficient to demonstrate that the work has not been substantially completed. The awarding authority may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the contract completion date, within which the contractor must achieve substantial completion of the work. In the event that the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty-one day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

1.9.2 Within sixty-five days after the effective date of a declaration of substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quality and price of the work done and all but one percent retainage on that work, including the quantity, price and all but one percent 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 work items and less the total periodic payments made to date for the work. The awarding authority also shall deduct from the substantial completion estimate an amount equal to the sum of all demands for direct payments filed by subcontractors and not yet paid to subcontractors or deposited in joint accounts pursuant to section 1.10, but no contract subject to said section 1.10 shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or others.

1.9.3 If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by section 1.9.2, on or before the date herein above set forth, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor 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 awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

1.9.4 Within fifteen days after the effective date of the declaration of substantial completion, the awarding authority 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 work items within forty-five days after the receipt of such list or before the then contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, subsequent to seven days' written notice to the contractor by certified mail, return receipt requested, terminate the contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

1.9.5 Within thirty days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the contract has been completed, the awarding authority

shall prepare and forthwith send to the contractor for acceptance, a final estimate for the quantity and price of the work done and all retainage on that work less the payments made to date, unless the awarding authority's inspection shows that work items required by the contract remain incomplete or unsatisfactory, or that documentation required by the contract has not been completed. If the awarding authority fails to prepare and sends to the contractor the final estimate within thirty days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefor, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

1.9.6 The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth day to the day of payment. Within 15 days after receipt from the contractor, if such place is so designated by the awarding authority, if such place is so designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period and for the materials not incorporated in the work but delivered and suitably stored at the site, or at some location agreed upon in writing, to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that materials are free from all encumbrances. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate herein above provided from the due date. In the case of periodic payments, the contracting authority may deduct from its payment a retention based on its estimate of the fair value of its claim against the contractor, a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section 1.10, and a retention to secure satisfactory performance of the contractual work not exceeding five percent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section 1.10; provided, that a five percent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

1.9.7 No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.

1.9.8 Substantial completion, for the purpose of this section 1.9, shall mean either that the work required by the contract has been completed except for work having a contract price of less than one percent of the then adjusted total contract price, or substantially all of the work has been

completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract.

1.10 Direct Payment: (Statutory reference: M.G.L. Chapter 30, Section 39F) This Paragraph 1.10 applies to every contract awarded pursuant to M.G.L. Chapter 149, Sections 44A through 44J, and (with the exception of Subparagraph 1.10.9) to every contract awarded pursuant to M.G.L. Chapter 30, Section 39M.

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

1.10.2 Not later than the sixty-fifth day after each Subcontractor substantially completes the work in accordance with the plans and specifications, the entire balance due under the subcontract, less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the Subcontractor; and the awarding authority shall pay that amount to the General Contractor. The General Contractor shall forthwith pay to the Subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the General Contractor.

1.10.3 Each payment made by the awarding authority to the General Contractor pursuant to Subparagraphs 1.10.1 and 1.10.2 of this Paragraph 1.10 for the labor performed and the materials furnished by a Subcontractor shall be made to the General Contractor for the account of that Subcontractor; and the awarding authority shall take reasonable steps to compel the General Contractor to make each such payment to each such Subcontractor. If the awarding authority has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the General Contractor for payment to the Subcontractor as provided in Subparagraphs 1.10.1 and 1.10.2, the awarding authority shall act upon the demand as provided in this Paragraph 1.10.

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

may reply to the demand. The reply shall be a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the Subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the General Contractor and of the amount due for each claim made by the General Contractor against the Subcontractor.

1.10.5 Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the Subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the General Contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the General Contractor in the sworn reply; provided, that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by Subparagraph 1.10.4. The awarding authority shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deduction from direct payments made as provided in parts (i) and (ii) of this Subparagraph.

1.10.6 The awarding authority shall forthwith deposit the amounts deducted from a direct payment as provided in part (iii) of the Subparagraph 1.10.5 in an interest-bearing joint account in the names of the General Contractor and the Subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the General Contractor and the Subcontractor and shall notify the General Contractor and the Subcontractor of the date of the deposit and the account, including accrued interest, as provided in an agreement between the General Contractor and the Subcontractor or as determined by decree of a court of competent jurisdiction.

1.10.7 All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to Subparagraph 1.10.6 shall be made out of amounts payable to the General Contractor at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the General Contractor and in the order or receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the Contractor to the extent of such payment.

1.10.8 The awarding authority shall deduct from payments to a General Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to Subparagraph 1.10.6, are sufficient to satisfy all unpaid balances of demands for direct payments received from Subcontractors. All such amounts shall be earmarked for such direct payments, and the Subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the General Contractor.

1.10.9 If the Subcontractor does not receive payment as provided in Subparagraph 1.10.1 or if the General Contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the Subcontractor and the Subcontractor does not receive payment

for same when due less the deductions provided for in Subparagraph 1.10.1, the Subcontractor may demand direct payment by following the procedure in Subparagraph 1.10.4 and the General Contractor may file a sworn reply as provided in that same Subparagraph. A demand made after the first day of the month following that for which the Subcontractor performed or furnished the labor and materials for which the Subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the General Contractor. Thereafter the awarding authority shall proceed as provided in Subparagraphs 1.10.5, 1.10.6, 1.10.7 and 1.10.8.

1.10.10 Any assignment by a Subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of M.G.L. Chapter 149, Section 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 awarding authority or which are on deposit pursuant to Subparagraph 1.10.6 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.

1.10.11 "Subcontractor" as used in this Paragraph 1.10 (i) for contracts awarded as provided in M.G.L. Chapter 149, Sections 44A-44J, inclusive, shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the General Contractor, (ii) for contracts awarded as provided in M.G.L. Chapter 30, Section 39M(a), shall mean a person approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the General Contractor.

1.10.12 A General Contractor or a Subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in Subparagraph 1.1.6 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 Subparagraph 1.10.6 by a petition in equity in the superior court against the awarding authority and the Contractor shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. M.G.L. Chapter 231, Sections 59 and 59B shall apply to such petitions. The Court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to Sections 59 and 59B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any Subcontractor with the petition of one or more Subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will prevent unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a Subcontractor filing a demand for direct payment for which no funds due the Contractor are available for direct payment shall have a right to file a petition in a court of equity against the awarding authority claiming a demand for direct payment is premature, and such Subcontractor

must file the petition before the awarding authority has made a direct payment to the Subcontractor and has made a deposit of the disputed portion as provided in part (iii) of Subparagraph 1.10.5 and in Subparagraph 1.10.6.

1.10.13 In any petition to collect any claim for which a Subcontractor has filed a demand for direct payment the court shall, upon motion of the General Contractor, reduce by the amount of any deposit of a disputed amount by the awarding authority as provided in part (iii) of Subparagraph 1.10.5 and in Subparagraph 1.10.6 any amount held under a trustee writ or pursuant to a restraining order or injunction.

1.11 Discharge or Release of Bonds (Statutory reference: M.G.L. c.30, section 40) This Paragraph 1.11 applies to every contract awarded for the construction or repair of public buildings or other public works.

1.11.1 Bonds given to the commonwealth, any county, city, town or political subdivision to secure the performance of contracts for the construction or repair of public buildings or other public works may be discharged or released by the awarding authority, upon such terms as it deems expedient, after the expiration of one year from the time of completion, subject to Section 1.8, of the work contracted to be done; provided that no claim filed under said bond is pending, and provided further, that no such bonds shall be discharged or released prior to the expiration of all special guarantees provided for in the contract unless new bonds in substitution therefor specifically relating to the unexpired guarantees shall be taken.

ARTICLE 2 – WAGES AND EMPLOYMENT PRACTICES

2.1 Preference To Veterans and Citizens In Public Works; Rate of Wages: (Statutory reference: M.G.L. c. 149, Section 26) This Paragraph 2.1 applies to every contract or subcontract for the construction of public works by the Commonwealth or by a county, town or district.

2.1.1 In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers, preference shall first be given to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment, who are veterans as defined in M.G.L. Chapter 4, Section 7, clause 43, and who are qualified to perform the work to which the employment relates and, within such preference, preference shall be given to service-disabled veterans; and secondly, to citizens of the Commonwealth generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every contract for such work shall contain a provision to this effect. Each county, town or district in the construction of public works, or persons contracting or subcontracting for such works, shall give preference to veterans and citizens who are residents of such county, town, authority or district, and within such preference, preference shall be given to service-disabled veterans.

2.1.2 The rate per hour of the wages paid to said mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works shall not be less than the rate or rates of wages to be determined by the Commissioner as hereinafter provided; provided that

the wages paid to laborers employed on said works shall not be less than those paid to laborers in the municipal service of the town or towns where said works are being constructed; provided further, that where the same public work is to be constructed in two or more towns, the wages paid to laborers shall not be less than those paid to laborers in the municipal town paying the highest rate; provided further, that if, in any of the towns where the works are to be constructed, a wage rate or wage rates have been established in certain trades and occupations by collective agreements or understandings in the private construction industry between organized labor and employers, the rate or rates to be paid on said works shall not be less than the rates so established; provided further, that in towns where no such rate or rates have been established, the wages paid to mechanics, teamsters, chauffeurs and laborers on public works, shall not be less than the wages paid to the employees in the same trades and occupations by private employers engaged in the construction industry. This section shall also apply to regular employees of the Commonwealth or a county, town, authority or district, when such employees are employed in the construction, addition to or alteration of public buildings for which special appropriations of more than one thousand dollars are provided. Payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans under collective bargaining agreements or understandings between organized labor and employers shall be included for the purpose of establishing minimum wage rates as herein provided.

2.2 List of Jobs; Classifications; Determination of Rate of Wages; Schedule: (Statutory reference: M.G.L. Chapter 149, Section 27) This Paragraph 2.2. applies to every contract or subcontract for the construction of public works by the Commonwealth, or by a county, town or district.

2.2.1 The commissioner shall prepare, for the use of such public officials or public bodies whose duty it shall be to cause public works to be constructed, a list of the several jobs usually performed on various types of public works upon which mechanics and apprentices, teamsters, chauffeurs and laborers are employed, including the transportation of gravel or fill to the site of said public works or the removal of surplus gravel or fill from such site. The commissioner shall classify said jobs, and he may revise such classification from time to time, as he may deem advisable. Prior to awarding a contract for the construction of public works, said public official or public body shall submit to the commissioner a list of the jobs upon which mechanics and apprentices, teamsters, chauffeurs and laborers are to be employed, and shall request the commissioner to determine the rate of wages to be paid on each job. Each year after the awarding of the contract, the public official or public body shall submit to the commissioner a list of the jobs upon which mechanics and apprentices and laborers are to be employed and shall request that the commissioner update the determination of the rate of wages to be paid on each job. The general contractor shall annually obtain updated rates from the public official or public body and no contractor or subcontractor shall pay less than the rates so established. Said rates shall apply to all persons engaged in transporting gravel or fill to the site of said public works or removing gravel or fill from such site, regardless of whether such persons are employed by a contractor or subcontractor or are independent contractors or owner-operators. The commissioner, subject to the provisions of Section 2.1, shall proceed forthwith to determine the same, and shall furnish said official or public body with a schedule of such rate or rates of wages as soon as said determination shall have been made. In advertising or calling for bids for said works, the awarding official or public body shall incorporate said schedule in the advertisement or call for bids by an appropriate reference thereto, and shall furnish a copy of said schedule,

without cost, to any person requesting the same. Said schedule shall be made a part of the contract for said works and shall continue to be the minimum rate or rates of wages for said employees during the life of the contract. Any person engaged in the construction of said works shall cause a legible copy of said schedule and subsequent updates to be kept posted in a conspicuous place at the site of said works during the life of the contract. An apprentice performing work on a project subject to this section shall maintain in his possession an apprentice identification card issued pursuant to section M.G.L. Chapter 23, Section 11W. The aforesaid rates of wages in the schedule of wage rates shall include payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans as provided in said Section 2.1, and such payments shall be considered as payments to persons under this section performing work as herein provided. Any employer engaged in the construction of such works who does not make payments to a health and welfare plan, a pension plan and a supplementary unemployment benefit plan, where such payments are included in said rates of wages, shall pay the amount of said payments directly to each employee engaged in said construction. Whoever shall pay less than said rate or rates of wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, on said works to any person performing work within classifications as determined by the commissioner, and whoever, for himself, or as representative, agent or officer of another, shall take or receive for his own use or the use of any other person, as a rebate, refund or gratuity, or in any other guise, any part or portion of the wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, paid to any such person for work done or service rendered on said public works, shall have violated this section and shall be punished or shall be subject to a civil citation or order as provided in M.G.L. Chapter 149, Section 27C. The president and treasurer of a corporation and any officers or agents having the management of such corporation shall also be deemed to be employers of the employees of any corporation within the meaning of Sections 2.1 to 2.3, inclusive. Offers of restitution or payment of restitution shall not be considered in imposing such punishment.

2.2.2 When an investigation by the attorney general's office reveals that a contractor or subcontractor has violated this section by failing to pay said rate or rates of wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, on said works to any person performing work within classifications as determined by the commissioner, or that a contractor or subcontractor has, for himself, or as representative, agent or officer of another, taken or received for his own use or the use of any other person, as a rebate, refund or gratuity, or in any other guise, any portion of the wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, paid to any such person for work done or service rendered on said public works, the attorney general may, upon written notice to the contractor or subcontractor and the sureties of the contractor or subcontractor, and after a hearing thereon, order work halted on the part of the contract on which such wage violations occurred, until the defaulting contractor or subcontractor has filed with the attorney general's office a bond in the amount of such penal sum as the attorney general shall determine, conditioned upon payment of said rate or rates of wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, on said works to any person performing work within classifications as determined by the commissioner. An employee claiming to be aggrieved by a violation of this section may, 90 days after the filing of a complaint with the attorney general, or sooner if the attorney general assents in writing, and within 3 years after the violation, institute and prosecute in his own name and on his own behalf,

or for himself and for others similarly situated, a civil action for injunctive relief, for any damages incurred, and for any lost wages and other benefits. An employee so aggrieved who prevails in such an action shall be awarded treble damages, as liquidated damages, for any lost wages and other benefits and shall also be awarded the costs of the litigation and reasonable attorneys' fees.

2.3 Employment Records To Be Kept By Contractor, Subcontractors; Statement of Compliance: (Statutory reference: M.G.L. c. 149, Section 27B) This Paragraph 2.3 applies to every contract or subcontract for the construction of public works by the Commonwealth, or by a county, town or district.

Every Contractor, Subcontractor or public body engaged in said public works to which Paragraph 2.3 of these Supplementary General Conditions applies shall keep a true and accurate records of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on said works, and hours worked by, and wages paid to, each such employee, and shall promptly furnish to the Attorney General or his representative, upon his request, a copy of said record, signed by the employer or his authorized agent under the penalties of perjury. For every week in which an apprentice is employed by a contractor, subcontractor or public body subject to this section, a photocopy of the apprentice's apprentice identification card, issued pursuant to M.G.L. Chapter 23, Section 11W, shall be attached to the records submitted under this section. Such records shall be open to inspection by any authorized representative of the department at any reasonable time, and as often as may be necessary. Every contractor and subcontractor required to keep such a record shall submit a copy of said record to the awarding authority directly and on a weekly basis.

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

Each such Contractor, Subcontractor or public body shall furnish to the awarding authority directly within fifteen days after completion of its portion of the work a statement, executed by the Contractor, Subcontractor, or public body who supervises the payment of wages, in the following form.

STATEMENT OF COMPLIANCE

I, _____
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

(Contractor, Subcontractor or public body)

on the _____ and that all mechanics
(building or project)

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

Signature _____

Title _____

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

2.4 Wages Paid to Operators of Trucks and Other Equipment: (Statutory reference: M.G.L. c. 149, Section 27F) This Paragraph 2.4 applies to every contract for the construction of public works by the Commonwealth, or by a county, city, town or district.

No agreement of lease, rental or other arrangement, and no order or requisition under which a truck or any automotive or other vehicle or equipment is to be engaged in public works by the commonwealth or by a county, city, town or district, shall be entered into or given by any public official or public body unless said agreement, order or requisition contains a stipulation requiring prescribed rates of wages, as determined by the commissioner, to be paid to the operators of said trucks, vehicles or equipment. Any such agreement, order or requisition which does not contain said stipulation shall be invalid, and no payment shall be made thereunder. Said rates of wages shall be requested of said commissioner by said public official or public body, and shall be furnished by the commissioner in a schedule containing the classifications of jobs, and the rate of wages to be paid for each job. Said rates of wages shall include payments to health and welfare plans, or, if no such plan is in effect between employers and employees, the amount of such payments shall be paid directly to said operators. Whoever pays less than said rates of wages, including payments to health and welfare funds, or the equivalent in wages, on said works, and whoever accepts for his own use, or for the use of any other person, as a rebate, gratuity or in any other guise, any part or portion of said wages or health and welfare funds, shall have violated this section and shall be punished or shall be subject to a civil citation or order as

provided in M.G.L. Chapter 149, Section 27C. An employee claiming to be aggrieved by a violation of this section may, 90 days after the filing of a complaint with the attorney general, or sooner if the attorney general assents in writing, and within 3 years after the violation, institute and prosecute in his own name and on his own behalf, or for himself and for others similarly situated, a civil action for injunctive relief, for any damages incurred, and for any lost wages and other benefits. An employee so aggrieved who prevails in such an action shall be awarded treble damages, as liquidated damages, for any lost wages and other benefits and shall also be awarded the costs of the litigation and reasonable attorneys' fees.

2.5 Reserve Police Officers: (Statutory reference: M.G.L. Chapter 149, Section 34B) This Paragraph 2.5 applies to every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public works for the Commonwealth or any political subdivision thereof.

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

2.6 Eight-hour Day, etc.: (Statutory reference: M.G.L. Chapter 149, Sections 30, 34, and 34A) This Paragraph 2.6 applies only to contracts which are subject to the provisions of the aforesaid sections of the Massachusetts General Laws.

No laborer, worker, mechanic, foreman or inspector working within this Commonwealth in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of extraordinary emergency.

2.7 Lodging, etc.: (Statutory reference: M.G.L. Chapter 149, Section 25) This paragraph 2.7 applies to every contract for the doing of public work with the Commonwealth, a county, city or town, or with a department, board, commission, or officer acting therefor.

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

2.8 Access to Contractor's Records: (Executive Order No. 195) This Paragraph 2.8 applies to every contract for the purchase of services or materials by any agency, bureau, board, commission, institution, or department of the Commonwealth or a municipal contract funded, in whole or in part, by the Commonwealth.

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

2.9 Worker's Compensation Insurance: (Statutory reference: M.G.L. chapter 149, Section 34) This Paragraph 2.9 applies to every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or other public works for the Commonwealth or any political subdivision thereof.

The Contractor shall, before commencing performance of the contract, provide by insurance for the payment of and the furnishing of other benefits under M.G.L. Chapter 152 to all persons to be employed under the contract, and the Contractor shall continue such insurance in full force and effect during the term of the contract. Sufficient proof of compliance with this Paragraph 2.9 must be furnished at the time of execution of this contract. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to other party and to the awarding authority at least fifteen days prior to the intended effective date thereof, which date shall be expressed in said notice.

Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice. An affidavit of any officer, agent or employee of the insurer or of the insured, as the case may be, duly authorized for the purpose, that he has so sent such notice addressed as aforesaid shall be prima facie evidence of the sending thereof as aforesaid. This section shall apply to the legal representative, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of any such contractor. The superior court shall have jurisdiction in equity to enforce this section. Whoever violates any provision of this section shall be punished by a fine of not more than one hundred dollars or by imprisonment for six months, or both; and, in addition, any contractor who violates any provision of this section shall be prohibited from contracting, directly or indirectly, with the commonwealth or any political subdivision thereof, for the construction, alteration, demolition, maintenance or repair of, or addition to, any public works or public building for a period of two years from the date of conviction of said violation.

ARTICLE 3 – CONTRACTOR'S ACCOUNTING METHOD REQUIREMENTS

3.1 (Statutory reference: M.G.L. Chapter 30, Section 39R)

This Article 3 applies to "Contracts" and "Contractors", as defined in Subparagraph 3.1.1 and 3.1.2, below.

3.1.1 "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to Sections 38A 1/2 to 38O, inclusive, of Chapter 7, Section 39M of Chapter 30, Sections 44A-44J, inclusive, of Chapter 149, or Section 11C of Chapter 25A which is for an amount or estimated amount that exceeds the dollar amount set forth in M.G.L. Chapter 30, Section 39R.

3.1.2 "Contract" means any contract awarded or executed pursuant to Sections 38A 1/2 to 38O, inclusive, of Chapter 7, Section 39M of Chapter 30, Sections 44A-44J, inclusive, of Chapter 149, or Section 11C of Chapter 25A which is for an amount or estimated amount that exceeds the dollar amount set forth in M.G.L. Chapter 30, Section 39R.

3.1.3 “Records” means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

3.1.4 “Independent Certified Public Accountant” means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his residence or principal office who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant’s independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

3.1.5 “Audit”, when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepting accounting principles and auditing standards for the purpose of expressing a *certified* opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

3.1.6 “Accountant’s Report”, when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed, the reasons therefor shall be stated. An accountant’s report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the auditing financial statement is a true and complete statement of the financial condition of the Contractor.

3.1.7 “Management”, when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the Contractor.

3.1.8 Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

3.2 Subparagraph 3.1.2 hereof notwithstanding, every agreement or contract awarded or executed pursuant to to Sections 38A 1/2 to 38O, inclusive, of Chapter 7, Section 39M of Chapter 30, Sections 44A-44J, inclusive, of Chapter 149, or Section 11C of Chapter 25A, shall provide that:

3.2.1 The Contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor; and

3.2.2 Until the expiration of six years after final payment, the awarding authority, office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the Contractor or his Subcontractors that directly pertain to, and involve transactions relating to, the Contractor or his Subcontractors; and

3.2.3 If the agreement is a contract as defined herein, the Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description the date of the change and reasons therefor, and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes.

3.2.4 If the agreement is a contract as defined herein, the Contractor has filed a statement of management on internal accounting controls as set forth in Paragraph 3.3 below prior to the execution of the contract.

3.2.5 If the agreement is a contract as defined herein, the Contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in Paragraph 3.5 below.

3.3 Every Contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:

3.3.1 transactions are executed in accordance with management's general and specific authorization:

3.3.2 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;

3.3.3 Access to assets is permitted only in accordance with management's general or specific authorization; and

3.3.4 The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

3.4 Every Contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he/she has examined the statement of management on internal accounting controls, and expressing an opinion as to:

3.4.1 Whether the representations of management in response to this paragraph and Paragraph 3.2 above are consistent with the result of management's evaluation of the system of internal accounting controls; and

3.4.2 Whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

3.5 Every Contractor awarded a contract by the Commonwealth or by any political subdivision thereof shall annually file with the commissioner of capital asset management and maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report.

ARTICLE 4 – MISCELLANEOUS

4.1 Weather Protection: This Paragraph 4.1 applies to every contract subject to M.G.L. Chapter 149, Section 44A.

4.1.1 The Contractor shall install weather protection and provide adequate heat in the protected area from November 1 to March 31, as required by M.G.L. Chapter 149 Section 44F(1).

4.2 Form for Sub-contract: This Paragraph 4.2 applies to every contract subject to M.G.L. Chapter 149 Section 44A.

4.2.1 The Contractor when sub-contracting with sub-bidders filed pursuant to M.G.L. Chapter 149, Section 44F shall use the form for sub-contract in Chapter 149 Section 44F(4)(c).

4.3 Foreign Corporations: This Paragraph 4.3 applies to every contract with the Commonwealth, a county, city, town, district, board, commission, or other public body for the construction, reconstruction, alteration, remodeling, repair, or demolition of any public building or other public works.

4.3.1 The Contractor, if a foreign corporation, shall comply with M.G.L. Chapter 30, Section 39L.

4.4 Shoring: (Statutory reference: M.G.L. Chapter 149, Section 129A). This Paragraph 4.4 applies to every construction project carried on by any city, town, county, or other subdivision of the Commonwealth in which a trench is to be dug to a depth of five feet or more, except a trench for laying of water pipes dug to a depth of six and one-half feet which will be open less than 48 hours, and except for digging of graves.

4.4.1 Such trenches shall be shored and braced in conformity with rules and regulations for the prevention of accidents in construction operations, as adopted and enforced by the Attorney General.

4.5 Certification of Compliance with Tax Laws: (Statutory reference: M.G.L. Chapter 62C, Section 49A) This Paragraph 4.5 applies to contracts for goods or services furnished by any department, board, commission, division, authority, district or other agency of the Commonwealth or any subdivision of the Commonwealth, including a city, town or district.

4.5.1 By executing this contract, the Contractor certifies, under penalties of perjury, that to the best of his information, knowledge and belief he has complied with all laws of the Commonwealth relating to taxes.

4.6 Verification of Construction Debris Disposal: (Worcester Revised Ordinances Chapter 8, Section 7) This paragraph 4.6 shall apply to every contract entered into by the City of Worcester for the demolition, renovation, rehabilitation, or alteration of a building or structure.

- a. In furtherance of the requirements set forth in G.L. c.40, §54, and §114.1.3 of the State Building Code, the building commissioner shall require any person who obtains a permit for the demolition, renovation, rehabilitation, or alteration of a building or structure to provide verification that the debris resulting from such activities was disposed of at the licensed solid waste facility named in conjunction with the permit application.
- b. The verification required under sub-section (a), above, shall consist of the following:
 - 1) a dated receipt, signed by the owner/operator of the licensed solid waste disposal facility where the debris was deposited.
 - 2) the receipt shall contain a description of the debris disposed of, and its weight, or volume.
 - 3) the permit holder shall also provide the building commissioner with an affidavit that the receipt submitted is true and accurate to the best of the permit holder's knowledge.
 - 4) if the permit holder cannot dispose of the debris at the location indicated, it shall be the permit holder's obligation to obtain an amendment to the permit reflecting the new disposal location. The building commissioner shall be so notified, and the permit amended, prior to the disposal of the debris at the new disposal location.
- c. This section shall not apply to the construction of a new building or structure.

4.7 Responsible Employer Ordinance: (Worcester Revised Ordinances, Chapter 2, Section 35) *This paragraph 4.7 shall apply to every contract entered into by the City of Worcester for the construction, reconstruction, installation, demolition, maintenance or repair of any building, where the contract amount is more than one hundred thousand dollars.*

- a. The city council hereby finds and determines that taxpayer money is most efficiently and productively spent by awarding construction contracts to firms that include and enforce provisions requiring compliance with state laws governing the payment of prevailing wages, the provision of workers compensation coverage, and the proper classification of individuals as employees and not as independent contractors, as well as provisions concerning health insurance coverage and state-certified apprenticeship programs. The city council hereby further finds and determines that it is appropriate for it to exercise its entrepreneurial discretion by requiring firms that are awarded such contracts to comply with this ordinance because failure to comply is injurious to the life, health, and happiness of individuals employed by such firms and is deleterious to the quality of life in the city where most of such individuals reside.
- b. Every contract awarded by the city under G.L. c.149 and G.L. 149A shall be deemed to incorporate by reference the provisions of sub-parts (c)(1) through (8) of together with the provisions of subsections (d) and (e) of this section. Any person, company or corporation shall acknowledge, in writing, receipt of said requirements with their bid or proposal.
- c. All bidders or proposers and all subcontractors and trade contractors, including subcontractors that are not subject to G.L. c.149, Section 44F, under the bidder for projects subject to G.L. c.149, Section 44A(2), and proposers under G.L. c. 149A, shall as a condition for bidding or subcontracting verify under oath and in writing at the time of bidding or subcontracting verify under oath and in writing at the time of budding or submittal in response to and RFP or in any event prior to entering into a subcontract at any tier, that they comply with the following conditions for bidding or subcontracting and, for the duration of the project, shall comply with the following obligations:
 - 1) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must comply with the obligations established under G.L. c. 149 to pay the appropriate lawful prevailing wage rates to their employees.
 - 2) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must at a the time of bidding maintain or participate in a bona fide apprentice training program as defined by G.L. c.23, Sections 11H and 11I for each apprenticable trade or occupation represented in their workforce that is approved by the Division of Apprentice Standards of the Department of Labor and Workforce Development, regardless of whether or not the program qualifies as an employee welfare benefit plan under ERISA, and must register all apprentices with the Division and abide by the apprentice to journeyman ratio for each trade prescribed therein in the performance of any work on the project. This provision does not require the program to be an ERISA plan; the program need only have been approved by the Division of Apprentice Standards. All general bidders or

proposers and all trade contractors and sub-bidders at every tier must submit with its bid or proposal an original, stamped Sponsor Verification letter from the Commonwealth of Massachusetts, Department of Labor and Workforce Development – Division Apprentice Standards, issued within the past 90 days, evidencing that at the time of submitting a bid or proposal, the bidder or proposer is currently an Approved Sponsor of Apprentices. Any bid or proposal submitted without the above documentation shall be rejected; *(Compliance with the apprentice training provision is currently suspended 7/24/14)*

- 3) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must maintain appropriate industrial accident insurance coverage for all the employees on the project in accordance with G.L. c. 152;
- 4) The bidder or proposer and all trade contractors and subcontractors under the bidder must properly classify employees as employees rather than independent contractors and treat them accordingly for purposes of workers' compensation insurance coverage, unemployment taxes, social security taxes and income tax withholding. (G.L. c.149, Section 148B on employee classification);
- 5) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must at the time of bidding certify that, at the time employees begin work at the worksite, all employees will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration, and shall ensure that all employees working at the worksite possess such qualifications at all times throughout the duration of their work on the project and furnish documentation of successful completion of the course;
- 6) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must be in compliance with the health and hospitalization requirements of the Massachusetts Health Care Reform law established by Chapter 58 of the Acts of 2006, as amended, and regulations promulgated under that statute by the Commonwealth Health Insurance Connector Authority.
- 7) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer must make arrangements to ensure that each employee of every contractor entering or leaving the project individually completes the appropriate entries in a daily sign-in/out log. The sign-in/out log shall include: the location of the project; current date; printed employee name; signed employee name; and the time of each entry or exiting. The log shall contain a prominent

notice that employees are entitled under state law to receive the prevailing wage rate for their work on the project. Such sign-in/out logs shall be provided to the City on a daily basis.

- 8) The bidder or proposer and all trade contractors and subcontractors under the bidder or proposer, prior to bidding or, if not subject to bidding requirements, prior to performing any work on the project, shall sign under oath and provide to the City a certification that they are not debarred or otherwise prevented from bidding for or performing work on a public project in the Commonwealth of Massachusetts or in the City.
- d. A proposal or bid submitted by any general bidder or by any trade contractor or subcontractor under the general bidder or proposer that does not comply with any of the foregoing conditions for bidding shall be rejected, and no subcontract for work outside the scope of G.L. c.149, Section 44F shall be awarded to a subcontractor that does not comply with the foregoing conditions.
 - e. All bidders or proposers and all trade contractors and subcontractors under the bidder or proposer who are awarded or who otherwise obtain contracts on the projects subject to G.L. c.149, Section 44A(2) or c.149A, shall comply with each of the obligations set forth in this Section 4.7 for the entire duration of their work on the project, and an officer of each bidder or subcontractor under the bidder shall certify under oath and in writing on a weekly basis that they are in compliance with such obligations.
 - f. Any proposer, bidder, trade contractor or subcontractor under the bidder or proposer who fails to comply with any one of the obligations set forth in this Section 4.7 for any period of time shall be, at the sole discretion of the City, subject to one or more of the following sanctions:
 - 1) cessation of work on the project until compliance is obtained;
 - 2) withholding of payment due under any contract or subcontract until compliance is obtained;
 - 3) permanent removal from any further work on the project;
 - 4) liquidated damages payable to the City in the amount of 5% of the dollar value of the contract.
 - g. In addition to the sanctions outlined in subsection (h) above, a proposer, general bidder or contractor shall be equally liable for the violations of its subcontractor with the exception of violations arising from work performed pursuant to subcontracts that are subject to G.L. c.149, Section 44F. Any contractor or subcontractor that has been determined by the City or by any court or agency to have violated any of the obligations set forth in this Section 4.7 shall be barred from performing any work on any future projects for six months for a first violation, three years for a second violation and permanently for a third violation.

4.8 Regulation of Construction Noise: (Worcester Revised Ordinances, Chapter 8, Section 34) This paragraph 4.8 shall apply to anyone operating powered construction equipment delivering construction equipment and/or supplies at any construction site or project within the city of Worcester.

- a. It shall be unlawful for any person, firm, corporation, partnership, or other entity to operate powered construction equipment or to build, erect, construct, demolish, alter, repair, excavate or engage in hoisting, grading, site work, including tree and brush removal, dredging or pneumatic hammering, or to deliver construction equipment and/or supplies to the site on any building, road, tower, parking lot, machine, pipe, sewer, sidewalk, or any other construction project (hereafter collectively the "construction project"), except between the hours of 7:00 a.m. and 9:00 p.m. on weekdays and Saturday, except for "emergency work" which is performed in the interest of public safety or welfare and for which a permit has been issued by the commissioner of public works and parks or the commissioner of inspectional services.

It shall be unlawful for any person, firm, corporation, partnership, or other entity to engage in a construction project activity on Sundays or legal holidays without a permit from the police chief issued pursuant to G.L. c. 136, Section 7 or 15 and a permit issued by the commissioner of inspectional services hereunder.

- b. Emergency work permits may be issued in:
 - 1) cases of urgent necessity and for the interests of health, safety and convenience of the public. The commissioner of inspectional services shall whether the reasons given for the urgent necessity are valid and reasonable, and whether the health, safety and convenience of the public will be protected or better served by granting the permit requested and whether the manner and amount of loss or inconvenience to the party in interest imposes a significant hardship; or,
 - 2) cases where, because the location and nature of the work, the noise caused by said work will not be heard by anyone not working on the project. The commissioner of inspectional services shall consider whether supplying machinery and/or materials to the construction project site will cause unreasonable noise along the routes to the construction project site, and whether such activity will impact residential neighborhoods, and shall not grant any emergency work permit unless unreasonable noise in residential areas will be prevented.
- c. Emergency work permits may be issued to the general contractor on a blanket basis that applies to all of the contractors working on the job, or may be issued to specific contractors on the construction project, at the discretion of the Commissioner.

Emergency work permits may be issued for not more than one week at a time, and may be renewed for additional one week periods at the discretion of the Commissioner.

- d. Prior to issuing or reissuing said emergency work permit, the commissioner of inspectional services shall review the work being conducted and all attendant circumstances, and shall prescribe whatever limitations possible to minimize the generation of noise, and to minimize the impact of noise on the neighbors to the construction project.
- e. Emergency repair work performed by the Department of Public Works and/or any public utility is exempt from this section.
- f. The fee for each such Emergency work permits issued under this section shall be set in accordance with Chapter 2, § 24 of the City of Worcester Revised Ordinances of 2008.
- g. On any project for the construction, reconstruction, installation, demolition, maintenance or repair of any building, or public work, to be funded in whole or in part by city funds, or funds which, in accordance with a federal or state grant, program, or otherwise, the city expends or administers, or any such project to which the city is a signatory to the contract therefor, the provisions of this section shall apply and the same shall be referred in every invitation to bid for such project and, the following paragraphs shall be contained in every resulting contract therefrom:

“It shall be a material breach of this contract if the contractor and each subcontractor shall not at all times adhere to the provisions of § 34 of chapter eight of the Revised Ordinances of the city, by limiting their on-site, noise producing construction and related work to the hours specified by the Ordinance.

A waiver from the above requirements may, in certain circumstances, be granted in accordance with subsections (b), (c) and (d) of § 34 of chapter eight of the Revised Ordinances of the city.”

- h. The commissioner of inspectional services shall have the authority to adopt any rules and regulations he or she deems necessary to implement this section.
- i. Nothing in this section shall be deemed to prevent an individual from performing work on his or her own property, so long as the work is being done by the owner of the property or by direct relative(s) of the owner, and said work is not being done for profit.
- j. This section may be enforced by the commissioner of inspectional services, the building commissioner, the chief of police or their subordinates.

Any violation of this section by any person, firm, corporation, partnership, or other entity, shall be individually punished with a fine of \$100.00. Each day upon which a violation of this section occurs shall be considered a separate violation. Employers shall be deemed the violator for violations committed by their employees.

4.9 Regulation of Excessive and Unreasonable Noise: (Worcester Revised Ordinances, Chapter 9, Section 1A(e)(9) This paragraph 4.9 shall apply to anyone operating powered construction equipment delivering construction equipment and/or supplies at any construction site or project within the city of Worcester.

- a. No person shall operate any powered construction equipment or build, erect, construct, demolish, alter, repair, excavate or engage in hoisting, grading, site work, including tree and brush removal, dredging or pneumatic hammering, or deliver construction equipment and/or supplies to the site on any building, road, tower, parking lot, machine, pipe, sewer, sidewalk, or any other construction project, except between the hours of 7:00 a.m. and 9:00 p.m. on weekdays and Saturday, and between the hours of 9:00 a.m. and 7:00 p.m. on Sundays, except for work performed by a public service or municipal utility department or "emergency work" performed with the express written permission of the commissioner of inspectional services or the commissioner of public works and parks. Emergency work shall be limited to such work that is clearly essential to respond to a sudden and unexpected threat to public health or public safety. Emergency work permission may be granted to a general or sub-contractor on a blanket basis governing all persons working on a specified portion of a particular job. Emergency work permission may be granted for not more than one week at a time, and may be renewed for additional one week periods at the discretion of the commissioner who granted the initial permission.

ARTICLE 104: GENERAL BID FORM

for

Shore Drive Park & Sidewalk Improvements (P24-1) / DPW & P **BID #: 8245-M5**

BIDDER

Print Name of the Firm or Proprietorship Submitting this Bid

This bid must be accompanied by a deposit in the form of cash, or bid bond, or a certified check, treasurer's check, or cashier's check, payable to the City of Worcester (hereinafter referred to as the "Owner", or the "Awarding Authority") in the amount of five percent (5%) of the total value of the bid. No other form of bid security will be accepted.

By submitting this bid the Bidder represents that it has carefully examined the site of work described herein; has become thoroughly familiar with local conditions and the character and extent of the work; has carefully examined the Drawings, Project Manual and Contract Documents including all Addenda which are a part of this proposal, the General Bid Form, and thoroughly understands their stipulations, requirements, and provisions, and that the Bidder will contract, in the form of contract required, to provide all necessary and proper machinery, equipment, facilities, and means to do all the work and furnish all the materials necessary and proper to carry out such contract in the manner and on the conditions set forth therein in accordance with the Contract Documents, and to perform or observe all other contract requirements thereby. By submitting this bid, the Bidder further represents that it agrees to be subject to the jurisdiction of the courts of the Commonwealth of Massachusetts with respect to any actions arising out of or related to this bid or any contract that may be entered into based upon this bid, and that any such actions commenced by the Bidder shall be commenced in the courts of the Commonwealth of Massachusetts.

A bidder wishing to amend this bid after transmittal to the Owner may do so only by withdrawing this bid and resubmitting another bid prior to the time for opening bids.

TO THE AWARDING AUTHORITY:

- A. The undersigned Bidder proposes to furnish all labor, materials, and equipment necessary and required for the project described herein in Worcester, MA, in accordance with the accompanying plans and specifications for the contract price specified below, subject to additions or deductions according to the terms of the Contract Documents.

B. This Bid includes Addenda numbered: _____

C. The proposed total base Bid price is:

\$ _____

(TOTAL BASE BID WRITTEN IN WORDS)

D. BID ALTERNATES: N/A

The owner may select at its option, any Alternate or combination of Alternates, or none of the Alternates. The Bidder is required to provide a bid for each Alternate listed below. If selected by the Owner, the Alternate(s) will be added to the total Base Bid price to determine the low bidder.

E. UNIT PRICES: *Refer to Unit Price Proposal Pages*

In addition to stating the Total Base Bid Price, the Bidder shall state prices for the various items of work as may be listed herein. The Unit Prices listed below, if accepted by the Owner in the award of the contract, may be used for computing adjustments during the course of construction, based upon extra work ordered by the Owner, or for work countermanded, reduced, or omitted by the Owner.

F. TIME FOR COMPLETION

Locations listed in this contract shall be substantially completed no later than June 1, 2025. Completion of the Work for this Contract shall be no later than 30 days after the date of substantial completion for any location.

- G.** The Bidder agrees that if it is selected as the lowest responsible and eligible bidder, the Bidder will within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials (a.k.a., payment) bond, each of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the Bidder and are included in the bid price(s) contained herein.

The Bidder hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee: and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

The undersigned further certifies under 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 herein the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section 29F of Chapter 29 or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

(Print Name of Bidder)

Signature: _____

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

(Business Address)

(City, State and Zip Code)

Fax: (_____) _____

Phone: (_____) _____

Social Security Number or
Federal Identification Number: _____

E-Mail Address: _____

NOTE: If Bidder is a corporation, indicate state of incorporation; if a partnership, give full names and addresses of all partners; and if a sole proprietorship, give residential address if different from business address. Use the following spaces:

If a Corporation:

Incorporated in what state: _____

President: _____

Treasurer: _____

Secretary: _____

If a foreign corporation (incorporated or organized under laws other than laws of the Commonwealth of Massachusetts), is the corporation registered with the Massachusetts Secretary of State's office? Yes _____ No _____

If the Bidder is a foreign corporation, it is required under M.G.L. c. 30, section 39L to furnish to the awarding authority a certificate of the Secretary of State stating that the corporation has complied with M.G.L. c. 156D, Part 15, subdivision A, s. 15.03, and Part 16, subdivision B, s. 16.22.

If a Partnership: (Name all Partners)

Name of Partner: _____

Residence: _____

Name of Partner: _____

Residence: _____

Name of Partner: _____

Residence: _____

If an Individual:

Name: _____

Residence: _____

If an Individual doing business under a firm name:

Name of Firm: _____

Name of Individual: _____

Business Address: _____

Residential Address _____
(if different from above)

Other form of business organization:

SURETY INFORMATION:

The bidder will give below the name and address and State of Incorporation of the surety company who will sign the bonds. Performance and Payment Bonds in the amount of 100% of the dollar value of the contract will be required at time of contract execution.

It is contractor's responsibility to submit the required bond documentation in a form satisfactory to the City.

STATEMENT OF BIDDER'S QUALIFICATIONS

The bidder is requested to state below what work of a similar character to that included in the proposed contract he/she has done and to give references that will enable the Owner to judge his/her experience, skill, business standing and overall responsibility. Supplemental forms may be used by the bidder.

END OF GENERAL BID FORM

ARTICLE 105: OWNER-CONTRACTOR AGREEMENT

THIS AGREEMENT made on _____ at Worcester, in the County of Worcester and Commonwealth of Massachusetts, by and between _____ (hereinafter called the Contractor), and the City of Worcester, a municipal corporation within said County of Worcester, (hereinafter called the City).

WITNESSETH:

That the Contractor, in consideration of the payments hereinafter mentioned, and of the fulfillment of the agreements herein mutually entered into, agrees with the City as follows:

SCOPE OF WORK:

(1) The Contractor shall, pursuant to the terms of this AGREEMENT, provide all the supplies, materials, and equipment, and perform all the labor, services and supervision necessary and proper for _____ (hereinafter called the "Project") in the City of Worcester, Massachusetts, and to accomplish any and all work incidental thereto.

BONDS:

(2) The Contractor shall obtain and deposit with the City the following bond(s) in the amount of:

PERFORMANCE BOND: _____ (\$ _____)

PAYMENT BOND: _____ (\$ _____)

with sureties satisfactory to the Contracting Officer to (a) guarantee the faithful performance by the Contractor of all its obligations under this AGREEMENT and (b) constitute the security required by Massachusetts General Laws Chapter 149, Section 29, and Chapter 30, Section 39A, as amended, for the payment by the Contractor and its subcontractors for all labor performed or furnished and for all materials used or employed in connection with this AGREEMENT.

CONTRACTING OFFICER:

(3) Wherever used in this AGREEMENT, the term "Contracting Officer" shall mean the City Official(s) so designated below, or the individual duly appointed by him/her for the performance of any of his/her functions or responsibilities under this AGREEMENT. The work performed hereunder shall be carried out under the direction and subject to the approval and acceptance of the Purchasing Director (hereinafter called the Contracting Officer).

INCORPORATED DOCUMENTS:

(4) The performance of this AGREEMENT is subject to the provisions of the following documents, all of which are attached hereto and intended to be an integral part of this AGREEMENT (hereinafter collectively referred to as "the Contract Documents").

- a. Information to Bidders
- b. Bid Proposal
- c. Specifications, Drawings and Addenda

The Contract Documents are to be read collectively and complementary to one another; any requirement under one shall be as binding as if required by all. In the event of any conflict or inconsistency between the provisions of this AGREEMENT and any of the other Contract Documents, the provisions of this AGREEMENT shall prevail. In the event of any conflict or inconsistency between this AGREEMENT, the Contract Documents and any applicable state law, the applicable statutory provisions shall prevail.

TIME FOR PERFORMANCE:

(5) Time is of the essence for this AGREEMENT. The work of this AGREEMENT must be substantially completed _____.

PRICE:

(6) The City will pay the Contractor for all materials delivered or furnished and for all the work performed pursuant to Article (1) hereof a sum of money as follows:

_____ (\$ _____).

PAYMENT:

(7) Payment shall be made by the City in accordance with General Laws Chapter 30, Section 39G (1988 ed.), as amended, which is included in the Supplementary General Conditions to the Contract.

(a) In addition to the retainage provided for in the above statutory provisions, the City may also, with the written consent of the Contractor, use any of the sums payable under this contract to pay for labor, materials, and for the rental of equipment that has been furnished to the Contractor or any of its subcontractors in connection with work under this contract, regardless of whether claims for such obligations have been filed with the City under General Laws Chapter 149, Section 29 or Chapter 30, Section 39A.

(b) The payment shall be in full for furnishing all materials, supplies, labor services, supervision, tools and equipment and the use thereof as embraced under the AGREEMENT and shall also constitute the payment for all loss or damage to the Contractor arising out of the nature of the work or from the action of the elements or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the work until its final approval by the Contracting Officer, and for all risks to the Contractor of every description

connected with the prosecution of the work or infringement of patents, trademarks, or copyrights and for completing the work in an acceptable manner.

(c) The payment of any periodic estimate or of any retained percentage shall in no way constitute an acceptance of the work or in no way prejudice or affect the obligation of the Contractor at his own cost or expense to repair, correct, renew, or replace any defects or imperfections in the construction as well as all damages due or attributable to such defects, nor shall any such payment for any current estimate or of any retained percentages prejudice or affect the rights of the City to hold the Contractor liable for breach of contract or to avail itself of the remedies under Article 15, hereof.

(d) If at any time there shall be evidence of any lien or other claim for which, if established, the City may become liable, directly or indirectly, and which is chargeable to the Contractor, the City may retain out of any payment then due or thereafter to become due an amount sufficient to completely indemnify it against any such claim. If there prove to be any such claim after all the payments are made, the Contractor shall refund to the City all moneys that the City pays in discharging such claim in consequence of the Contractor's default.

(e) The Contractor, and each subcontractor, at every tier, represents, warrants and certifies that it has complied with all laws of the Commonwealth of Massachusetts relating to taxes and all Ordinances and Orders of the City of Worcester relating to taxes, fees and charges, or is lawfully contesting the validity of the same. The Contractor, and each subcontractor, at every tier, further represents, warrants and certifies that it will remain in such compliance during the term of this Agreement, including any amendments or extensions hereto. Breach of any of these provisions shall be deemed a material breach which shall entitle the City to immediately terminate this Agreement and take any other action authorized by law to collect any amounts due the City.

PAYMENT OF SUBCONTRACTORS

(8) Payment to subcontractors shall be made in accordance with General Laws Chapter 30, Section 39F (1988 ed.), as amended, which is included in the Supplementary General Conditions.

NOTICE:

(9) Wherever in this AGREEMENT the City is to give or receive a notice, the Contracting Officer as defined in Article (3) shall be the City's agent for such purpose.

PERFORMANCE:

(10) (a) The Contractor shall give his personal attention constantly to the faithful prosecution of the work and shall keep the same under his personal control. He shall not assign by power of attorney or otherwise the work or any part thereof without the previous written consent of the Contracting Officer. He shall not either legally or equitably assign any of the moneys payable under this contract or any claim thereto unless by and with like consent on the part of the Contracting Officer and the City Treasurer. He shall be responsible for all the acts and omissions

of his employees and of all persons directly or indirectly employed by him in connection with the prosecution of this work.

(b) The Contractor shall provide sufficient and proper facilities at all times for the inspection of the work by the City. He shall, after receiving written notice that certain work or construction is improper, unsafe or defective or that such construction in any way fails to conform to the contract documents, forthwith remove such unsafe or defective construction and reconstruct the same in a manner satisfactory to the Contracting Officer. Upon failure of the Contractor to remedy the construction after being so notified, the Contracting Officer may cause such defective work to be remedied or replaced and the City may deduct the cost thereof from any moneys due or to become due the Contractor.

(c) The City, acting through the Contracting Officer, shall have the authority to suspend the work wholly, or in part thereof, for such period as he shall deem necessary, due to failure of the Contractor to carry out orders given or to perform any provision of the contract. Upon receipt of written order from the Contracting Officer, the Contractor shall immediately suspend the work or such part thereof in accordance with the order. No work shall be suspended without the written permission of the Contracting Officer. The work shall be resumed when conditions so warrant, or deficiencies have been corrected and the condition of the contract satisfied as ordered or approved in writing by the Contracting Officer. No allowance of any kind will be made for suspension of work by order of the Contracting Officer pursuant to this paragraph.

(d) If, during the process 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 price of the AGREEMENT applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from the 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 of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of work, the City shall make an equitable adjustment in the contract price and the AGREEMENT shall be modified in writing accordingly. (G. L. c. 30, s.39N, as amended, which is included in the Supplementary General Conditions).

(e) The Contractor agrees that it will have no claim for damages of any kind on account of any delay in commencement of the Work, or any delay or suspension of any portion thereof, except as hereinafter provided. Post commencement, the Contractor shall have no claim for damages of any kind on account of any delay or suspension of any portion of the work except as hereinafter provided. Adjustments, if any, in the contract price due to a suspension, delay, interruption or failure to act by the City shall be governed by the provisions of General Laws Chapter 30, section 39(O), as amended, which is included in the Supplementary Conditions. Provided, however, the provisions of this paragraph shall not apply to any suspension pursuant

to paragraph 10(c), or for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this AGREEMENT provides for an equitable adjustment of the contract price, or time under any other AGREEMENT provision. Provided further, that no adjustment shall be made if the performance of the Contractor would have been prevented by other causes, even if the work had not been so suspended, delayed or interrupted by the City. Provided further, that a subcontractor shall have the same rights against the Contractor for payment for an increase in the cost of his performance as the provisions of this paragraph gives the Contractor against the City, but nothing herein shall in any way change, modify or alter any other rights which the Contractor and subcontractor may have against each other.

(f) The Contractor must submit the amount of a claim under provision (e) to the City in writing as soon as practicable after the end of the suspension, delay or interruption or failure to act and, in any event, not later than the date of final payment under this AGREEMENT and, except for costs due to a suspension order, the City shall not approve any costs in the claim incurred more than twenty days before the Contractor notified the City in writing of the act or failure to act involved in the claim.

(g) The City may award other contracts for additional work. The Contractor shall cooperate fully with other contractors and carefully fit his own work to that of other contracts as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor.

(h) The Contractor shall comply with all the laws, state and federal, applicable to the work and construction herein provided for. This AGREEMENT is made subject to all laws, state and federal; and if any clause hereof does not conform to such law, then such clause shall be void and the operative state or federal law shall be inserted in lieu thereof. Any violation by the Contractor of state or federal laws relating to the employment of labor upon the work or the construction contemplated by this AGREEMENT shall be a sufficient cause for the City to cancel the AGREEMENT without in any way being liable in damages therefor. Should the City cancel the AGREEMENT because of the failure on the part of the Contractor to observe the state or federal laws, or the rules and regulations relating to employment and labor upon the work herein contemplated, then upon cancellation the City reserves all rights and benefits herein or by law provided against the Contractor for the breach of the conditions of this AGREEMENT.

(i) When the use of explosives is necessary for the prosecution of the work, the Contractor shall take the utmost care not to endanger life and property. Whenever directed, the number and size of the charges shall be reduced. All explosives shall be stored in a secure manner. All such storage places shall be marked clearly "DANGEROUS - EXPLOSIVES", and shall be in the care of competent watchmen at all times. The method of storage and handling explosives and highly inflammable materials shall conform to all the State laws and regulations, as well as any local requirements.

(j) Upon the completion of the work, the Contractor shall at his own expense remove all equipment, temporary Contractor's buildings and sheds, fencing, rubbish and waste material in and about the area that has been worked and he shall leave the premises and the work performed all in a neat and proper condition.

(k) Before commencing the work, the Contractor shall, if required, submit a schedule of operations for approval by the Contracting Officer. The schedule shall show the methods and order of operations that the Contractor proposes to use. The approval of the schedule by the Contracting Officer shall not be construed as relieving the Contractor from any responsibility.

(l) Should the Contractor be obstructed or delayed in the prosecution of the work by any act or neglect on the part of the City, or as a result of damage which may be caused by lightning, earthquake, rain, storm, or cyclone, then the time fixed for completion may be extended for a period equivalent to the time lost by reason of any of the foregoing causes. No such extension shall be made unless a claim therefor is presented in writing to the Contracting Officer within forty-eight hours of the occurrence of such delay. The Contractor shall have no claim against the City for damages on account of such delay. The duration of the extension itself must be certified to by the Contracting Officer.

ADDITIONAL WORK:

(11) (a) The Contractor agrees to perform any work related to the subject matter of the AGREEMENT, but not within the scope of the AGREEMENT and its specifications, upon the written order of the Contracting Officer, the payment for such extra work to be made in accordance with one of the methods set forth in Article 12 of the General Conditions of the Contract for Construction.

(b) The Contracting Officer may make alterations in the line, grade, plan, form, dimensions, or materials of the subject matter of the contract, or any part thereof either before or after commencement of construction. Where such alterations increase the quantity or standard of the work to be done, payment for such increase shall be made in the same way that payment is made for such extra work under (a), above. Where such alterations diminish the quantity or standard of the work to be done, an adjustment shall be made to the benefit of the City based upon the unit prices where used, or where unit prices are not used, as the Contracting Officer shall determine.

EMPLOYMENT:

(12) (a) The Contractor shall employ competent workers, and if notified by the Contracting Officer in writing that any person engaged upon the work is incompetent, unfaithful, disorderly or otherwise unsatisfactory, then such worker shall be discharged from the work.

(b) In the employment of persons, including mechanics, teamsters, chauffeurs and laborers, under this contract, preference shall be given

First: To citizens of the Commonwealth who are residents of the City of Worcester and who have served in the Army or Navy of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work to which the employment relates.

Second: To citizens of the Commonwealth who are residents of Worcester and are qualified to perform the work to which the employment relates.

Third: To citizens of the Commonwealth who have served in the Army or Navy of the United States in time of war and have been honorably discharged therefrom or released from active duty therein and who are qualified to perform the work to which the employment relates.

Fourth: To citizens of the Commonwealth generally.

Fifth: To citizens of the United States.

The foregoing provisions shall not apply to those persons employed in a supervisory capacity. In so far as practicable preference is to be given Worcester Truckers in hauling materials.

(c) No laborer, worker, mechanic, foreman, or inspector working within the Commonwealth of Massachusetts in the employ of the Contractor, sub-contractors, or other persons doing or contracting to do the whole or part of the work contemplated by this AGREEMENT, shall be required or permitted to work more than eight hours in any one calendar day; or more than 48 hours in one week, or more than 6 days in any one week in full compliance with provisions of G. L. c. 149, sec. 34, except in cases of emergency.

(d) Every employee in the work covered by this AGREEMENT shall lodge, board and trade where and with whom he elects and neither the Contractor nor his agents or employees shall directly or indirectly require as a condition of employment therein that an employee shall lodge, board or trade at a particular place or with a particular person.

(e) The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the Department of Public Health, local health officials or of other appropriate authorities. The maintenance of all sanitary facilities shall be subject to the laws of the Commonwealth and to the rules and regulations of the State Board of Health and of the Commissioner of Public Health for the City of Worcester.

(f) The Contractor shall, before commencing the work, provide by insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws (Ter. Ed.) to all persons employed under the AGREEMENT, and he shall continue such insurance in force and effect during the term thereof. The City may require the Contractor to deliver certificates of insurance as sufficient proof of compliance with the foregoing. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the AGREEMENT and shall entitle the City to terminate the AGREEMENT without in any way being liable in damages therefor.

(g) The Contractor shall keep a true and accurate register of all mechanics, teamsters, chauffeurs and laborers employed upon the work contemplated by this AGREEMENT, showing the name, address and occupational classification of each such employee, the hours worked by and the wages paid to each such employee, and shall furnish the Massachusetts Attorney General's office, or such other appropriate state official upon request a true statement thereof.

(h) Minimum wage rates under the provisions of General Laws c. 149, section 27, as amended, have been determined by the state Department of Labor and Workforce Development, and the Contractor shall in the payment of wages be bound by them during the life of the AGREEMENT. The applicable schedule of minimum wage rates, as so determined, is incorporated elsewhere within the Contract Documents.

TERMINATION:

(13) (a) If the Contractor shall be adjudged a bankrupt, or if he shall make a general assignment for the benefit of his creditors, or if a receiver of his property shall be appointed, or if the work to be done under the AGREEMENT shall be abandoned, or if the AGREEMENT or any part thereof shall be sublet without the previous written consent of the Contracting Officer, or if the AGREEMENT or any claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or if at any time the Contracting Officer shall be of the opinion that the work, or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of the AGREEMENT, the Contracting Officer, for and in behalf of the City, may notify the Contractor to discontinue all work, or any part thereof; and thereupon the Contractor shall discontinue such work or such part thereof as the Contracting Officer may designate, remove his equipment, tools, supplies and materials as the Contracting Officer directs, and the City may thereupon, by contract or otherwise, as it may determine, complete the work, or such part thereof, and charge the entire expense of so completing the work or any part thereof to the Contractor.

(b) If the Contracting Officer shall certify by written notice to the Contractor that the rate of progress is not satisfactory, the City may, instead of notifying the Contractor to discontinue all of the work or any part thereof, notify him from time to time to increase the force, equipment and plant, or any of them, employed on the whole or any part of the work, stating the amount of increase required. Unless the Contractor shall, within five days after such notice, increase his force, equipment and plant to the extent required therein, and maintain and employ the same from day to day until the completion of the work or such part thereof, or until the conditions of the work or such part thereof, or until the conditions as to the rate of progress shall, in the opinion of the Contracting Officer, be fulfilled, the City may employ and direct the labors of such additional force, equipment and plant as may, in the opinion of the Contracting Officer, be necessary to insure the completion of the work or such part thereof within the time specified or at the earliest possible date thereafter, and charge the expense thereof to the Contractor. Neither the notice from the Contracting Officer to the Contractor to increase his force, equipment or plant nor the employment of additional force, equipment or plant by the City shall be held to prevent a subsequent notice to the Contractor from the City to discontinue the work under the provisions of the preceding portion of this Article.

(c) All expenses charged under this Article shall be deducted by the City out of moneys then due or to become due the Contractor under this AGREEMENT, or any part thereof. In such accounting, the City shall not be obligated to obtain the lowest figures for the work of completing the AGREEMENT or any part thereof, or for insuring its proper completion, and all sums actually paid by the City shall be charged to the Contractor. If the expense so charged is greater than the sum which would have been payable under the AGREEMENT, if the same had been

completed by the Contractor, then the Contractor shall pay the amount of the excess to the City upon completion of the work and without further demand being made therefor.

(d) The Contractor shall not be relieved of liability to the City by virtue of any termination of this AGREEMENT and any claim for damages against the Contractor relating to the Contractor's performance under this AGREEMENT shall survive any termination hereunder.

GUARANTEES:

(14) (a) The Contractor guarantees the work under this AGREEMENT and the materials furnished by him for use in connection therewith to be free from defects or flaws for one year after the completion of the AGREEMENT. It is expressly understood, however, that this guarantee provision shall not absolve the Contractor from any liability to the City arising out of a failure to substantially comply with the terms of the AGREEMENT.

(b) If at any time within said guaranty period, any part of the work constructed under the terms of this AGREEMENT shall in the opinion of the Contracting Officer require repairing due to defective work or materials furnished by the Contractor he may notify the Contractor in writing to make the required repairs. If the Contractor shall neglect to start such repairs within ten days of the date of giving him notice thereof and to complete the same to the satisfaction of the Contracting Officer with reasonable dispatch, then the latter may employ other persons to make such repairs. The City shall charge the expense thereof to the Contractor and may use any moneys still retained to pay for the same, and if such sum is insufficient, the Contractor shall be obligated to pay the balance thereof.

INDEMNIFICATION:

(15) (a) The Contractor shall indemnify and save harmless the City of Worcester and all of its officers, agents and employees against all suits, claims or liability of every name, nature, and description arising out of or in consequence of the acts or omissions of this AGREEMENT in the performance of the work covered by the contract and/or his failure to comply with the terms and conditions hereof; and will at his own cost and expense defend any and all such suits and actions.

(b) The Contractor shall bear all losses resulting from the use or storage of explosives and highly inflammable materials and shall save the City harmless from all claims for bodily injuries or death to any person and from all claims for property damage or destruction arising out of the use or storage of explosives and highly inflammable materials.

(c) The Contractor further covenants to hold and save the City, its officers, servants and employees harmless from and against all and every demand or demands, of any nature or kind for or on account of the use of any patented invention, article or appliance included in the materials and equipment agreed to be furnished, supplied or used under this AGREEMENT.

INSURANCE:

(16) (a) The Contractor shall carry public liability insurance so as to save the City harmless from any and all claims for damages arising out of bodily injury to, or death of, any person or persons and for all claims for damages arising out of injury to or destruction of property caused by accidents resulting from the use of implements, equipment or labor used in the performance of the AGREEMENT or from any neglect, default, omission or want of proper care or misconduct on the part of the Contractor or of any one in his employ during the execution of the work. Such insurance shall include coverage for blasting and explosion if explosives are to be used.

(b) The Contractor shall carry any other types of insurance as may be required elsewhere in the Contract Documents. All insurance policies required in the Contract Document shall be provided by companies satisfactory to the City.

(c) Prior to starting work under this AGREEMENT the Contractor shall deposit with the City's Purchasing Division certificates from the insurers to the effect that the insurance policies required in the above paragraphs have been issued to the Contractor. The certificates must be on a form satisfactory to the City.

(d) Unless greater amounts of insurance coverage are required elsewhere in the Contract Documents, the amounts of such public liability insurance shall not be less than the minimum amounts set forth below:

(i) Commercial General Liability \$1,000,000.00 per occurrence / \$ 2,000,000.00 aggregate.

(ii) Automotive Liability, for bodily injury & property damage combined single limit of, \$ 1,000,000.00 (all owned, hired and non-owned autos).

(iii) Excess / Umbrella Liability – Per Occurrence / Aggregate \$ 1,000,000 / \$ 1,000,000

(e) Unless greater amounts of insurance coverage are required elsewhere in the Contract Documents, the Contractor shall also carry bodily injury and property damage insurance in amounts not less than those set forth above covering the operation of all motor vehicles owned by the Contractor and engaged in this work.

(f) No cancellation of any insurance whether by the insurer or by insured shall be effective unless written notice thereof is given to the City at least fifteen days prior to the intended effective date thereof, which date has been expressed in the notice. Prior to the effective date of any such cancellation the Contractor shall take out new insurance to cover the policies so canceled. The Insurance Companies shall remain liable, however, until new and satisfactory insurance policies have been delivered to and accepted by the City.

CONFLICT OF INTEREST

(17) (a) The Contractor warrants that he has complied with all provisions of law regarding the award of this AGREEMENT and that he, or his employees, agents, officers, directors or trustees

have not offered or attempted to offer anything of value to any employee of the City in connection with this AGREEMENT.

(b) The Contractor further warrants that no elected official or employee of the City of Worcester, including unpaid members of the City boards and commissions, serves as an officer, director, trustee or employee of Contractor, and that no elected officials or employees of the City of Worcester have or will have a direct or indirect financial interest in this AGREEMENT.

(c) Violation of this Article shall be material breach of this AGREEMENT and shall be grounds for immediate termination of this AGREEMENT by the City without regard to any enforcement activities undertaken or completed by any enforcement agency.

(d) Termination of this AGREEMENT pursuant to this Article shall not waive any claims for damages that the City may have against the Contractor resulting from Contractor's violation of the terms of this Article.

SEVERABILITY:

(18) If any provision of this AGREEMENT is held invalid by any court or body of competent jurisdiction, the remainder of this AGREEMENT shall remain in full force and effect.

HEADINGS:

(19) The section headings in this AGREEMENT are for convenience and reference only and in no way define or limit the scope or content of this AGREEMENT or in any way affect its provisions.

AMENDMENTS:

(20) This AGREEMENT may be amended or modified only by written instrument duly executed by the parties.

ENTIRE AGREEMENT:

(21) This AGREEMENT contains the entire understanding of the parties and supersedes all prior agreements, representations, proposals and undertakings of the parties.

IN WITNESS WHEREOF, the Contractor has hereunto set his hand and seal, and the City has caused its corporate seal to be hereto affixed and this AGREEMENT to be executed in its name and behalf the day and year first above written.

CITY OF WORCESTER

(CONTRACTOR)

By: _____
Christopher J. Gagliastro
Purchasing Director

By: _____
(Seal)

APPROVED AS TO LEGAL FORM:

By: _____

CERTIFICATION OF FUNDING:

I certify that an appropriation of funds in the amount of this Agreement is contained in account number _____.

By: _____
Robert V. Stearns
City Auditor

APPROVED:

By: _____
Eric D. Batista
City Manager

ARTICLE 106: PAYMENT BOND

KNOW ALL BY THESE PRESENTS, that _____ a corporation duly established by law and having a usual place of business at as PRINCIPAL, and, _____ a corporation organized under the laws of the **(State/Commonwealth)** of _____ and duly authorized and admitted, under the provisions of Chapter 175 of the Massachusetts General Laws as amended, to transact the business of a fidelity and surety company in Massachusetts, as SURETY, are held and firmly bound unto the City of Worcester, a municipal corporation within the Commonwealth of Massachusetts, in the sum of _____ lawful money of the United States of America, to be paid to the City of Worcester, its successors and assigns, to the payment of which, well and truly to be made, the PRINCIPAL and the SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said PRINCIPAL has entered into an Agreement of even date herewith with the City of Worcester, said Agreement being for the _____ in the city of Worcester, Massachusetts;

NOW THEREFORE, the condition of this obligation is such that if the PRINCIPAL shall pay for all labor performed or furnished and for all materials used or employed or any appliance and equipment used or employed or rented or hired out in the execution of said Agreement and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said Agreement that may hereafter be made, notice to the SURETY of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, the provisions of Massachusetts General Laws, Chapter 149, Section 29 and Chapter 30, Section 39A as amended, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

IN TESTIMONY WHEREOF, the PRINCIPAL has hereunto caused its name and seal to be affixed, and the SURETY has caused its corporate seal to be hereunto affixed by a duly authorized officer thereof and this instrument to be executed and delivered in its name and behalf by its attorney-in-fact, duly authorized by its by-laws and votes, powers of attorney, and letters of appointment and authorization, certificated copies of which documents are annexed to this bond and may be introduced in evidence as if a part hereof.

(Principal)

(Seal)

By: _____

(Surety)

(Seal)

BY: _____
Attorney-in-Fact

ARTICLE 107: PERFORMANCE BOND

KNOW ALL BY THESE PRESENTS, that _____ a corporation duly established by law and having a usual place of business at as PRINCIPAL, and _____, a corporation duly established under the laws of the (**Commonwealth/State**) of _____ and duly authorized and admitted, under the provisions of Chapter 175 of the Massachusetts General Laws as amended, to transact the business of a fidelity and surety company in Massachusetts, as SURETY, are held and firmly bound unto the City of Worcester, a municipal corporation within the Commonwealth of Massachusetts, in the sum of _____ lawful money of the United States of America, to be paid to said City of Worcester, its successors and assigns, to the payment of which, well and truly to be made, the PRINCIPAL and said SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas the said PRINCIPAL has entered into an Agreement of even date hereof with the City of Worcester, said Agreement being for the _____ in the city of Worcester, Massachusetts;

NOW THEREFORE, the condition of this obligation is such that if the said PRINCIPAL shall well and faithfully perform all the terms and conditions of said Agreement on its part to be kept and performed as therein stipulated, including guarantee and maintenance provisions therein, and shall pay for all materials furnished and for all labor performed in the execution of said Agreement, and shall indemnify and save harmless the said City of Worcester as therein stipulated, then this obligation shall be of no effect; otherwise it shall remain in full force and virtue.

And the said SURETY, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said Agreement, or to the work to be performed thereunder, or to the specifications accompanying the same, shall in any way effect its obligation on this bond; and it does hereby waive notice of any change, extension of time, alterations or additions to the terms of said Agreement, or to the work, or to the specifications.

In the event that the Agreement is abandoned by the Contractor, or is terminated by the City under the provisions thereof, said SURETY hereby further agrees that it shall, if requested in writing by the City, take such action as is necessary to complete said Agreement.

IN TESTIMONY WHEREOF, the PRINCIPAL has hereunto caused its name and seal to be affixed, and the said SURETY has caused its corporate seal to be hereunto affixed by a duly authorized officer thereof and this instrument to be executed and delivered in its name and behalf by its attorney-in-fact, duly authorized by its by-laws and votes, powers of attorney, and letters of appointment and authorization, certificated copies of which documents are annexed to this bond and may be introduced in evidence as if a part hereof.

(PRINCIPAL)

(SEAL)

By: _____

(SURETY)

(SEAL)

By: _____
Attorney-in-fact

ARTICLE 108 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, are hereby made a part of this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.

B. The Contractor's Construction Schedule and Submittal Schedule are included in Section "Submittals".

1.3 SCHEDULE OF VALUES

A. Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

- a. Contractor's construction schedule.
- b. Application for Payment form.
- c. List of subcontractors.
- d. Schedule of allowances, if any.
- e. Schedule of alternates, if any.
- f. List products.
- g. List of principal suppliers and fabricators.
- h. Schedule of submittals.

2. Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than seven (7) days before the date scheduled for submittal of the initial Application for Payment.

3. Sub-Schedules: Where the Work is separated into phases that require separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values. Coordinate with the Clerk of the Works for exact breakdown of major categories of work.

1. Identification: Include the following Project identification on the Schedule of Values:

- a. Project name and location.
- b. Name of the Architect.
- c. Project number.
- d. Contractor's name and address.
- e. Date of submittal.

2. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:

- a. Generic name.
- b. Related Specification Section.
- c. Name of subcontractor.
- d. Name of manufacturer or fabricator.
- e. Name of supplier.
- f. Change Orders (numbers) that have affected value.
- g. Dollar value to nearest dollar.
- h. Percentage of Contract Sum to the nearest percent, adjusted to total 100 percent

3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.

4. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

5. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

6. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.

a. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.

7. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT:

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.

C. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment. No exceptions will be made.

D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Contractor. Incomplete applications will be returned without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.

2. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application.

E. Transmittal: Submit six (6) executed copies of each Application for Payment to the Architect by means ensuring receipt within twenty-four (24) hours; one (1) copy shall be complete, including proof of payments (see, 1.4F) and similar attachments, when required.

1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.

2. With each requisition, after the first requisition, submit one (1) copy of up-dated as-built drawings for all underground and concealed work, showing locations, depths, or elevations.

F. Proof of Payments: With each Application for Payment, submit proof of payment to every subcontractor and supplier, at each tier, entitled to payment under the previous requisition and periodic payment made by the Owner to the Contractor on behalf of all such entities.

1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.

2. When an application shows completion of an item, submit final or full waivers or proof of payments.

3. Proof of Payment Delays: Submit each Application for Payment with the Contractor's proof of payment for the period of construction covered by the Application or it may be returned as incomplete.

- a. Submit final Application for Payment with or preceded by final proof of payment for every entity involved with performance of Work covered by the application who could lawfully be entitled to file for direct payment under M.G.L. c. 30, s. 39F, and/or against the Contractor's Labor and Materials Payment Bond.

4. Submit proof of payment in a manner acceptable to Owner.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of Values.
4. Contractor's Construction Schedule (preliminary, if not final).
5. Schedule of principal products.
6. Submittal Schedule (preliminary, if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.
10. Copies of authorizations and licenses from governing authorities for performance of the Work.
11. Initial progress report.
12. Report of pre-construction meeting.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds (if required).
15. Data needed to acquire Owner's insurance.
16. Initial settlement survey and damage report, if required.

H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Administrative actions and submittals that shall proceed or coincide with Application for Payment at Substantial Completion include:

1. Occupancy permits and similar approvals.
2. Warranties (guarantees) and maintenance agreements.
3. Test/adjust/balance records.
4. Maintenance instructions.
5. Meter readings.
6. Start-up performance reports.
7. Change over information related to Owner's occupancy, use, operation and maintenance.
8. Final cleaning.
9. Application for reduction of retainage, and consent of surety.
10. Advice on shifting insurance coverages.
11. Final progress photographs.
12. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

J. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final payment Application for Payment include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Assurance that unsettled claims will be settled.
4. Assurance that Work not complete and accepted will be completed without undue delay.
5. Transmittal of required Project construction records to Owner.
6. Certified property survey.
7. Proof that taxes, fees and similar obligations have been paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish and similar elements.
10. Change of door locks to Owner's access.

ARTICLE 109 - MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, are hereby made a part of this Section.

1.2 SUMMARY

A. This section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections: The following sections contain requirements that relate to this section:

1. Division 1 Section "Submittals" for requirements for the Contractor's Construction Schedule.

2. Division 1 Section "Application for Payment" for administrative procedures governing applications for payment.

3. Division 1 Section "Product Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

1.3 MINOR CHANGES IN THE WORK

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Architect.

1.4 CHANGE ORDER PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time will be issued by the Architect, with a detailed description of the proposed change and supplemental or revised Drawings and Specifications, if necessary.

1. Proposal requests issued by the Architect are for information only. Do not consider them an instruction either to stop work in progress, or to execute the proposed change.

2. Unless otherwise indicated in the proposal request, within twenty (20) days of receipt of the proposal request, submit to the Architect for the Owner's review an estimate of cost necessary to execute the proposed change.

a. Include a list of quantities of products to be purchased and unit costs, along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.

b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.

B. Contractor-Initiated Change Order Proposal Requests: When latent or other unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.

1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and/or the Contract Time.

2. Include a list of quantities of products to be purchased and unit costs along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Comply with requirements in Section "Product Substitutions" if the proposed change in the Work requires the substitution of one product or system for a product or system specified.

1.5 ALLOWANCES

A. Allowance Adjustment: Base each Change Order Proposal Request for an allowance cost adjustment solely on the difference between the actual purchase amount and the allowance, multiplied by the final measurement of work-in-place, with reasonable allowances, where applicable, for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in the purchase amount only where indicated as part of the allowance.
2. When requested, prepare explanations and documentation to substantiate the margins claimed.
3. The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit, within twenty (20) days of receipt of the change order authorizing work to proceed. Claims submitted later than twenty (20) days will be rejected.

1. The Change Order cost amount shall not include the Contractor's or Subcontractor's indirect expense except when it is clearly demonstrated that either the nature or scope of work required was changed from that which could have been foreseen from information in Contract Documents.
2. No change to the Contractor's indirect expense is permitted for selection of higher or lower priced materials or systems of the same scope and nature as originally indicated.

1.6 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Change Order Proposal Request, the Architect will issue a Change Order for signatures of the Owner and Contractor.

1.7 OVERHEAD AND PROFIT

- A. Overhead and Profit will be as noted elsewhere in these specifications.
- B. In reviewing change orders, the Architect will exercise his right to request a complete breakdown from the Contractor showing exact costs for labor and material, as well as delivery slips and invoices from suppliers and other subcontractors.

ARTICLE 110 - PRODUCT SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, are hereby made a part of this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

B. The Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals".

C. Standards: Refer to Section "Reference Standards and Definitions" for applicability of industry standards to products specified.

D. Procedural requirements governing the Contractor's selection of products and product options are included under Section "Materials and Equipment".

1.3 DEFINITIONS

A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.

B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitutions". The following are not considered substitutions:

1. Specified options of products and construction methods included in Contract Documents.

2. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

A. Substitution Request Submittal: Requests for substitution will be considered if received within sixty (60) days after commencement of the Work. Requests received more than sixty (60) days after commencement of the Work may be considered or rejected at the discretion of the Architect.

1. Submit three (3) copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.
2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate.
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. Samples, where applicable or requested.
 - c. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect, i.e. color, texture, pattern, etc.
 - d. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution.
 - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

- f. Cost information, including a proposal of the net change, if any, in the Contract Sum.
 - g. Certification by the Contractor that the substitution proposed is equal to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.
3. Architects' Action: Within one (1) week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within two (2) weeks of receipt of the request, or one (1) week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order, when a change in contract cost or time is required; or in the form of Architect's supplemental instructions when no change to contract cost or time is required.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Conditions: The Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record non-compliance with these requirements.

1. Extensive revisions to Contract Documents are not required.
2. Proposed changes are in keeping with the intent of Contract Documents.
3. The request is timely, fully documented and properly submitted.
4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
5. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
6. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.

7. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
 8. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.
 9. Where a proposed substitution involves more than one prime Contractor, each Contractor shall cooperate with the other Contractors involved to coordinate the Work, provide uniformity and consistency, and to assure compatibility of products.
- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.
-

PREVAILING WAGE RATES

&

CERTIFIED PAYROLL REPORTING

FORMS

NOTE: Successful bidder/contractor shall submit the required certified payroll reporting forms on a weekly basis *via email* to:

certifiedpayrollrecords@worcesterma.gov

**City of Worcester – Purchasing Division
City Hall – Room 201
455 Main Street
Worcester, MA 01608**

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.

Page _____ of _____

Date Received by Awarding Authority
/ /

CITY OF WORCESTER

Monthly Workforce Report

PROJECT NAME _____

Construction Manager: _____

Project: _____ Contract #: _____

Period Covered: _____ through _____

		GOAL - 38%		GOAL - 10%			
PROJECT-TO-DATE:		PEOPLE OF COLOR		FEMALE		MINORITY OWNED	WOMEN OWNED
Contractor/Sub-Contractor	Total Hours	PTD Hours	PTD Percentage	PTD Hours	PTD Percentage		
XX	600		0.0%		0.0%	YES / NO	YES / NO
						YES / NO	YES / NO
						YES / NO	YES / NO
						YES / NO	YES / NO
MONTHLY TOTAL:		600.0	0.00	0.0%	0.0	0.0%	

PROJECT NAME _____

Construction Manager: _____

Project: _____ Contract #: _____

Period Covered: _____ through _____

		GOAL - 38%		GOAL - 10%	
PROJECT-TO-DATE:		PEOPLE OF COLOR		FEMALE	
Trade	Total Hours	PTD Hours	PTD Percentage	PTD Hours	PTD Percentage
Carpenter	600.0	0.0	0.0%	0.0	0.0%
X					
X					
X					
X					
X					
MONTHLY TOTALS	600.0	0.0	0.0%	0.0	0.0%

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

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

In addition, every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. For every week in which an apprentice is employed, a photocopy of the apprentice's identification card must be attached to the payroll report. Once collected, the awarding authority is also required to preserve those records for three years.

In addition, each such contractor, subcontractor, or public body shall furnish to the awarding authority directly, within fifteen days after completion of its portion of the work a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 20____

I, _____, _____
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ 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 _____



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

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

Prevailing Wage Rates

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

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: City of Worcester
Contract Number: 8245-M5 **City/Town:** WORCESTER
Description of Work: Demolition and removal of selected site elements, salvage of existing items to be reused or recycled, installation of fence, etc.
Job Location: Shore Drive, Worcester 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.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$39.95	\$15.07	\$18.67	\$0.00	\$73.69
	12/01/2024	\$39.95	\$15.07	\$20.17	\$0.00	\$75.19
	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.02	\$15.07	\$18.67	\$0.00	\$73.76
	12/01/2024	\$40.02	\$15.07	\$20.17	\$0.00	\$75.26
	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.14	\$15.07	\$18.67	\$0.00	\$73.88
	12/01/2024	\$40.14	\$15.07	\$20.17	\$0.00	\$75.38
	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
	For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"					
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	06/01/2024	\$41.80	\$14.50	\$11.05	\$0.00	\$67.35
	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
	For apprentice rates see "Apprentice- LABORER"					
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
	For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"					
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
	For apprentice rates see "Apprentice- OPERATING ENGINEERS"					
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
	For apprentice rates see "Apprentice- OPERATING ENGINEERS"					

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2024	\$62.36	\$11.49	\$22.90	\$0.00	\$96.75
BRICKLAYERS LOCAL 3 (WORCESTER)	02/01/2025	\$63.66	\$11.49	\$22.90	\$0.00	\$98.05
	08/01/2025	\$65.81	\$11.49	\$22.90	\$0.00	\$100.20
	02/01/2026	\$67.16	\$11.49	\$22.90	\$0.00	\$101.55
	08/01/2026	\$69.36	\$11.49	\$22.90	\$0.00	\$103.75
	02/01/2027	\$70.76	\$11.49	\$22.90	\$0.00	\$105.15

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

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.18	\$11.49	\$22.90	\$0.00	\$65.57
2	60	\$37.42	\$11.49	\$22.90	\$0.00	\$71.81
3	70	\$43.65	\$11.49	\$22.90	\$0.00	\$78.04
4	80	\$49.89	\$11.49	\$22.90	\$0.00	\$84.28
5	90	\$56.12	\$11.49	\$22.90	\$0.00	\$90.51

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.83	\$11.49	\$22.90	\$0.00	\$66.22
2	60	\$38.20	\$11.49	\$22.90	\$0.00	\$72.59
3	70	\$44.56	\$11.49	\$22.90	\$0.00	\$78.95
4	80	\$50.93	\$11.49	\$22.90	\$0.00	\$85.32
5	90	\$57.29	\$11.49	\$22.90	\$0.00	\$91.68

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$46.63	\$9.65	\$18.22	\$0.00	\$74.50
	12/01/2024	\$48.10	\$9.65	\$18.22	\$0.00	\$75.97
	06/01/2025	\$49.60	\$9.65	\$18.22	\$0.00	\$77.47
	12/01/2025	\$51.10	\$9.65	\$18.22	\$0.00	\$78.97
	06/01/2026	\$52.65	\$9.65	\$18.22	\$0.00	\$80.52
	12/01/2026	\$54.15	\$9.65	\$18.22	\$0.00	\$82.02
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
2	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
3	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
4	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
5	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
6	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
7	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77
8	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
2	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
3	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
4	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
5	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
6	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
7	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77
8	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77

Notes:

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME	10/01/2023	\$25.55	\$7.02	\$4.80	\$0.00	\$37.37
CARPENTERS-ZONE 3 (Wood Frame)	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
2	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
3	65	\$16.61	\$7.02	\$1.00	\$0.00	\$24.63
4	70	\$17.89	\$7.02	\$1.00	\$0.00	\$25.91
5	75	\$19.16	\$7.02	\$4.80	\$0.00	\$30.98
6	80	\$20.44	\$7.02	\$4.80	\$0.00	\$32.26
7	85	\$21.72	\$7.02	\$4.80	\$0.00	\$33.54
8	90	\$23.00	\$7.02	\$4.80	\$0.00	\$34.82

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
2	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
3	65	\$17.32	\$7.02	\$1.00	\$0.00	\$25.34
4	70	\$18.66	\$7.02	\$1.00	\$0.00	\$26.68
5	75	\$19.99	\$7.02	\$4.80	\$0.00	\$31.81
6	80	\$21.32	\$7.02	\$4.80	\$0.00	\$33.14
7	85	\$22.65	\$7.02	\$4.80	\$0.00	\$34.47
8	90	\$23.99	\$7.02	\$4.80	\$0.00	\$35.81

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$18.52/ 3&4 \$21.07/ 5&6 \$28.70/ 7&8 \$31.26

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	01/01/2024	\$49.33	\$13.00	\$23.57	\$1.30	\$87.20
BRICKLAYERS LOCAL 3 (WORCESTER)						

Apprentice - CEMENT MASONRY/PLASTERING - Worcester

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$13.00	\$15.93	\$0.00	\$53.60
2	60	\$29.60	\$13.00	\$18.57	\$1.30	\$62.47
3	65	\$32.06	\$13.00	\$19.57	\$1.30	\$65.93
4	70	\$34.53	\$13.00	\$20.57	\$1.30	\$69.40
5	75	\$37.00	\$13.00	\$21.57	\$1.30	\$72.87
6	80	\$39.46	\$13.00	\$22.57	\$1.30	\$76.33
7	90	\$44.40	\$13.00	\$23.57	\$1.30	\$82.27

Notes:

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$57.15	\$15.30	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.63	\$15.30	\$16.40	\$0.00	\$90.33
	06/01/2025	\$59.96	\$15.30	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.43	\$15.30	\$16.40	\$0.00	\$93.13
	06/01/2026	\$62.76	\$15.30	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.24	\$15.30	\$16.40	\$0.00	\$95.94
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34

Apprentice - *ELECTRICIAN - Local 96*

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.82	\$13.99	\$0.56	\$0.00	\$33.37
2	45	\$21.17	\$13.99	\$0.64	\$0.00	\$35.80
3	48	\$22.58	\$13.99	\$15.79	\$0.00	\$52.36
4	55	\$25.88	\$13.99	\$16.26	\$0.00	\$56.13
5	65	\$30.58	\$13.99	\$16.91	\$0.00	\$61.48
6	80	\$37.64	\$13.99	\$17.90	\$0.00	\$69.53

Effective Date - 09/07/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.26	\$14.98	\$0.58	\$0.00	\$34.82
2	45	\$21.67	\$14.98	\$0.65	\$0.00	\$37.30
3	48	\$23.12	\$14.98	\$16.09	\$0.00	\$54.19
4	55	\$26.49	\$14.98	\$16.57	\$0.00	\$58.04
5	65	\$31.30	\$14.98	\$17.25	\$0.00	\$63.53
6	80	\$38.53	\$14.98	\$18.26	\$0.00	\$71.77

Notes:

Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

Apprentice to Journeyworker Ratio:2:3***

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTOR	01/01/2024	\$61.98	\$16.18	\$20.96	\$0.00	\$99.12
<i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2025	\$62.83	\$16.28	\$21.36	\$0.00	\$100.47
	01/01/2026	\$63.68	\$16.38	\$21.76	\$0.00	\$101.82
	01/01/2027	\$64.53	\$16.48	\$22.16	\$0.00	\$103.17

Apprentice - ELEVATOR CONSTRUCTOR - Local 41

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.99	\$16.18	\$0.00	\$0.00	\$47.17
2	55	\$34.09	\$16.18	\$20.96	\$0.00	\$71.23
3	65	\$40.29	\$16.18	\$20.96	\$0.00	\$77.43
4	70	\$43.39	\$16.18	\$20.96	\$0.00	\$80.53
5	80	\$49.58	\$16.18	\$20.96	\$0.00	\$86.72

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.42	\$16.28	\$0.00	\$0.00	\$47.70
2	55	\$34.56	\$16.28	\$21.36	\$0.00	\$72.20
3	65	\$40.84	\$16.28	\$21.36	\$0.00	\$78.48
4	70	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
5	80	\$50.26	\$16.28	\$21.36	\$0.00	\$87.90

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER	01/01/2024	\$43.39	\$16.18	\$20.96	\$0.00	\$80.53
<i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2025	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
	01/01/2026	\$44.58	\$16.38	\$21.76	\$0.00	\$82.72
	01/01/2027	\$45.17	\$16.48	\$22.16	\$0.00	\$83.81

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
<i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	05/01/2024	\$50.79	\$15.00	\$16.40	\$0.00	\$82.19
<i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$52.08	\$15.00	\$16.40	\$0.00	\$83.48
	05/01/2025	\$53.52	\$15.00	\$16.40	\$0.00	\$84.92
	11/01/2025	\$54.81	\$15.00	\$16.40	\$0.00	\$86.21
	05/01/2026	\$56.25	\$15.00	\$16.40	\$0.00	\$87.65
	11/01/2026	\$57.54	\$15.00	\$16.40	\$0.00	\$88.94
	05/01/2027	\$58.97	\$15.00	\$16.40	\$0.00	\$90.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$52.37	\$15.00	\$16.40	\$0.00	\$83.77
	11/01/2024	\$53.67	\$15.00	\$16.40	\$0.00	\$85.07
	05/01/2025	\$55.12	\$15.00	\$16.40	\$0.00	\$86.52
	11/01/2025	\$56.42	\$15.00	\$16.40	\$0.00	\$87.82
	05/01/2026	\$57.87	\$15.00	\$16.40	\$0.00	\$89.27
	11/01/2026	\$59.17	\$15.00	\$16.40	\$0.00	\$90.57
	05/01/2027	\$60.62	\$15.00	\$16.40	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$24.91	\$15.00	\$16.40	\$0.00	\$56.31
	11/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	05/01/2025	\$26.52	\$15.00	\$16.40	\$0.00	\$57.92
	11/01/2025	\$27.28	\$15.00	\$16.40	\$0.00	\$58.68
	05/01/2026	\$28.13	\$15.00	\$16.40	\$0.00	\$59.53
	11/01/2026	\$28.89	\$15.00	\$16.40	\$0.00	\$60.29
	05/01/2027	\$29.74	\$15.00	\$16.40	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINT/COMMISSIONING <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$45.23	\$15.30	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.41	\$15.30	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.47	\$15.30	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.64	\$15.30	\$16.40	\$0.00	\$80.34
	06/01/2026	\$49.70	\$15.30	\$16.40	\$0.00	\$81.40
	12/01/2026	\$50.88	\$15.30	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	12/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	06/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	12/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	06/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
	12/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	03/01/2024	\$49.47	\$8.83	\$20.27	\$0.00	\$78.57

Apprentice - FLOORCOVERER - Local 2168 Zone II

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.74	\$8.83	\$1.76	\$0.00	\$35.33
2	55	\$27.21	\$8.83	\$1.76	\$0.00	\$37.80
3	60	\$29.68	\$8.83	\$3.52	\$0.00	\$42.03
4	65	\$32.16	\$8.83	\$3.52	\$0.00	\$44.51
5	70	\$34.63	\$8.83	\$16.75	\$0.00	\$60.21
6	75	\$37.10	\$8.83	\$16.75	\$0.00	\$62.68
7	80	\$39.58	\$8.83	\$18.51	\$0.00	\$66.92
8	85	\$42.05	\$8.83	\$18.51	\$0.00	\$69.39

Notes: Steps are 750 hrs.

% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&2 \$32.63/ 3&4 \$39.28/ 5&6 \$59.86/ 7&8 \$66.52

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER OPERATING ENGINEERS LOCAL 4	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS OPERATING ENGINEERS LOCAL 4	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) GLAZIERS LOCAL 35 (ZONE 2)	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.82	\$15.30	\$0.00	\$0.00	\$46.12
2	60	\$33.62	\$15.30	\$16.40	\$0.00	\$65.32
3	65	\$36.42	\$15.30	\$16.40	\$0.00	\$68.12
4	70	\$39.22	\$15.30	\$16.40	\$0.00	\$70.92
5	75	\$42.02	\$15.30	\$16.40	\$0.00	\$73.72
6	80	\$44.82	\$15.30	\$16.40	\$0.00	\$76.52
7	85	\$47.63	\$15.30	\$16.40	\$0.00	\$79.33
8	90	\$50.43	\$15.30	\$16.40	\$0.00	\$82.13

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$31.61	\$0.00	\$0.00	\$0.00	\$31.61
2	60	\$34.49	\$15.30	\$16.40	\$0.00	\$66.19
3	65	\$37.36	\$15.30	\$16.40	\$0.00	\$69.06
4	70	\$40.24	\$15.30	\$16.40	\$0.00	\$71.94
5	75	\$43.11	\$15.30	\$16.40	\$0.00	\$74.81
6	80	\$45.98	\$15.30	\$16.40	\$0.00	\$77.68
7	85	\$48.86	\$15.30	\$16.40	\$0.00	\$80.56
8	90	\$51.73	\$15.30	\$16.40	\$0.00	\$83.43

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK)	07/01/2024	\$40.98	\$12.20	\$18.74	\$2.13	\$74.05
SHEETMETAL WORKERS LOCAL 63	01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS)	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
ELECTRICIANS LOCAL 96	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR)	07/01/2024	\$40.98	\$12.20	\$18.74	\$2.13	\$74.05
SHEETMETAL WORKERS LOCAL 63	01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER)	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
PLUMBERS LOCAL 4	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	09/01/2024	\$51.23	\$14.75	\$19.61	\$0.00	\$85.59
	09/01/2025	\$54.31	\$14.75	\$19.61	\$0.00	\$88.67
	09/01/2026	\$57.38	\$14.75	\$19.61	\$0.00	\$91.74

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

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.62	\$14.75	\$14.32	\$0.00	\$54.69
2	60	\$30.74	\$14.75	\$15.37	\$0.00	\$60.86
3	70	\$35.86	\$14.75	\$16.43	\$0.00	\$67.04
4	80	\$40.98	\$14.75	\$17.49	\$0.00	\$73.22

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.16	\$14.75	\$14.32	\$0.00	\$56.23
2	60	\$32.59	\$14.75	\$15.37	\$0.00	\$62.71
3	70	\$38.02	\$14.75	\$16.43	\$0.00	\$69.20
4	80	\$43.45	\$14.75	\$17.49	\$0.00	\$75.69

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (WORCESTER AREA)</i>	03/16/2024	\$53.67	\$8.35	\$26.70	\$0.00	\$88.72

Apprentice - IRONWORKER - Local 7 Worcester

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.20	\$8.35	\$26.70	\$0.00	\$67.25
2	70	\$37.57	\$8.35	\$26.70	\$0.00	\$72.62
3	75	\$40.25	\$8.35	\$26.70	\$0.00	\$75.30
4	80	\$42.94	\$8.35	\$26.70	\$0.00	\$77.99
5	85	\$45.62	\$8.35	\$26.70	\$0.00	\$80.67
6	90	\$48.30	\$8.35	\$26.70	\$0.00	\$83.35

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71

For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.12	\$9.65	\$18.40	\$0.00	\$51.17
2	70	\$26.97	\$9.65	\$18.40	\$0.00	\$55.02
3	80	\$30.82	\$9.65	\$18.40	\$0.00	\$58.87
4	90	\$34.68	\$9.65	\$18.40	\$0.00	\$62.73

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$18.40	\$0.00	\$51.97
2	70	\$27.90	\$9.65	\$18.40	\$0.00	\$55.95
3	80	\$31.89	\$9.65	\$18.40	\$0.00	\$59.94
4	90	\$35.87	\$9.65	\$18.40	\$0.00	\$63.92

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	06/01/2024	\$38.53	\$9.65	\$17.80	\$0.00	\$65.98
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.12	\$9.65	\$17.80	\$0.00	\$50.57
2	70	\$26.97	\$9.65	\$17.80	\$0.00	\$54.42
3	80	\$30.82	\$9.65	\$17.80	\$0.00	\$58.27
4	90	\$34.68	\$9.65	\$17.80	\$0.00	\$62.13

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.80	\$0.00	\$51.37
2	70	\$27.90	\$9.65	\$17.80	\$0.00	\$55.35
3	80	\$31.89	\$9.65	\$17.80	\$0.00	\$59.34
4	90	\$35.87	\$9.65	\$17.80	\$0.00	\$63.32

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.95	\$9.65	\$17.20	\$0.00	\$64.80
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
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"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2024	\$49.32	\$11.49	\$21.62	\$0.00	\$82.43
	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

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

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.66	\$11.49	\$21.62	\$0.00	\$57.77
2	60	\$29.59	\$11.49	\$21.62	\$0.00	\$62.70
3	70	\$34.52	\$11.49	\$21.62	\$0.00	\$67.63
4	80	\$39.46	\$11.49	\$21.62	\$0.00	\$72.57
5	90	\$44.39	\$11.49	\$21.62	\$0.00	\$77.50

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$11.49	\$21.62	\$0.00	\$58.29
2	60	\$30.22	\$11.49	\$21.62	\$0.00	\$63.33
3	70	\$35.25	\$11.49	\$21.62	\$0.00	\$68.36
4	80	\$40.29	\$11.49	\$21.62	\$0.00	\$73.40
5	90	\$45.32	\$11.49	\$21.62	\$0.00	\$78.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

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

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.26	\$11.49	\$23.56	\$0.00	\$67.31
2	60	\$38.71	\$11.49	\$23.56	\$0.00	\$73.76
3	70	\$45.16	\$11.49	\$23.56	\$0.00	\$80.21
4	80	\$51.62	\$11.49	\$23.56	\$0.00	\$86.67
5	90	\$58.07	\$11.49	\$23.56	\$0.00	\$93.12

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$23.56	\$0.00	\$67.96
2	60	\$39.49	\$11.49	\$23.56	\$0.00	\$74.54
3	70	\$46.07	\$11.49	\$23.56	\$0.00	\$81.12
4	80	\$52.66	\$11.49	\$23.56	\$0.00	\$87.71
5	90	\$59.24	\$11.49	\$23.56	\$0.00	\$94.29

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES)	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 3)	01/01/2024	\$41.20	\$10.08	\$21.22	\$0.00	\$72.50
MILLWRIGHTS LOCAL 1121 - Zone 3	01/06/2025	\$43.48	\$10.08	\$21.22	\$0.00	\$74.78
	01/05/2026	\$45.76	\$10.08	\$21.22	\$0.00	\$77.06

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - MILLWRIGHT - Local 1121 Zone 3						
Effective Date - 01/01/2024						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$22.66	\$10.08	\$5.36	\$0.00	\$38.10
2	65	\$26.78	\$10.08	\$6.34	\$0.00	\$43.20
3	75	\$30.90	\$10.08	\$18.78	\$0.00	\$59.76
4	85	\$35.02	\$10.08	\$19.76	\$0.00	\$64.86
Effective Date - 01/06/2025						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.91	\$10.08	\$5.36	\$0.00	\$39.35
2	65	\$28.26	\$10.08	\$6.34	\$0.00	\$44.68
3	75	\$32.61	\$10.08	\$18.78	\$0.00	\$61.47
4	85	\$36.96	\$10.08	\$19.76	\$0.00	\$66.80
Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66) Steps are 2,000 hours						
Apprentice to Journeyworker Ratio:1:4						
MORTAR MIXER	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS)	06/01/2024	\$24.71	\$15.30	\$16.40	\$0.00	\$56.41
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	06/01/2025	\$25.97	\$15.30	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.63	\$15.30	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.22	\$15.30	\$16.40	\$0.00	\$58.92
	12/01/2026	\$27.89	\$15.30	\$16.40	\$0.00	\$59.59
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS)	06/01/2024	\$30.28	\$15.30	\$16.40	\$0.00	\$61.98
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$31.08	\$15.30	\$16.40	\$0.00	\$62.78
	06/01/2025	\$31.80	\$15.30	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.60	\$15.30	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.32	\$15.30	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.12	\$15.30	\$16.40	\$0.00	\$65.82
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

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

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$9.95	\$0.00	\$0.00	\$34.03
2	55	\$26.49	\$9.95	\$6.66	\$0.00	\$43.10
3	60	\$28.90	\$9.95	\$7.26	\$0.00	\$46.11
4	65	\$31.30	\$9.95	\$7.87	\$0.00	\$49.12
5	70	\$33.71	\$9.95	\$20.32	\$0.00	\$63.98
6	75	\$36.12	\$9.95	\$20.93	\$0.00	\$67.00
7	80	\$38.53	\$9.95	\$21.53	\$0.00	\$70.01
8	90	\$43.34	\$9.95	\$22.74	\$0.00	\$76.03

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.68	\$9.95	\$0.00	\$0.00	\$34.63
2	55	\$27.15	\$9.95	\$6.66	\$0.00	\$43.76
3	60	\$29.62	\$9.95	\$7.26	\$0.00	\$46.83
4	65	\$32.08	\$9.95	\$7.87	\$0.00	\$49.90
5	70	\$34.55	\$9.95	\$20.32	\$0.00	\$64.82
6	75	\$37.02	\$9.95	\$20.93	\$0.00	\$67.90
7	80	\$39.49	\$9.95	\$21.53	\$0.00	\$70.97
8	90	\$44.42	\$9.95	\$22.74	\$0.00	\$77.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

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

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.11	\$9.95	\$0.00	\$0.00	\$33.06
2	55	\$25.42	\$9.95	\$6.66	\$0.00	\$42.03
3	60	\$27.73	\$9.95	\$7.26	\$0.00	\$44.94
4	65	\$30.04	\$9.95	\$7.87	\$0.00	\$47.86
5	70	\$32.35	\$9.95	\$20.32	\$0.00	\$62.62
6	75	\$34.67	\$9.95	\$20.93	\$0.00	\$65.55
7	80	\$36.98	\$9.95	\$21.53	\$0.00	\$68.46
8	90	\$41.60	\$9.95	\$22.74	\$0.00	\$74.29

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$9.95	\$0.00	\$0.00	\$33.66
2	55	\$26.08	\$9.95	\$6.66	\$0.00	\$42.69
3	60	\$28.45	\$9.95	\$7.26	\$0.00	\$45.66
4	65	\$30.82	\$9.95	\$7.87	\$0.00	\$48.64
5	70	\$33.19	\$9.95	\$20.32	\$0.00	\$63.46
6	75	\$35.57	\$9.95	\$20.93	\$0.00	\$66.45
7	80	\$37.94	\$9.95	\$21.53	\$0.00	\$69.42
8	90	\$42.68	\$9.95	\$22.74	\$0.00	\$75.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.41	\$9.95	\$0.00	\$0.00	\$32.36
2	55	\$24.65	\$9.95	\$6.66	\$0.00	\$41.26
3	60	\$26.89	\$9.95	\$7.26	\$0.00	\$44.10
4	65	\$29.13	\$9.95	\$7.87	\$0.00	\$46.95
5	70	\$31.37	\$9.95	\$20.32	\$0.00	\$61.64
6	75	\$33.62	\$9.95	\$20.93	\$0.00	\$64.50
7	80	\$35.86	\$9.95	\$21.53	\$0.00	\$67.34
8	90	\$40.34	\$9.95	\$22.74	\$0.00	\$73.03

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$9.95	\$0.00	\$0.00	\$32.96
2	55	\$25.31	\$9.95	\$6.66	\$0.00	\$41.92
3	60	\$27.61	\$9.95	\$7.26	\$0.00	\$44.82
4	65	\$29.91	\$9.95	\$7.87	\$0.00	\$47.73
5	70	\$32.21	\$9.95	\$20.32	\$0.00	\$62.48
6	75	\$34.52	\$9.95	\$20.93	\$0.00	\$65.40
7	80	\$36.82	\$9.95	\$21.53	\$0.00	\$68.30
8	90	\$41.42	\$9.95	\$22.74	\$0.00	\$74.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$38.53	\$9.65	\$17.80	\$0.00	\$65.98
	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2024	\$39.78	\$15.07	\$18.67	\$0.00	\$73.52
	12/01/2024	\$39.78	\$15.07	\$20.17	\$0.00	\$75.02
	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63

Apprentice - PILE DRIVER - Local 56 Zone 2

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: Apprentice wages shall be no less than the following Steps;

(Same as set in Zone 1)

1\$57.06/2\$61.96/3\$66.87/4\$69.32/5\$71.78/6\$71.78/7\$76.68/8\$76.68

Apprentice to Journeyworker Ratio:1:5

PIPELAYER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

PLUMBER & PIPEFITTER <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - PLUMBER/PIPEFITTER - Local 4						
Effective Date - 09/01/2024						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.14	\$9.90	\$0.00	\$0.00	\$32.04
2	50	\$27.68	\$9.90	\$0.00	\$0.00	\$37.58
3	60	\$33.21	\$9.90	\$0.00	\$0.00	\$43.11
4	70	\$38.75	\$9.90	\$7.71	\$0.00	\$56.36
5	80	\$44.28	\$9.90	\$7.71	\$0.00	\$61.89
Effective Date - 03/01/2025						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.70	\$9.90	\$0.00	\$0.00	\$32.60
2	50	\$28.38	\$9.90	\$0.00	\$0.00	\$38.28
3	60	\$34.05	\$9.90	\$0.00	\$0.00	\$43.95
4	70	\$39.73	\$9.90	\$7.71	\$0.00	\$57.34
5	80	\$45.40	\$9.90	\$7.71	\$0.00	\$63.01
Notes:						
Steps - 2000 hrs; Step 4 w/lic 75%, Step 5 w/lic 85%						
Step 4 w/lic \$52.59, Step 5 w/lic \$57.44						
Apprentice to Journeyworker Ratio:1:3						
PNEUMATIC CONTROLS (TEMP.) PLUMBERS LOCAL 4	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR LABORERS - ZONE 2	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.53	\$9.65	\$18.40	\$0.00	\$67.58
	12/01/2024	\$40.86	\$9.65	\$18.40	\$0.00	\$68.91
	06/01/2025	\$42.25	\$9.65	\$18.40	\$0.00	\$70.30
	12/01/2025	\$43.63	\$9.65	\$18.40	\$0.00	\$71.68
	06/01/2026	\$45.07	\$9.65	\$18.40	\$0.00	\$73.12
	12/01/2026	\$46.51	\$9.65	\$18.40	\$0.00	\$74.56
	06/01/2027	\$47.96	\$9.65	\$18.40	\$0.00	\$76.01
	12/01/2027	\$49.41	\$9.65	\$18.40	\$0.00	\$77.46
	06/01/2028	\$50.91	\$9.65	\$18.40	\$0.00	\$78.96
	12/01/2028	\$52.41	\$9.65	\$18.40	\$0.00	\$80.46
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.53	\$9.40	\$17.55	\$0.00	\$66.48
	12/01/2024	\$40.86	\$9.40	\$17.55	\$0.00	\$67.81
	06/01/2025	\$42.25	\$9.40	\$17.55	\$0.00	\$69.20
	12/01/2025	\$43.63	\$9.40	\$17.55	\$0.00	\$70.58
	06/01/2026	\$45.07	\$9.40	\$17.55	\$0.00	\$72.02
	12/01/2026	\$46.51	\$9.40	\$17.55	\$0.00	\$73.46
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Dauphinais (Bellingham)</i>	01/01/2024	\$27.00	\$10.76	\$5.45	\$0.00	\$43.21
	12/01/2024	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01
	01/01/2025	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2024	\$51.53	\$12.78	\$21.45	\$0.00	\$85.76
	02/01/2025	\$52.78	\$12.78	\$21.45	\$0.00	\$87.01
	08/01/2025	\$54.28	\$12.78	\$21.45	\$0.00	\$88.51
	02/01/2026	\$55.53	\$12.78	\$21.45	\$0.00	\$89.76

Classification			Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - ROOFER - Local 33								
Effective Date - 08/01/2024								
Step	percent	Apprentice Base Wage		Health	Pension	Supplemental Unemployment	Total Rate	
1	50	\$25.77		\$12.78	\$6.21	\$0.00	\$44.76	
2	60	\$30.92		\$12.78	\$21.45	\$0.00	\$65.15	
3	65	\$33.49		\$12.78	\$21.45	\$0.00	\$67.72	
4	75	\$38.65		\$12.78	\$21.45	\$0.00	\$72.88	
5	85	\$43.80		\$12.78	\$21.45	\$0.00	\$78.03	
Effective Date - 02/01/2025								
Step	percent	Apprentice Base Wage		Health	Pension	Supplemental Unemployment	Total Rate	
1	50	\$26.39		\$12.78	\$6.21	\$0.00	\$45.38	
2	60	\$31.67		\$12.78	\$21.45	\$0.00	\$65.90	
3	65	\$34.31		\$12.78	\$21.45	\$0.00	\$68.54	
4	75	\$39.59		\$12.78	\$21.45	\$0.00	\$73.82	
5	85	\$44.86		\$12.78	\$21.45	\$0.00	\$79.09	
Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs. (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)								
Apprentice to Journeyworker Ratio:**								
ROOFER SLATE / TILE / PRECAST CONCRETE			08/01/2024	\$51.78	\$12.78	\$21.45	\$0.00	\$86.01
ROOFERS LOCAL 33			02/01/2025	\$53.03	\$12.78	\$21.45	\$0.00	\$87.26
			08/01/2025	\$54.53	\$12.78	\$21.45	\$0.00	\$88.76
			02/01/2026	\$55.78	\$12.78	\$21.45	\$0.00	\$90.01
For apprentice rates see "Apprentice- ROOFER"								
SHEETMETAL WORKER			07/01/2024	\$40.98	\$12.20	\$18.74	\$2.13	\$74.05
SHEETMETAL WORKERS LOCAL 63			01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30

Apprentice - SHEET METAL WORKER - Local 63

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.44	\$5.49	\$4.86	\$0.85	\$29.64
2	50	\$20.49	\$6.10	\$5.40	\$0.94	\$32.93
3	55	\$22.54	\$6.71	\$9.71	\$1.15	\$40.11
4	60	\$24.59	\$7.32	\$9.71	\$1.23	\$42.85
5	65	\$26.64	\$7.93	\$9.71	\$1.31	\$45.59
6	70	\$28.69	\$8.54	\$9.71	\$1.39	\$48.33
7	75	\$30.74	\$9.15	\$9.71	\$1.47	\$51.07
8	80	\$32.78	\$9.76	\$17.66	\$1.78	\$61.98
9	85	\$34.83	\$10.37	\$17.66	\$1.86	\$64.72
10	90	\$36.88	\$10.98	\$17.66	\$1.94	\$67.46

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$19.00	\$5.49	\$4.86	\$0.85	\$30.20
2	50	\$21.12	\$6.10	\$5.40	\$0.94	\$33.56
3	55	\$23.23	\$6.71	\$9.71	\$1.15	\$40.80
4	60	\$25.34	\$7.32	\$9.71	\$1.23	\$43.60
5	65	\$27.45	\$7.93	\$9.71	\$1.31	\$46.40
6	70	\$29.56	\$8.54	\$9.71	\$1.39	\$49.20
7	75	\$31.67	\$9.15	\$9.71	\$1.47	\$52.00
8	80	\$33.78	\$9.76	\$17.66	\$1.78	\$62.98
9	85	\$35.90	\$10.37	\$17.66	\$1.86	\$65.79
10	90	\$38.01	\$10.98	\$17.66	\$1.94	\$68.59

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.53	\$15.07	\$18.67	\$0.00	\$74.27
	12/01/2024	\$40.53	\$15.07	\$20.17	\$0.00	\$75.77
	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 669</i>	04/01/2023	\$47.43	\$11.45	\$16.61	\$0.00	\$75.49

Apprentice - SPRINKLER FITTER - Local 669

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.34	\$8.22	\$0.00	\$0.00	\$29.56
2	50	\$23.72	\$8.22	\$0.00	\$0.00	\$31.94
3	55	\$26.09	\$11.45	\$7.20	\$0.00	\$44.74
4	60	\$28.46	\$11.45	\$8.35	\$0.00	\$48.26
5	65	\$30.83	\$11.45	\$8.35	\$0.00	\$50.63
6	70	\$33.20	\$11.45	\$8.60	\$0.00	\$53.25
7	75	\$35.57	\$11.45	\$8.60	\$0.00	\$55.62
8	80	\$37.94	\$11.45	\$8.60	\$0.00	\$57.99
9	85	\$40.32	\$11.45	\$8.60	\$0.00	\$60.37
10	90	\$42.69	\$11.45	\$8.60	\$0.00	\$62.74

Notes:

Apprentice to Journeyworker Ratio:1:1

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2024	\$63.44	\$11.49	\$23.59	\$0.00	\$98.52
	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.72	\$11.49	\$23.59	\$0.00	\$66.80
2	60	\$38.06	\$11.49	\$23.59	\$0.00	\$73.14
3	70	\$44.41	\$11.49	\$23.59	\$0.00	\$79.49
4	80	\$50.75	\$11.49	\$23.59	\$0.00	\$85.83
5	90	\$57.10	\$11.49	\$23.59	\$0.00	\$92.18

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$49.81	\$9.65	\$18.22	\$0.00	\$77.68
	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.60	\$9.65	\$18.22	\$0.00	\$73.47
	12/01/2024	\$47.07	\$9.65	\$18.22	\$0.00	\$74.94
	06/01/2025	\$48.57	\$9.65	\$18.22	\$0.00	\$76.44
	12/01/2025	\$50.07	\$9.65	\$18.22	\$0.00	\$77.94
	06/01/2026	\$51.62	\$9.65	\$18.22	\$0.00	\$79.49
	12/01/2026	\$53.12	\$9.65	\$18.22	\$0.00	\$80.99

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87
	For apprentice rates see "Apprentice- LABORER"					
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
	For apprentice rates see "Apprentice- OPERATING ENGINEERS"					
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.82	\$15.07	\$18.67	\$0.00	\$74.56
	12/01/2024	\$40.82	\$15.07	\$20.17	\$0.00	\$76.06
	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2024	\$57.71	\$9.65	\$19.00	\$0.00	\$86.36
	12/01/2024	\$59.18	\$9.65	\$19.00	\$0.00	\$87.83
	06/01/2025	\$60.68	\$9.65	\$19.00	\$0.00	\$89.33
	12/01/2025	\$62.18	\$9.65	\$19.00	\$0.00	\$90.83
	06/01/2026	\$63.73	\$9.65	\$19.00	\$0.00	\$92.38
	12/01/2026	\$65.23	\$9.65	\$19.00	\$0.00	\$93.88
	For apprentice rates see "Apprentice- LABORER"					
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2024	\$59.71	\$9.65	\$19.00	\$0.00	\$88.36
	12/01/2024	\$61.18	\$9.65	\$19.00	\$0.00	\$89.83
	06/01/2025	\$62.68	\$9.65	\$19.00	\$0.00	\$91.33
	12/01/2025	\$64.18	\$9.65	\$19.00	\$0.00	\$92.83
	06/01/2026	\$65.73	\$9.65	\$19.00	\$0.00	\$94.38
	12/01/2026	\$67.23	\$9.65	\$19.00	\$0.00	\$95.88
	For apprentice rates see "Apprentice- LABORER"					
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2024	\$49.78	\$9.65	\$19.00	\$0.00	\$78.43
	12/01/2024	\$51.25	\$9.65	\$19.00	\$0.00	\$79.90
	06/01/2025	\$52.75	\$9.65	\$19.00	\$0.00	\$81.40
	12/01/2025	\$54.25	\$9.65	\$19.00	\$0.00	\$82.90
	06/01/2026	\$55.80	\$9.65	\$19.00	\$0.00	\$84.45
	12/01/2026	\$57.30	\$9.65	\$19.00	\$0.00	\$85.95
	For apprentice rates see "Apprentice- LABORER"					

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2024	\$51.78	\$9.65	\$19.00	\$0.00	\$80.43
	12/01/2024	\$53.25	\$9.65	\$19.00	\$0.00	\$81.90
	06/01/2025	\$54.75	\$9.65	\$19.00	\$0.00	\$83.40
	12/01/2025	\$56.25	\$9.65	\$19.00	\$0.00	\$84.90
	06/01/2026	\$57.80	\$9.65	\$19.00	\$0.00	\$86.45
	12/01/2026	\$59.30	\$9.65	\$19.00	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
VOICE-DATA-VIDEO TECHNICIAN <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$35.29	\$13.99	\$17.57	\$0.00	\$66.85
	09/07/2025	\$36.12	\$14.98	\$17.91	\$0.00	\$69.01
	09/06/2026	\$37.04	\$15.96	\$18.27	\$0.00	\$71.27

Apprentice - VOICE-DATA-VIDEO TECHNICIAN - Local 96

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.65	\$13.99	\$4.41	\$0.00	\$36.05
2	55	\$19.41	\$13.99	\$4.46	\$0.00	\$37.86
3	60	\$21.17	\$13.99	\$17.15	\$0.00	\$52.31
4	65	\$22.94	\$13.99	\$17.20	\$0.00	\$54.13
5	70	\$24.70	\$13.99	\$17.25	\$0.00	\$55.94
6	75	\$26.47	\$13.99	\$17.30	\$0.00	\$57.76
7	80	\$28.23	\$13.99	\$17.36	\$0.00	\$59.58
8	85	\$30.00	\$13.99	\$17.41	\$0.00	\$61.40

Effective Date - 09/07/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$14.98	\$4.51	\$0.00	\$37.55
2	55	\$19.87	\$14.98	\$4.57	\$0.00	\$39.42
3	60	\$21.67	\$14.98	\$17.48	\$0.00	\$54.13
4	65	\$23.48	\$14.98	\$17.53	\$0.00	\$55.99
5	70	\$25.28	\$14.98	\$17.59	\$0.00	\$57.85
6	75	\$27.09	\$14.98	\$17.64	\$0.00	\$59.71
7	80	\$28.90	\$14.98	\$17.70	\$0.00	\$61.58
8	85	\$30.70	\$14.98	\$17.75	\$0.00	\$63.43

Notes:

Apprentice to Journeyworker Ratio:1:1

WAGON DRILL OPERATOR	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
LABORERS - ZONE 2	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21

For apprentice rates see "Apprentice- LABORER"

WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Additional Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

**MINORITY/WOMEN BUSINESS ENTERPRISE and WORKER UTILIZATION
PROGRAM**

**BIDDERS MUST COMPLETE AND SUBMIT FORM E00-101
WHICH IS PART OF THE BID SUBMISSION**

INCLUDED IN THIS SECTION ARE COPIES OF THE AGREEMENT BETWEEN THE CITY AND THE MASSACHUSETTS COMMISSION AGAINST DISCRIMINATION WHICH GOVERN THE ACTIVITIES ADDRESSED BY THE E00-101 FORM.

Direct any questions about these forms and procedures to:

**Purchasing Division
City Hall – Room 201
455 Main Street
Worcester, MA 01608
(508) 799-1220
purchasing@worcesterma.gov**

CITY OF WORCESTER

**MINORITY/WOMEN BUSINESS ENTERPRISE AND WORKER UTILIZATION
PROGRAM**

AFFIDAVIT OF ACKNOWLEDGEMENT and CERTIFICATE OF COMPLIANCE

Form E00-101

TO ALL CONTRACTORS:

General Bidders and Filed Subbidders shall complete and submit this form as part of their bid. Non-Filed Subcontractors shall complete and submit this form to the General Contractor before beginning work.

I. THE MINORITY AND WOMEN BUSINESS AND UTILIZATION PROGRAMS

Pursuant to an agreement between the City of Worcester and the Commonwealth of Massachusetts, during the performance of any contract with the City of Worcester, all Contractors, Filed Subcontractors, and Subcontractors are bound by the obligations of the Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program. **All contractors and subcontractors if subcontracting any portion of the work are obligated to make a good faith effort to engage 10% minority and 15% women owned businesses. Further, each contractor shall make a good faith effort to maintain a workforce that is 38% people of color and 10% women.**

The undersigned hereby certifies that he/she is familiar with the provisions of The Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Programs and agrees to adhere to the provisions therein.

II. This contractor **IS** ☐ **or IS NOT** ☐ certified by the State Office of Minority and Women Business Assistance to be a minority or women owned and operated business; and

III. **WILL** ☐ **or WILL NOT** ☐ subcontract any portion of this contract.

Project Name: _____ Bid Number: _____

Authorized Signature

Business Name

Title

Address

Date

**MINORITY/WOMEN BUSINESS ENTERPRISE AND WORKER UTILIZATION
PROGRAM**

FORM EOO-D/102

BIDDERS INFORMATION ON PROCEDURES AND FORMS

To make all contractors aware of their obligation to follow certain procedures and file appropriate reports pertaining to those procedures, the following is an outline of Minority/Women Business Enterprise and Worker Utilization Program. Also included here is the Affidavit of Acknowledgement and Certification of Compliance, Form E00-101. This form is to be completed and filed as part of your bid.

The following documents are included in this bid:

1. **AFFIDAVIT OF ACKNOWLEDGEMENT AND CERTIFICATION OF COMPLIANCE**, E00-101

This form is to be completed by all General Contractors and Filed Subcontractors and submitted as part of their bid on all City of Worcester construction projects.

2. **SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM** E00-D/3

The agreement between the City of Worcester and the Massachusetts Commission Against Discrimination establishing the goals and procedures for the utilization of minority and women owned businesses and minority and women workers on City Construction projects.

3. **SUCCESSFUL BIDDER'S OBLIGATION TO PROCEDURES AND FORMS**, EE0-D/103

This is a listing of the procedures and forms that will be provided to the successful bidder for use prior to beginning work and at various times throughout the life of the project.

THE CITY OF WORCESTER

SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM

I. AGREEMENT

During the performance of this contract, the Contractor or Filed Subcontractor and all subcontractors (herein collectively referred to as the Contractor), for himself/herself, his/her assignees, and successors in interest, agree as follows:

1. In conjunction with the performance of work under this contract, the contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, sex, or handicap. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising; layoff; termination, rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The contractor shall post hereafter in a conspicuous place, available to employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (M.G.L. Chapter 151 B).
2. In connection with the performance of work under this contract, the Contractor shall undertake in good faith affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age, sex, or handicap, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age, sex, or handicap. The purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future City public construction project.

II. OBLIGATION

1. As part of the obligation of remedial action under the foregoing section, the Contractor shall maintain goals on this project no less than 38 percent (38%) people of color employee and 10 percent (10%) women employee hours of the total work hours in each job category including but not limited to, bricklayers, carpenters, cement masons, electricians, iron workers, operating engineers, and those "classes of work" enumerated in section 44C of chapter 149 of the Massachusetts General Laws.

In the hiring of minority and women journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the City, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the City.

III. REPORTS

1. Contractor shall prepare projected manning tables on a quarterly basis, **Quarterly Projected Workforce Table, E00-105**. These shall be broken down into projections by week, for workers required in each trade. Copies shall be furnished to the City one week in advance of the commencement of the period covered, and at such time as there is a need to be updated during the period.
2. Records of employment referral orders, prepared by the Contractor, shall be made available to the City on request.
3. The Contractor shall prepare the **Certified Payroll Report on a weekly basis**, which lists the hours worked in each trade by each employee identified as minority, non-minority, male and female. Copies of these shall be provided to the City at the end of each week.

IV. SUBCONTRACTING WORK

If the Contractor shall use any Subcontractor on any work performed under this contract, affirmative action shall be taken to negotiate with qualified minority and women contractors. This affirmative action shall cover both pre-bid and post-bid periods.

V. EMPLOYMENT

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

VI. RIGHT OF ACCESS

A designee of the City shall have the right of access to the construction site.

VII. COMPLIANCE WITH REQUIREMENTS

The contractor shall comply with the provisions of Executive Order No. 227 amending and revising Executive Order No. 74, as amended by executive Order No. 16 dated May 1, 1975 and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made part of this contract.

VIII. NON-DISCRIMINATION

The Contractor, in the performance of all work after the award, and prior to completion of the contract work, will not discriminate on the grounds of race, color, religious creed, national origin, age, sex, or handicap in employment practices, in the selection or retention of other contractors or in the procurement of materials and rentals of equipment.

IX. SOLICITATIONS FOR SUBCONTRACTORS, AND FOR THE PROCUREMENT OF MATERIALS AND EQUIPMENT

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or supplies, each entity solicited shall be notified in writing by the contractor of the

Contractor's obligation under this contract relative to non-discrimination and affirmative action.

X. CONTRACTOR'S CERTIFICATION

Contractors bidding as General Contractors or Filed Sub-contractors shall certify that they will comply with the minority and women manpower and business enterprise goals and specific affirmative action steps contained in this Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program by signing and submitting with the bid the **Affidavit of Acknowledgement and Certification of Compliance, Form E00-101**.

If any Contractor subcontracts any portion of the work, the Contractor is required to obtain from each Subcontractor, regardless of tier, an Affidavit of Acknowledgement and Certification of Compliance, Form E00-101 stating that it will comply with the minority and women subcontracting and manpower ratios and specific affirmative action steps contained in this Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program by signing this form and submitting it to the Contractor for submission to the awarding authority not later than five working days following the opening of the bids.

XI. COMPLIANCE – INFORMATION, REPORTS, AND SANCTIONS

1. The Contractor will provide all information and reports required by the City on instructions issued and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the City to affect the employment of personnel. This provision shall apply only to information pertinent to the City's supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the City and shall set forth what efforts have been made to obtain the information.
2. Whenever the City believes the Contractor may not be operating in compliance with the terms of this Section, the City directly, or through its designated agent, shall conduct an appropriate investigation, and confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the City or its agent finds the Contractor not in compliance, it shall make a preliminary report of non-compliance and notify such Contractor in writing of such steps as will in the judgment of the City or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the City shall make a final report of non-compliance, and recommend the imposition of one or more of the sanctions listed below. If, however, the City believes the Contractor has taken or is taking every possible measure to achieve compliance, it shall not make final a report on non-compliance. Within fourteen (14) days of the receipt of the recommendations of the City, the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement.
 - a. The recovery by the administering agency from the Contractor of 1/10 of 1% of the contract award price or \$1000.00, whichever sum is greater, in the nature of liquidated damages or, if a Subcontractor is in non-compliance, the recovery by the administering agency from the Contractor as a back charge against the Subcontractor of 1/10 of 1% of the subcontract price, or \$400.00, whichever sum

is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply;

- b. The suspension of any payment or part thereof due under the contract until such time as the Contractor or any Subcontractor is able to demonstrate compliance with the terms of the contract;
 - c. The termination, or cancellation, of the contract, in whole or in part, unless the Contractor is able to demonstrate within a specified time his compliance with the terms of the contract;
 - d. The denial to the Contractor of the right to participate in any further contracts awarded by the administering agency for a period of up to three years.
3. If at any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate that he/she is in compliance with this section, he/she may request the administering agency in consultation with the City, to suspend the sanctions conditionally, pending a final determination by the City as to whether the contractor is in compliance. Upon final determination, based on the recommendations of the adjudicatory body, the City shall either lift the sanctions or reimpose them.
4. Sanctions enumerated under Section XII-2 shall not be imposed except after an adjudicatory proceeding, as that term is used in M.G.L. Chapter 30, has been conducted. No investigation by the City or its agent shall be initiated without prior notice to the Contractor.

XII. SEVERABILITY

The provisions of this Section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decisions of such court shall not affect or impair any of the remaining provisions.

XIII. WAIVER

The City of Worcester reserves the right to waive any stipulation in the M/WBE Program when deemed necessary or appropriate for the general good of the City and its programs.

DEFINITIONS

Contractor	Except where otherwise specifically stated the term "Contractor" shall mean any General Contractor, Filed Subcontractor or Non-Filed Subcontractor.
City	is the City of Worcester , Massachusetts
M/WBE	is Minority and Women Business Enterprise as certified by the State Office of Minority and Women Business Assistance to be 51% or more minority or women owned and operated.

**MINORITY/WOMEN BUSINESS ENTERPRISE AND WORKER UTILIZATION
PROGRAMS**

FORM E00-D/103

SUCCESSFUL BIDDER'S OBLIGATION TO PROCEDURES AND FORMS

All successful bidders on City of Worcester construction projects will receive a package of procedures and forms that are to be used at specific times throughout the life of the project.

The following is a list of the documents that will be sent to successful bidders when this office is notified that a contract has been, or is about to be, executed.

I. BUILDING TRADES – CONTACT LIST, E00-D/6

When a contractor cannot fulfill the worker utilization percentages, the appropriate building trades locals may be contacted to request assistance in locating and engaging qualified workers.

II. AFFIDAVIT OF ACKNOWLEDGEMENT and CERTIFICATION OF COMPLIANCE, (FOR SUBCONTRACTORS), E00-101

If any portion of a project is to be subcontracted at any tier, each additional subcontractor shall complete this form and send it to the Contract Compliance Office within two business days of contract execution and PRIOR to beginning work on the project.

III. TABLE OF PROJECTED SUBCONTRACTORS, E00-103

The use of subcontractors at any tier shall be reported to the Contract Compliance Office on this form prior to the subcontractor beginning work on the project.

IV. SUBCONTRACTOR'S CERTIFICATE OF INTENT TO PARTICIPATE, E00-104

Each Non-Filed subcontractor engaged to work on a project shall complete and forward this form to the Contract Compliance Office prior to beginning work on the project.

V. QUARTERLY PROJECTED WORKFORCE TABLE, E00-105

Each General Contractor, Filed Subcontractor and Non-Filed Subcontractor, regardless of tier, shall complete and forward this form to the Contract Compliance Office prior to beginning work and again for each additional three month period throughout the life of the project.

VI. REQUEST FOR MODIFICATION

E00-106B, MINORITY AND WOMEN BUSINESS UTILIZATION E00-106C, MINORITY AND WOMEN UTILIZATION IN THE WORK FORCE

Any General Contractor, Filed Subcontractor or Non-Filed Subcontractor, regardless of tier, not meeting the minority and women goals, may file a request for modification after having exhausted all possible sources. Requests for modification are considered **ONLY** after attempts to fulfill these mandates have been documented and submitted to the Contract Compliance Office with the appropriate sections of this form.

A modification or waiver will not be granted because a contractor wishes to use an existing workforce that does not achieve the goals of 38% of total work hours to be worked by people of color and 10% of total work hours to be worked by women; and,

If subcontracting, does not meet the goals of 10% of the contract value for Minority Business Enterprises and 15% of the contract value to Women Business Enterprises.

VII. WEEKLY PAYROLL REPORT FORM & STATEMENT OF COMPLIANCE

At the end of each week of work, all Contractors, Filed Subcontractors, and Non-Filed Subcontractors, regardless of tier, shall complete and submit these forms to the Contract Compliance Office.

The Contract Compliance Office will also accept computer generated payroll reports. However, if the computer payroll does not reflect the prevailing wage, the Contractor must provide a breakdown of the benefits paid to each employee which, when added to the base wage, equals the prevailing wage.

The City of Worcester regards the monitoring of weekly certified payroll reports to be a most important function. Therefore, all certified payroll reports shall be scrutinized by the Contract Compliance Office and any violations of the Commonwealth's prevailing wage law will be vigorously enforced.

CORI COMPLIANCE / GENDER IDENTITY & EXPRESSION

Vendors entering into contracts with the City of Worcester must affirm that their policies regarding CORI information are consistent with the CORI hiring standards set by the City of Worcester. The City's CORI hiring policy may be downloaded from City of Worcester website www.worcesterma.gov. Questions pertaining to the City's CORI hiring policy are to be directed to the Equal Employment Opportunity Officer, Executive Office of Human Resources at hr@worcesterma.gov

CERTIFICATION

All Vendors must check one of the three lines below.

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 with the CORI hiring standards set by the City of Worcester.
3. _____ CORI checks are performed on some or all Applicants. The Vendor's CORI policy is not consistent with the standards set forth with the CORI hiring standards set by the City of Worcester. (a copy of the Vendor's written CORI policy must accompany this form).

(Typed or printed name of person
signing quotation, bid or proposal)

Signature

Name of Business

A Vendor with a CORI policy that does NOT conform to the City standards must check Line 3. Vendors who check Line 3 will not be permitted to enter into contracts with the City, absent a waiver granted by the City. For any waiver to be granted, a written request should accompany bid submission explaining in detail why the vendor fails or refuses to comply with the City's CORI hiring standards.

Gender Identity Standards Applicable to Vendors

The city will do business only with vendors that have adopted and employ Gender Identity policies, practices and standards that are consistent with city standards.

The city may review all vendors' Gender Identity policies and practices for consistency with city standards.

By signing this bid, vendor confirms that their Gender Identity policies, practices and standards are consistent with those of the City of Worcester. For further information please refer to the Ordinance Relative to Gender Identity and Expression found at www.worcesterma.gov or call the LGBTQ Liaison/Director of Human Rights & Disabilities at 508-799-8486.

VENDOR/SERVICE PROVIDER CERTIFICATION

TO BE AWARDED A VENDOR/SERVICE CONTRACT, ALL PARTS OF THIS FORM THAT APPLY TO YOUR BID MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.

Bidder is a Minority Business Enterprise (MBE) - see reverse for definition Yes_____ No_____

Bidder is a Woman Business Enterprise (WBE) - see reverse for definition Yes_____ No_____

IF SUBCONTRACTING any portion of the service covered by this bid, the successful bidder shall demonstrate a good faith effort to seek and use TEN PERCENT (10%) Minority and FIFTEEN PERCENT (15%) Women-owned Businesses.

A. YOUR INTENT TO SUBCONTRACT. CHECK (✓) THE APPROPRIATE BOX:

☐

No work will be subcontracted. Complete Section "C" only.

☐

Some work will be subcontracted. Complete Section "B" and "C"

B. LIST SUBCONTRACTORS Engaged to do any portion of this Bid.

Check (✓) the appropriate box and give complete information.

☐

MBE

☐

WBE

☐

OTHER

Firm Name: _____

Street Address: _____

City/State/Zip _____

Work subcontracted: _____ Dollar Value \$ _____

Check (✓) the appropriate box and give complete information.

☐

MBE

☐

WBE

☐

OTHER

Firm Name: _____

Street Address: _____

City/State/Zip _____

Work subcontracted: _____ Dollar Value \$ _____

C. ITEM/SERVICE BID ON: _____ BID NO.: _____

Firm Name: _____

Street Address: _____

City/State/Zip _____

For purposes of the City’s classification and reporting program, the following definitions apply:

Minority Business Enterprise (MBE) – a for profit enterprise, regardless of size, physically located in the United States or its trust territories, which is owned, operated and controlled by minority group members. “Minority group members” are U.S. citizens who are African-American, Latin American, Native American, Asian-Pacific American and Asian-Indian American. “Ownership” by minority individuals means the business is at least 51% owned by such individuals or, in the case of a publicly owned business, at least 51% of the stock is owned by one or more such individuals. Further, those minority group members control the management and daily business operations.

Women Business Enterprise (WBE) – a for profit enterprise, regardless of size, physically located in the United States or its trust territories, which is owned, operated and controlled by women group members. “Ownership” by women means the business is at least 51% owned by women or, in the case of a publicly owned business, at least 51% of the stock is owned by one or more women. Further, those women group members control the management and daily business operations.

STATE LAW MANDATES THAT TO DO BUSINESS WITH THE CITY OF WORCESTER the Massachusetts Revenue Enforcement and Protection Program of 1983 requires that the following be supplied with your bid:

DATE: _____

Pursuant to Mass. G.L. Ch. 62C, Section 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all Massachusetts State Tax Returns and paid all Massachusetts State and City Taxes required under law.

COMPANY NAME: _____

STREET ADDRESS: _____

CITY OR TOWN: _____

STATE: _____

ZIP CODE: _____

TELEPHONE NO.: _____

FAX NO. _____

SOCIAL SECURITY OR FEDERAL IDENTIFICATION NO.: _____

AUTHORIZED SIGNATURE: _____

FAILURE TO COMPLETE THIS FORM MAY RESULT IN REJECTION OF BID AND/OR REMOVAL FROM CITY BID LIST.

RIGHT TO KNOW

Any vendor who receives an order or orders resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to M.G.L. C111f 228, 9 and 10 and the regulations contained in 441 CMR SS21.06 when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to M.G.L. C111F S7 and the regulation contained in 441 CMR S21-05. Failure to submit a MSDS and/or labels on each container will place the vendor in noncompliance with the purchase order and/or contract. Failure to furnish MSDS's and/or labels on each container may result in Civil or Criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the Commonwealth. All vendors furnishing substances or mixtures subject to Chapter 1.1F or M.G.L. are cautioned to obtain and read the law and rules and Regulations referenced above. Copies can be obtained from the State House Book Store, Secretary of State, State House, Room 117, Boston, MA (617) 727-2834 for \$2.00 plus \$.65 postage. In addition, copy of "Right to Know" law is available in Purchasing Department for review.

WAGE THEFT PREVENTION CERTIFICATION

By the Revised Ordinances, Chapter 2, Section 39, the city of Worcester has established requirements for certain contracts in an effort to prevent wage theft. Prospective contractors must provide the following certification and disclosures with their bids/proposals. The City will not award a contract without receipt of this completed certification.

INSTRUCTIONS: A prospective contractor shall **(a)** check Box 1 OR Box 2, as applicable, **(b)** check Boxes 3-5, **(c)** sign this form certifying compliance with the Wage Theft Prevention Ordinance, and **(d)** submit the completed form with its bid/proposal. For multi-year contracts, the successful bidder/proposer shall submit the completed form annually to the Purchasing Director.

Pursuant to the Wage Theft Prevention Ordinance, successful bidders/proposals shall post in conspicuous places the Mass. Wage and Hour Laws notice informing employees of the protections of G.L. c. 149, Sec. 151, and the Fair Labor Standards Act (FLSA). The notice may be found at <http://www.mass.gov/ago/docs/workplace/wage/wagehourposter.pdf>

ALL BIDDERS/PROPOSERS MUST CERTIFY THAT [check either Box 1 or Box 2, as applicable]

1. ☐ Neither this vendor/contractor nor any prospective 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. c. 149, G.L. c. 151, or FLSA, within three (3) years prior to the date of this bid/proposal submission.

OR

2. ☐ This vendor/contractor, or a prospective subcontractor, has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, or debarment resulting from a violation of G.L. c. 149, G.L. c. 151, or FLSA, within three (3) years prior to the date of this bid/proposal submission. The firm shall provide a copy of the same with the bid/proposal.

ALL BIDDERS/PROPOSERS MUST CERTIFY EACH OF THE FOLLOWING

3. ☐ Within five (5) days of receiving notice, the vendor/contractor shall report and provide a copy of any federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, G.L. c. 151, or FLSA imposed on this firm or on any prospective subcontractor while any bid/proposal to the City is pending and, if awarded a contract, during the term of the contract provide the same to the Purchasing Director.

4. ☐ A vendor/contractor awarded a contract that has disclosed under paragraph 3 above shall, upon request, furnish monthly certified payrolls for the City contract as the Purchasing Director instructs and shall, at the discretion of the Purchasing Director, obtain a wage/payment bond or other suitable insurance as required by the Wage Theft Prevention Ordinance. Vendors/contractors 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. ☐ The contractor shall post notices provided by the City in conspicuous places informing employees of the protections of the Wage Theft Prevention Ordinance, and applicable local, state and federal law.

The undersigned certifies under the pains and penalties of perjury that the contractor is in compliance and agrees to remain in compliance with the provisions of the Wage Theft Prevention Ordinance for the term of its contract with the City.

Signed: _____

Print Name & Title	Company Name	Date

Shore Drive Sidewalk and Parking Lot

THE BIDDER MUST FILL IN THESE UNIT PRICES. Also carry out all extensions and fill in "Computed Totals."
In case of error or discrepancies, UNIT PRICES govern and written works take precedence over figures.

ITEM NUMBER AND DESCRIPTION		ESTIMATED QUANTITY	COMPUTED TOTALS
900.0000	Lump Sum Reserve		
	one hundred thousand and xx / 100 Dollars		\$ 100,000.00
900.0001	SHORE DRIVE PARK PROJECT		
	Dollars	1.00	\$
	(\$) LS		

Shore Drive Sidewalk and Parking Lot

TOTAL BID PRICE INCLUDING CONTINGENCY

_____ Dollars and _____ Cents
(amount in words)

\$ _____
(amount in figures)

This proposal is based on provisions of the following addenda:

No. _____

No. _____

No. _____

No. _____

All amounts and totals given above will be subject to verification by the City. In case of variation between Unit Bid Price and Totals shown by the Bidder, the Unit Price written in words will be considered to be the bid.

The City reserves the right to reject any and all bids, wholly or in part, and to make awards in a manner deemed in the best interests of the City.

The above estimated quantities form an approximate statement of the extent of the work to be done, based upon the estimate of the Contracting Officer. The City does not expressly or by implication agree that the actual quantity of work will correspond therewith, but reserves the right to increase or decrease the quantity of any class or portion of the work, as may be deemed necessary by the Contracting Officer.



The City of Worcester

Department of Public Works & Parks

Parks/ Recreation/ Forestry/ Cemetery

REQUEST FOR BIDS

Shore Drive Sidewalk Improvements 2024

SUPPLEMENTAL PROJECT SPECIAL CONDITIONS & SPECIFICATIONS

Jay J. Fink, P.E., Commissioner

Robert C. Antonelli, Jr., Assistant Commissioner



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PROJECT SPECIAL CONDITIONS

ARTICLE 1 PROJECT SITE

- a. All work of this contract is located within the confines and adjacent Right- of-Way of Shore Park, 85 Shore Drive owned and maintained by the City of Worcester DPW and Parks.

ARTICLE 2 SUMMARY OF WORK

- a. The work to be completed under this contract involves the furnishing of all labor, materials and equipment for the following items of work and all incidentals thereto. All work shall be performed in full accordance with the specifications, other contract documents, obviously implied and necessary or under the direction of the Owner.
- b. The plans, specifications and special conditions are intended to be cooperative, and any item called for in one and not the other shall be as binding as if called for in both. During the bidding period discrepancies should be immediately brought to the attention of the Owner for clarification. If a discrepancy is discovered within the plans and the specifications after the Bid period, **the Owner will determine which shall apply.**
- c. When Applicable, The City of Worcester DPW and Parks, will specify Project Standard appurtenances/amenities such as, but not limited to, park benches, trash receptacles, irrigation controllers, pedestrian, parking and sports field lighting, etc. in the facilities within their jurisdiction that are currently installed at this or other facilities. By standardizing, it provides the Division with a consistent product which through familiarity reduces operator training and maintenance time. Standardization also provides opportunities for maintenance cost saving through interchangeable parts such as but not inclusive to luminaries, ballast, poles, compatibility with current Division maintenance equipment etc.
 - i. No substitution or equal will be accepted for the following item(s);
 1. Redi Rock Precast Modular Block Retaining Wall
- d. Quality Control: In order to ensure the highest level of quality with respect to the playing surface of this greatly utilized public athletic facility, the General Contractor / Awardee shall have a minimum of five (5) years of successful experience.
 1. as the Prime Contractor constructing (provide verifiable references upon request)
 2. ability to demonstrate constructing (provide verifiable references upon request)
 3. coordinating and supervising (provide verifiable references upon request)

Park and Municipal Improvements of similar size and quality of this Project as per the standards of the Project specifications and construction drawings.

ARTICLE 3 WORK WITHIN A PUBLIC PROPERTY

- a. As a point of information, all the work to be undertaken is located within the confines of an unsecured public property, and as such is subject to acts of vandalism. The City of Worcester is not liable for any damage to the Contractor's equipment or materials. The Contractor shall take all means and measures necessary to protect the public, work in progress, work completed, and all furnishings, materials and equipment stored at the site through the completion of the Project. The repair or replacement of work in place or in progress shall be the sole responsibility of the Contractor and shall be accomplished at no cost to the Owner.

ARTICLE 4 SITE INSPECTION

- a. It shall be contingent upon the Contractor to inspect the site as an aid to determining the extent of the work under the various contract items before submission of the Bid.



ARTICLE 5 PRE-CONSTRUCTION MEETINGS

- a. A mandatory pre-construction meeting will be arranged by the Owner's representative after the award of the Contract. Sub-consultants may be asked to attend the pre-construction meeting if determined by the Owner's Representative to be warranted.

ARTICLE 6 SITE ACCESS

- a. Prospective bidders are advised that access to the Project sites shall be in accordance with the governing traffic patterns with specific locations into the site, to be verified in the field after award of the contract.
- b. Regardless of the eventual location of the construction access and limits of work, the Contractor shall make every provision to ensure the access and safety of the public using the balance of any of the existing amenities on the property.

ARTICLE 7 OWNER'S TAX EXEMPTION

- a. The Awarding Authority, as a department of a corporate municipality in the Commonwealth is exempt from the taxes listed below. Contractor shall notify all suppliers of the following current certificates.
 1. Federal Excise Taxes as applied to articles taxable under Chapter 32 of the Internal Revenue Code of 1954, as amended, City Excise Tax Exemption Certificate is not required.
 2. From Sales and Use Tax imposed by the Commonwealth of Massachusetts under Chapter 14, Acts of 1966, the City has been assigned and exemption certificate with respect to leases, rentals, or purchases of "Tangible Personal Property". The Owner at the Contractor's request will furnish the tax-exempt certification number.

ARTICLE 8 TIME FOR COMPLETION & SEQUENCE OF WORK

- a. Except as the work may be interrupted by weather conditions as hereinafter specified, the Contractor shall prosecute the Work with the diligence necessary to ensure its completion within the required time. The Contractor shall provide sufficient labor, materials, and equipment, and shall promptly take such appropriate action to keep the Work on schedule or as directed by the Owner. No additional time shall be provided for Change Orders.
- b. The Parks, Recreation and Cemetery Division shall be solely responsible for determining when the work shall be interrupted due to unsatisfactory weather conditions. Determination of the period to be included in the Time for Completion shall cease when the City directs that the work stops due to weather and shall commence again on the first working day thereafter that the City may designate for the work to be resumed.
- c. The Contractor must completely understand that once the Contractor mobilizes and begins work, the Contractor shall be on-site, every day during the normal work week, and must work continuously until substantial completion of the Project. The Parks, Recreation, and Cemetery Division will not allow any time gaps of any length of time during the construction due to the Contractor's scheduling of other work not related to this specific Contract.
- d. It should be further understood that this Project will not be a "fill-in" for the Contractor and that the Contractor does not have the ability to start and stop construction at the Contractor's option. Any unauthorized time gaps will be subject to a flat fee of \$500.00 per day. The Owner reserves the right to deduct said fee from the Contractor's periodic application for payment and the Contract Sum.

- e. The Contractor shall carry on the Work and adhere to the schedule during all disputes and disagreements with the Owner. 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.
- f. Punch list shall be completed within 28 days from date of issue.
- g. The Contractor is advised that the **required calendar days** regarding Time for Completion and Punchlist, shall be consecutive.

ARTICLE 9 LIQUIDATED DAMAGES

- a. Prospective Bidders are advised that liquidated damages shall be in effect for this Project. The Contractor shall be liable for and compensate the Owner.
 - 1. the sum of Five Hundred and Dollars (\$500.00) as fixed and agreed, as liquidated damages for each calendar day of delay from the date stipulated for completion, or as modified in accordance with the provisions of the Contract.
 - 2. If Applicable, State and Federal Grant Funding losses.
 - 3. and/or actual costs incurred by the Owner for additional Construction Administration/Management (City Staff, Consultants, etc.) salaries/compensation from the date stipulated for completion, or as modified in accordance with the provisions of the Contract and notification to The Sureties.

ARTICLE 10 CONSTRUCTION SCHEDULES & PAYMENT ESTIMATES

- a. The Contractor must submit a construction schedule to the Owner indicating the general sequence of all work under this Contract. This schedule must be submitted within 7 calendar days of the date of the Notice-to-Proceed and shall be revised if required to the satisfaction of the Owner.
- b. The Contractor shall submit a breakdown and monthly cost estimate (schedule of values) for all items of work, including separate categories, phases, grant funded or reasonable requests by the Owner.
- c. The established breakdown of items, categories and values shall be utilized to prepare the monthly pay requisition forms. It is recommended that the Contractor submit a draft Payment Applications to the Owner for approval, no later than the second week of every month. The Owner shall review and edit this copy to indicate the amount of payment to be approved and return this to the Contractor after field review.
- d. Revised/updated; monthly payment estimates, construction schedule, As-builts and proof of up to date daily construction reports shall be submitted with monthly Payment Applications. The Contractor shall then formally submit three (3) originals of the Payment Applications, conforming to the Owner's approval, for payment.

ARTICLE 11 CONSTRUCTION REPORTS & WEEKLY PROGRESS MEETINGS

- a. The Contractor and Sub-Contractors shall attend a regular weekly meeting with the Owner at the Parks, Recreation and Cemetery Division Headquarters, 50 Officer Manny Familia Way, Worcester, MA, at a pre-determined time set by the Owner. The Contractor must be present for these meetings during the Contract and reserves no right to cancel the meeting.
- b. The Contractor will be required to take minutes for the weekly scheduled meetings. The Contractor will have three (3) business days from the date of the meeting to submit to the Owner the minutes of the meeting on the Parks, Recreation and Cemetery Division form. The form will be supplied to the respective Contractor when the Notice to Proceed has been issued.
- c. The Contractor will be required to maintain daily construction reports (DCRs) (format and information required to be provided and/or approved by Owner). PDF of the DCRs shall be submitted weekly for Owner review and files.
- d. The Owner may desire other meetings from time to time, and the Contractor shall attend these, and such Sub-Contractors as are directed to attend. All the above-mentioned conditions should apply.



ARTICLE 12 HOURS OF OPERATION

- a. Unless otherwise approved by the Owner, hours of operation shall be 7:00 a.m. to 3:30 p.m., Monday through Friday, excluding City observed holiday(s).

ARTICLE 13 CONTRACT DOCUMENTS

- a. The Owner will furnish the Contractor, without charge, four (4) complete copies of the Contract Documents. Additional copies requested by the Contractor will be furnished at cost.

ARTICLE 14 STORAGE, USE OF MATERIALS & EQUIPMENT/MACHINERY

- a. Bidders are advised that the storage of equipment within the confines of the Project limit shall be at the Contractors own risk. No material or equipment shall be stored outside the limits of work as defined in the contract documents, designated and agreed to by the Owner.
- b. The Contractor shall not use as any part of his operation any skid steered, track driven, or heavy machinery/equipment on adjacent roadways.

ARTICLE 15 DELIVERY, INSPECTION & ACCEPTANCE OF NEW AMENITIES

- a. General Contractor shall provide product manufacturer and Owner, 72 hours advance notice of any onsite scheduled deliveries of Amenities for Inspection and Acceptance.
- b. Any damages noted by any of the parties present at time of inspection shall be corrected in one of the three options below, as determined by the Owner, with no delays or extensions to the Project Schedule.
 1. Repair to the **FIT & FINISH** of the manufacturer's/factory Specification prior to installation.
 2. Replace with new product from manufacturer/factory.
 3. Install damaged product and field repair to the Owner's satisfaction and provide new identical replacement part as spare.
 4. This Article shall also apply to amenities stored offsite and damages discovered while under the Responsibilities of the General Contractor, until the Acceptance of Work.

ARTICLE 16 CARE AND RESPONSIBILITIES OF CONTRACTOR

- a. Except as otherwise specifically stated in the Contract Documents and Technical Specifications, the Contractor shall provide and pay for all materials, tools, labor, equipment, water, light, heat, power, transportation, superintendence, protection, temporary construction of every nature, charges, levies, fees or other expenses, permits and back charges and all other services and facilities of every nature whatsoever necessary for the performance of the Contract and to deliver all improvements embraced in this Contract completed in every respect within the specified time.
- b. Unless otherwise specified herein all materials, workmanship, methods, and practices shall conform to the current Standards and Ordinances of the appropriate Departments and/or Commissions of the City. The following documents are available online at <http://www.ci.worcester.ma.us/dpw/> , a hard copy or CD will be furnished to the Contractor upon request.
 - i. The City of Worcester DPW and Parks, Engineering Division, Construction Management Section, Standard Specifications and Details - March 2007 or current edition.
 - ii. Permit Manual – Revised 2004 or current edition.
- c. The Contractor shall be responsible for detailed layout. All stakeout and grade control shall be performed by a third-party MA registered Land Surveyor, approved by the Owner, for this purpose. The Owner has the

option to verify and approve the layout and locations of improvements prior to excavation or installation.

- d. Grade control shall be verified by the Contractor for compliance with federal, state and or local accessibility requirements. During the construction sequence (such as: installation of subbase, bituminous binder and/or top, concrete flatwork etc.), the Contractor shall be required to verify grades, by approved methods, with the Owner present and prior to placement of finished grade for sidewalks, pathways, plazas, ramps, parking spaces, associated appurtenances, etc., that are required to meet accessibility and the Project Documents.
- e. The Contractor shall verify dimensions and utility locations shown on the plans and if any inconsistencies or discrepancies should be noted on the Drawings, or between the Drawings and actual field conditions, or between the Drawings and the specifications he/she shall immediately notify the Owner. The Contractor will be held responsible for any errors resulting from his/her failure to exercise the precaution. Such information shall be marked on copies of the "As Built" drawings and the original "As Built" drawings are to be reviewed at weekly job meetings.
- f. The Contractor shall provide final As Built Survey Drawings to the Owner. See "Record Drawings – As Built" of this Section. Punch list items shall be completed within twenty-eight (28) consecutive calendar days from date of issue, unless agreed upon otherwise by both parties. Owner has the right to complete punch list items not completed in within this timeline and deduct cost from the Contract.
- g. The Contractor shall maintain a full-time onsite superintendent, whether the construction forces are employed by his construction company or employed by a Sub-Contractor.
- h. As soon as the Contract is executed, the Contractor shall order materials, submit construction schedules as herein after specified and otherwise anticipate the Notice to Proceed. When the Owner gives the Notice to Proceed, the work of construction shall begin at the time stipulated therein and shall be completed within the Time for Completion specified.
- i. It is the Contractor's responsibility to make his own investigation and related assumptions, to satisfy her/him as to subsurface conditions and to ensure that these are reflected in the bid.
- j. In order to verify locations of utilities and varying field conditions, exploratory excavations may be necessary, the cost of which is to be included in the contract bid price.
- k. The Contractor's attention is called to the necessity of obtaining permits and coordination with, especially those required by various departments of the City and all external utility companies. These permit fees will **not be waived** by the City and must be paid in full by the Contractor.
- l. The Contractor shall furnish and maintain all temporary fences, barriers, enclosures, lights and warning devices necessary to protect his/her work area and to protect the public and his work forces throughout the life of this Contract.

ARTICLE 17 EMERGENCY CONTACT INFORMATION

- a. The Contractor will be required to submit within seven (7) business days after the Notice to Proceed a list of all people that will be involved with the completion of this Project including all principal(s), president(s), superintendent, and Project manager of the company. The list shall contain the following information, including but not limited to name, title, address, voice mail number, cell/contact phone number, fax number and email address.

ARTICLE 18 ON SITE SUPERINTENDENT & PROJECT MANAGER

- a. The Contractor must, always, maintain an on-site Superintendent during the construction and administration of this Contract. The superintendent must be completely familiar with all aspects of the Project and capable of following the construction through from start to finish. The Contractor does not have the right to switch, replace, change or otherwise remove the superintendent assigned to this Project unless specifically authorized in writing by the Owner. The on-site superintendent must be present a minimum of seven (7) hours per day during construction. If the on-site superintendent fails to meet the above-mentioned requirements, the Contractor will



be subject to a flat fee of \$500.00 per day. The Owner reserves the right to deduct said fee from the Contractor's periodic application for payment and the Contract Sum.

The Contractor must assign a Project Manager to this Contract that is completely familiar with all aspects of the work, available and capable of completing the Project. The Contractor does not have the right to switch, replace, change or otherwise remove the on-site Superintendent and/or Project Manager assigned to this Project unless specifically authorized in writing by the Owner. It should be further understood that the Owner would discuss all matters regarding the administration of this Contract with only one (1) Project Manager, regardless of how many the Contractor assigns to the Project.

All correspondence, emails, voice mail, faxes, etc. will be handled through the designated Project Manager only. The Parks, Recreation and Cemetery Division reserves the right, in conjunction with the Contractor, to remove the Contractor's assigned on-site Superintendent and/or Project Manager if the City feels it is the best interest to do. Upon written notification, the Contractor must assign a new Project Manager within three (3) business days.

ARTICLE 19 PROVISIONS FOR TRAFFIC/POLICE DETAIL (As Applicable)

- a. The Contractor shall not close or obstruct any portion of the **RIGHT-OF-WAY** without obtaining the necessary permission from the proper municipal authorities. If any street or private way shall be rendered unsafe by the Contractor's work, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the Owner including the provision of police details required to complete the work.
- b. The Contractor at his/her expense shall maintain public roads and sidewalks passable and accessible, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made. He shall conduct his construction operations such that interference with the activities of park users will be held to a minimum.
- c. The Contractor shall cooperate in every way possible with the municipal authorities in accommodating park activities and events.

ARTICLE 20 COMMUNICATIONS

- a. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing and must be presented in person or by mail to the Owner, or alternate methods (s) agreed upon by both parties.
- b. Any notice to or demand upon the Contractor shall be considered sufficiently given if delivered at the office or field office of the Contractor stated on the signature page of the Agreement (or at such other office as the Contractor may from time to time designate in writing to the Owner), or if deposited in the United States mail in a sealed, postage prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.
- c. All papers required to be delivered to the **Owner** shall, unless otherwise specified in writing to the Contractor, be delivered to:

Department of Public Works and Parks
DPW Engineering
20 East Worcester St, Worcester, MA 01604

and any notice to or demand upon the Owner shall be sufficiently given is so delivered, or if deposited in the United States mail in a sealed, postage prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Owner at such address, or to such other representatives of the Owner or to such other address as the Owner may subsequently specify in writing to the Contractor for such purpose.

- d. Any such notice shall be deemed to have been given as of the time of actual delivery or (in the case of mailing) when the same should have been received in due course of post, or in the case of telegrams, at the time of actual receipt.

ARTICLE 21 PARTIAL USE OF SITE IMPROVEMENTS

- a. The Owner, at its election, may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected and can be accepted as complying with the Technical Specifications and if, in its opinion, each such section is reasonably safe, fit and convenient for the use and accommodation for which it was intended, provided:
 1. The use of such sections of the improvements shall in no way impede the completion of the remainder of the work by the Contractor.
 2. The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.
 3. The use of such sections shall in no way relieve the Contractor of his liability due to having used defective materials or due to poor workmanship.
 4. The period of guarantee stipulated in the specifications shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.

ARTICLE 22 SAMPLING, TESTING, INSPECTION OF WORK & MATERIALS

- a. Sampling, testing and inspections ordered or required by the Owner to ensure that work and materials are as specified, and that compaction of all materials conforms to the necessary requirements shall be taken and completed by the Owner or representatives of a Massachusetts certified testing laboratory satisfactory to the Owner and shall be paid for by the Owner unless described/required in the Technical Specifications. Contractor shall provide the Owner at least 72 hours advance notice of work to coordinate the intent of this Article and shall apply automatically with all work below finished grade unless directed otherwise by the Owner.

ARTICLE 23 TEMPORARY FACILITIES

- a. Furnish all labor, materials, and services to fulfill the requirements for temporary facilities, at no additional cost to the Owner, and comply with all requirements set forth herein, except where noted requirements conflict with Federal, State, or Local laws, rules, and regulations, in which case(s) the applicable Federal, State, or Local requirements shall govern.

ARTICLE 24 SANITARY FACILITIES

- a. Provide, place, and maintain in good order from the commencement to final completion of the work, suitable temporary toilet facilities for use by all persons employed under this contract. Toilets shall be rented from and serviced by an approved company and shall be kept sanitary and always secured. The type of toilets proposed for use shall have the approval of the appropriate City Agency, and the number of units shall be as recommended by the Department of Labor. Toilets shall be locked during nonworking hours and placed in a secured (fenced) location, where possible.

ARTICLE 25 TEMPORARY LIGHT AND POWER

- a. Make all necessary arrangements with the local utility company and pay all costs including labor, in operating and maintaining all temporary services for electricity used during the construction, unless specifically noted otherwise.
- b. Ensure that temporary wiring, outlets, and lighting are provided in accordance with the current requirements of Bulletin No. 12, Division of Industrial Safety, Department of Public Safety, Commonwealth of Massachusetts.

ARTICLE 26 TEMPORARY WATER

- a. Contractor shall be responsible to furnish, install and coordinate temporary water needs and temporary connections.



ARTICLE 27 UTILITIES

- a. The Contractor shall obtain and pay for all licenses and/or permits, which are required by the City or any other agencies that may be involved; he/she shall comply with all codes, regulations and standards of the City.
- b. Contractor shall be responsible for all on-site coordination with utility companies and public agencies and for obtaining all required permits and paying all required fees. In accordance with M.G.L., Chapter 82, Section 40, including amendments; Contractor shall notify all utility companies and government agencies in writing prior to such excavation, Contractor shall also call "Dig Safe" at 1-(888) 344-7233 no less than 72 hours (exclusive of Saturdays, Sundays and Holidays.) prior to such excavation. Documentation of requests and numbers provided to Contractor shall be provided to Owner prior to excavation work.

ARTICLE 28 PHOTOGRAPHS & TIME-LAPSE CAMERAS

- a. The Contractor shall be required to furnish one (1) view of before, during and after photographs of each site conditions. The Contractor is encouraged to submit "during" photographs along with each pay requisition to facilitate approvals. Photographs in electronic format via compact disc (jpeg or tiff) are acceptable.
- b. The Contractor shall be required to furnish, install and continuously maintain **two (2)** industrial-grade, wireless, battery operated, weather-proof, construction time-lapse cameras. Cameras shall be securely mounted up to 25'-0" above sidewalk grade on existing light poles adjacent to the Project, location and field of view to be reviewed and approved by Owner. Minimum specification for the performance of the cameras shall be Brinno Model BCC200 or approved equal. The cameras' AVI file (**1 frame per 1 minute, 5 frames per second** and 30 day maximum duration) shall be submitted with monthly Payment Applications. Cameras shall be operational within 10 calendar days of notice to proceed (NTP) and prior to start of work, whichever is sooner, and maintained until substantial completion of the Project. Cameras and appurtenances shall become property of the Owner at the conclusion of the Project in proper working condition or replaced with new.

ARTICLE 29 CONTRACTOR'S SHOP & WORKING DRAWINGS

- a. Contractor to coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- b. All Contractors are directed to the timeliness and critical importance of expediting the submittal process. Any lead times that may impact sequencing should be prioritized to meet the Project schedule. The Owner must be notified if any delays arise that impact lead times.
- c. The Contractor shall coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that requires sequential activity.
- d. The Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
- e. To avoid the need to delay installation as a result of the time required to process submittals and to allow sufficient time for submittal review, all initial product submittals, shop drawings shall be submitted for processing and within **twenty-eight calendar days** (28) days from the date of Notice to Proceed.
- f. The Contractor must allow the Owner **10 calendar days** (10) per initial and subsequent shop drawing review to achieve efficient construction sequencing. Allow additional time if the Owner must delay processing to permit coordination with subsequent submittals. If an intermediate submittal is necessary, process the same as the initial submittal. Allow ample time for reprocessing each submittal to achieve efficient construction sequencing.

- g. No extension of Contract Time will be authorized because of the Contractor's failure to transmit submittals to the Owner for processing sufficiently in advance of the scheduled Work.
- h. Shop drawings, product data and samples submitted for each item will be reviewed no more than two (2) times at the Owner's expense. Submittals failing to comply with the Contract requirements will be reviewed at times convenient to the Owner and the Owner's consultants and at the Contractor's expense, based upon the hourly rate of the Engineer/Consultant for each subsequent re-submittal. The Owner reserves the right to deduct said reimbursement from the Contractor's periodic application for payment and the Contract Sum.
- i. The Owner's review and approval of submittals shall be held to limitations stated in the conditions of the Contract. In no case shall approval or acceptance by the Owner be interpreted as release of Contractor of responsibility to fulfill requirements of Contract Documents. No acceptance or approval of submittals, nor any indication or note marked by the Owner on submittals, shall constitute authorization for increase in Contract Sum. The Owner will stamp each submittal with an action stamp.
- j. As the timely submittal of samples, shop drawings, catalogue cuts and other related submittals is of paramount importance to the completion of the Project within the stipulated time period, a contract value of 1% will be assigned to this effort. Upon receipt of the complete submittal package the General Contractor will be permitted to submit payment of this item with a value equal to 1% of the base bid contract amount.
- k. Show in large-scale any unique fabrication and setting requirements or any other specified areas seen as necessary or as directed by the Owner's Representative.
- l. Prior to review by Owner's representative, shop drawings shall indicate specification section or drawing reference and proof of review and approval by Contractor for Project compliance, otherwise the submittal will be rejected immediately and count as one (1) official review as per item "h" above.
- m. The Contractor shall provide two sets of bindered hard copies of all final approved shop documents and or drawings and warranties as part of the closeout of the Project.
- n. Contractor shall submit to the Owner's Representative a notarized certificate of compliance from the galvanizer with all galvanizing requirements including ASTM number and weight of coatings in ounces per square foot. Certificate of compliance shall also contain the following:
 - 1. Sole Source Responsibility: include statement that galvanizer accepts sole responsibility for coatings under this Article. Galvanizer who does not accept this responsibility is not acceptable and will be rejected.
 - 2. Quality Assurance: include evidence that Galvanizer meets requirements of ANSI Q90.
 - 3. Certificate of Compliance with Current Environmental Regulations: Galvanizer shall certify that coatings proposed for use comply with applicable environmental regulations. Contractor and Galvanizer shall be responsible for penalties assessed by governmental or environmental authorities for coatings that do not comply with current environmental regulations. All coatings shall be Lead-free.

ARTICLE 30 HISTORICAL, ARCHAEOLOGICAL OR ANTIQUE ITEMS

- a. The Contractor during his excavation, site clearance and other operations may come upon, uncover or otherwise discover items of historical, archaeological or antique nature. The Contractor shall immediately stop operations at the site of the discovery and notify the Owner so that a proper evaluation may be made of its importance. The Owner shall arrange for the evaluation in a manner that shall not unduly interfere with the Contractor's operation.
- b. All such items, if designated by competent authority to be of historical, archaeological or antique nature shall not become the property of the Contractor but shall be placed in the custody of the Owner for disposition.
- c. The Contractor shall be required to remove with care or to assist in the removal of any such item or items and to transport the same to a place of safe keeping within the City. The costs for so assisting shall be reimbursed to the Contractor if approved by the Owner.



ARTICLE 31 PROVISIONS FOR PUBLIC SAFETY & CONVENIENCE

- a. Care shall be taken to establish and maintain such methods and procedures as will not create hazards. Access to all park facilities and shall be maintained in a reasonable and safe manner for the duration of the construction period.
- b. Every reasonable effort shall be made to reduce to a minimum any interference with or inconveniences to park operations and park patrons due to the construction work. Excavated material shall be trucked away and returned if the Owner deems it necessary and practical as a means for avoiding serious interference with and inconvenience to business concerns and abutters.
- c. The Contractor's attention is directed to the fact that the work on this Project is to be performed within a recreation area and adjacent to park drives and walkways which are utilized by pedestrians, bikers, joggers and vehicles. The Contractor shall be responsible for the installation of adequate precautions and other safety measures and controls deemed necessary by the Owner in order to protect all park users.
- d. Any automotive equipment not protected by traffic cones that is operating on a public way under this Project shall have one amber flashing warning light mounted on the cab roof or on the highest practical point of the machinery. This light shall be in operation while the equipment is so working.
- e. Trenches shall not be opened in park areas until all material and equipment required for the work are on the site and available for immediate use. The work at each trench shall be practically continuous, with the placing of utilities, backfill and patching (where applicable) of the surface closely following each preceding operation. When work is not in progress, trenches in areas subject to use by park patrons shall be covered with steel plates capable of safely sustaining all anticipated loads.
- f. The Contractor shall provide traffic signs, warning markers and other construction safety measures as necessary to maintain public safety and optimum traffic flow. Parking of personal vehicles will be prohibited in construction areas as directed.
- g. With suspension of construction activities during holidays, weekends and nights, the Contractor shall remove temporary traffic and/or safety control devices, as requested, and return them to their positions when work begins again. Payment for the installation and maintenance of appropriate safety provisions shall be included under the base bid price and no separate payment shall be considered.
- h. The Contractor shall without additional compensation be required to always maintain access to the Project area and property for fire apparatus and other emergency vehicles.

ARTICLE 32 PROTECTION OF EXISTING FACILITIES

- a. All existing walks, pipes, conduits, poles, fences, stairways, curbing, walls, buildings, trees and other structures which are to remain in place shall be carefully supported and protected from injury by the Contractor without additional compensation and in case of injury they shall be restored by him without compensation therefore to as good condition as that in which they were found. The value of any trees damaged shall be determined in accordance with established practices of the American Association of Nurserymen or a Registered or Certified Arborist selected by the Project Manager. Limits of liability shall not be limited to the replacement with new and immature trees.
- b. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings, where required, for accommodation of travel and to provide access to the building/property during construction, and shall remove said structures thereafter.
- c. The location of all/ prior existing utility systems is not known and therefore may not be shown on the drawings prepared for this Project. The existence of utilities shall not be considered as an unusual obstacle, and the Contractor shall not be entitled to extra compensation for maintaining, protecting, or repairing these utilities. The Contractor shall use the exploratory excavation included in his contract price, whenever he/she or the Owner's representatives deem it necessary to verify, or prevent interruption of, existing services.

ARTICLE 33 AS BUILT SURVEY / PROJECT CLOSEOUT DELIVERABLES

- a. The Contractor shall cooperate with the Project Manager and shall prepare and maintain a live set of as built drawings on which shall be recorded accurately, as the work progresses, the actual "as built" quantities and locations and dimensions of all his work, indicating thereon all variations from the Contract Drawings. This record of "as built" conditions shall include the ALL the work of the Contractor and Sub-Contractors and proof of compliance prior to final acceptance of all work. **As built shall be submitted for review with monthly payment applications.**
- b. Prior to final acceptance of the work, all "as built" data shall be transferred as a separate overlay or external reference with the digital Auto CAD format files provided to the Contractor by the Owner. This work shall be performed by the Contractor's Registered Land Surveyor with the cooperation of the Contractor as required. After review and approval by the Owner the record drawings will be completed and delivered to the Owner.

1. All geographic data must be submitted in a standard real-world coordinate system. The following coordinate system is required:

Projection: Massachusetts State-plane Mainland
Datum: NAD83
Fipszone: 2001
Units: Feet
Spheroid: GRS1980

2. All digital data must be delivered in the following format:

Autodesk AutoCAD dwg. format, and one of the following file formats:

ESRI Geodatabase
ESRI Shapefile format
ESRI Arc/Info Interchange File format (e00)
Autodesk AutoCAD dxf format

3. All data must be clean of undershooting and overshooting arcs (dangles). Polygons must be snapped closed at nodes and lines must snap to one another at nodes.
4. All data must be thematically organized. There must be separate layers for road edges, road centerlines, buildings, streams, water and sewer mains, hydrants, easements, parcels, water bodies, etc. For example, if a stream is coincident with a parcel boundary that coincident line must appear in both the parcel layer and the stream layer. All data shown on the plan shall be submitted digitally.
5. Features, which contain a third, dimension or elevation data (z value) must have the elevation value within the attribute data. If elevation data is submitted in a CAD format, then the value must be part of the feature (polyline).
6. Documentation:
 - A. A list of all files being submitted is required.
 - B. CAD data shall include metadata for each layer included within the file. This documentation will provide information on the source of the data, feature type (point, line, polygon, etc.), source date, and a general description of what is shown on the layer(s).
 - C. GIS data submissions (e.g., mdb, shp file, e00 export) must include all items from B above as well as metadata for each of the feature's geographic data attributes. This will include a complete description of each attribute's definition as well as a description of what each of the attribute values mean for each field.
7. Documentation on the method/s used for data collection shall be submitted for all data deliverables.
8. Documentation on the horizontal and vertical accuracy shall be submitted for all data deliverables.
9. Text & Annotation:



- A. For CAD submissions, text must be placed in separate layers. Features must not be erased in order to accommodate the placement of text. Text layers must be thematically separate, meaning that text associated with hydrography should be placed on a single layer, while text pertaining to a parcel's ID number should be placed on yet another separate layer. For example, should there be text on a map defining a parcel's ID number and another piece of text defining a stream name, the deliverable to the town must include two (2) separate text layers, one for the parcel ID numbers and one for the stream names.
- B. Text associated with a GIS formatted data deliverable must be in one of four forms.
 1. A label attribute. This would be related to the feature's attribute fields as previously described above in Section 6.
 2. Annotation subclass. This would be separate annotation included within a feature data set as a series of text attribute tables (TAT).
 3. Annotation coverage (e00 export). This would be an entirely separate feature class containing text or annotation only.
 4. Feature linked annotation as prescribed in ArcGIS.
10. The Owner shall supply the Contractor with electronic files (AutoCAD) for the sole purpose of creating As Built Drawings.
11. **As built tasks shall be assigned a monetary value equal to 2 percent (2%) of Initial Contract value or \$20,000 (whichever is greater) and be included as an item in the approved Schedule of values.**
12. **Contractor shall submit the final approved as built within twenty-eight (28) consecutive calendar days of Issue of Punch list and:**
 - a. **Prior to Notice of substantial completion.**
 - b. **Prior to Approval of final payment application.**

ARTICLE 34 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 site clean and free of debris, leaving all work in a clean condition. The Contractor shall always keep the site free of rubbish and construction debris.
- b. The Contractor shall provide sufficient metal barrels or dumpsters into which all refuse and garbage shall be deposited. All containers shall have tight fitting covers. These shall be secured overnight or removed daily.
- c. At the end of each work week, the Contractor shall thoroughly clean premises of rubbish and debris of any nature and remove such from the premises.

ARTICLE 35 PROJECT CONSTRUCTION SIGN

- a. Contractor will provide and temporarily install one monolithic 48" high X 96" wide X ¾" thick Project sign and 2- 4"x 4" posts to identify the Project at a location to be determined in the field by the Owner.
- b. The Project sign shall conform exactly to the City of Worcester's DPW and Parks, Parks, Recreation and Cemetery Division's prototype Projects sign including but not limited to size, backer material, font style, size and relief, capitalization, color, weather proofing, fasteners and fastener locations.

- c. **Final Graphic and language will be provided by the Owner** (Background color is forest green, text is white).
Sample below is for reference only.
- d. The Contractor shall be responsible installation and removal of sign and posts.



End of DPW & Parks Special Conditions

PROJECT SPECIAL SPECIFICATIONS

General

- 1. The following special standard specifications are to be used on contract awarded and work on maintained by the City of Worcester DPW and Parks, Parks Recreation and Cemetery Division. They are intended to supplement, support and suit this specific project.

ARTICLE 36 DEMOLITION, SITE EXCAVATION & PREPARATION

- a. The work shall consist of excavating, removing and legal disposal of surplus if any, vegetation, earth, boulders, masonry, existing pavements, building materials, footings, appurtenances and other materials encountered of whatever nature that is unsuitable for the construction and improvements of finished conditions. Excavated to the depth necessary to install according to the specifications, plans and details plans provided in the construction bidding documents.
- b. Location of existing utilities shall be verified before excavation commences. The Drawings are based on available utility record drawings and site observation.
- c. The excavation shall be carried out to such depths that sufficient materials will be left above the designated grade to allow for compaction to this grade. Should the Contractor, through negligence or other fault, excavate below the designated lines, he shall replace such excavation at his own expense. The Owner shall have complete control over excavation, moving, placing, and disposition of all material. Existing materials/objects



determined to be unsuitable or not required or used, as determined by the Owner, for finished conditions shall be disposed offsite at no additional cost.

- d. The Contractor shall inform and satisfy himself as to the character, quantity, and distribution of all material to be excavated. No payment shall be made for any excavated material, which is used for purposes other than those designated or implied.
- e. If it is necessary in the process of the work to interrupt existing surface drainage, sewers, or to pass under drainage, conduits, utilities, or similar underground structures, or parts thereof, the Contractor shall protect it or provide temporary services. The Contractor shall, at his own expense, satisfactorily repair all damage to such facilities or structures that may result from any of his operations or from negligence during the period of the Contract.
- f. No excavation shall be started until the Owner has approved the proposed area of construction.
- g. Excavation shall be performed at such places as are indicated on the Drawings, to the lines, grades and elevations shown or as directed by the Project Manager and shall be made in such manner that requirements for the formation of the sub-grade can be followed. Unless directed otherwise any disturbed existing rimmed structures shall be adjusted flush to final adjacent grade.
- h. Existing pavements and base courses shall be carefully saw cut or core drilled and removed to the lines indicated and, in a manner, to obtain sound edges or connections, and so as not to disturb or damage existing buildings, utilities, pavements, and base coats which are to remain.
- i. Unit pavers, such as granite brick and concrete, shall be carefully removed and stockpiled for reuse, if required.
- j. All excavations shall be opened using minimum, straight, parallel cuts through pavement and base materials, and other excavations opened using square or rectangular cuts or as directed to minimize removal while permitting regular, straight-line repair and patching.
- k. No excavation shall commence in any until the pavement covering the proposed excavation has been marked for cutting.
- l. Excavated areas shall be made safe for the residents at the end of each workday.
- m. Transport excavated materials, waste materials, trash, and debris and legally dispose of it off City property.
- n. Prevent, minimize and control groundwater and/or surface water to accumulate in excavations. Remove water to prevent the undercutting of footings and soil changes detrimental to the stability of sub-grades, foundations and granite, brick or concrete paving.
- o. Payment for site excavation and preparation work shall be considered incidental to the individual items installed. No separate payment shall be made for site excavation and preparation work. No separate payment shall be made for all labor, equipment, tools and incidentals necessary to complete the work to the satisfaction of the City, including transportation and disposal of excavated materials.
- p. It is the responsibility of the Contractor to verify the accuracy of all survey information provided by the Owner prior to commencing excavations or filling operations. Commencement of these operations constitutes acceptance of the survey information as appropriate to meet the intent of the Contract.
- q. Soil testing, if required, for all materials to be reused on-site or removed and disposed of offsite, shall be the responsibility of the Contractor. The City reserves the right to obtain its own test results from the same sample as the Contractor without penalties to the Owner. The Contractor is required to obtain a large enough sample to divide with the Owner for this proposes.
- r. Transport excavated materials, waste materials, trash, and debris and legally dispose of it off City property.
- s. Surplus excavated material not needed as specified above shall be hauled away and disposed of by the Contractor at no additional cost to the Owner, at appropriate locations, and in accordance with arrangements made by him. Disposal of all rubble shall be in accordance with all applicable local, state and federal regulations.

- t. The Contractor shall comply with Massachusetts regulations (310 CMR 40.0032) that govern the removal and disposal of surplus excavated materials. Materials, including contaminated soils, having concentrations of oil or hazardous materials less than an otherwise Reportable Concentration and that are not a hazardous waste, may not be disposed of at locations where concentrations of oil and/or hazardous material at the receiving site are significantly lower than the levels of those oil and /or hazardous materials present in the soil being disposed or reused.
- u. If required: In response to the State/ Federal imposed quarantine regarding the Asian long-horned beetle infestation, the protocol for handling and disposal of wood-based materials within the Project area by the Contractor shall be to:
 - i. at a minimum, process all onsite vegetative, wood and cellulose based materials (trees, shrubs, root, stumps, branches, leaves, etc. **twelve inches and under in diameter** and designated for disposal) to a size of less than one inch as measured in two directions by approved mechanical means (woodchipper) prior to disposal/removal offsite. All other existing vegetative, wood and cellulose based products; tree trunks, stumps, branches etc., **greater than twelve inches, in diameter** and designated for removal/disposal shall be delivered to the current transfer station.
 - ii. Contractor shall be responsible to comply with changes or current quarantine protocols for the duration of the Project.

ARTICLE 37 WPRC DIVISION CHAIN LINK FENCE FRAMEWORK & FABRIC

General

1. This work includes the installation of Polymer color coated fence framework and fabric of various heights in accordance with these specifications and in conformity with the details, lines and grades shown on the plans or established.

Construction Requirements

1. Locate and install all posts in concrete (4000 psi at 28 days), with minimum depth of 48 inches below finish grade and minimum diameter of twelve inches or four times the diameter of post, whichever is greater. Typical spacing of post shall be 120 inches max on center. Typical spacing of post on the precast concrete wall shall be the middle of top "anchor" block (Designed spacing of 92 inches O.C.). Refer to plans for post concrete footing depth and size for batting cage, bullpen, backstop and netting framework. Install plumb and true to line and grade and to the height as indicated within the drawings. All posts shall have continuous horizontal rails at the top, middle (for fence height greater than 72 inches), and bottom. In addition, all end and corner posts shall be braced to the nearest line post with center brace rails. Outside sleeve type top rail couplings shall be placed a maximum of twelve (12) inches from posts.
2. **Owner shall be contacted 48 hours prior to install of all fence and gate post/footings for inspection and approval of excavation/footing size.** Failure to notify entitles the Owner to pick at random 20 percent of installed post and concrete footing(s) for removal and inspection to verify they meet Specifications. Replacement and/or reinstall of new materials shall be at no additional cost to the Owner.
3. Chain link fence shall have continuous top and bottom rails. Refer to plans for rail layout for batting cage, bullpen and backstop and netting framework. Top and bottom edge of fence fabric shall have knuckled edges. Fabric shall be stretched uniformly taut and as tight as possible, true to line and grade and complete in all details. Install tension bars at corners.
4. All chain link fence fabric shall be fastened on the outside of the posts unless directed otherwise by the Owner. The fabric shall be properly stretched and securely fastened to the posts and between posts the top and bottom of the fabric shall be fastened to the horizontal braces as specified, herein. The fabric shall be fastened to end and corner posts with tension bars and stretcher bar bands spaced at one (1) foot intervals.
5. Fabric shall be aligned so that top and bottom shall extend one half the height of the "diamond" beyond outer edge of top and bottom of the horizontal rail. The fabric shall also be one (1) inch maximum above finish grade. The fabric shall be tied (as per item 5 below) to all line posts, top, middle and bottom rails every six (6) "diamonds" as measured horizontally or vertically. Overlapping fence fabric sections shall overlap one full height of the "diamond" and be centered on the horizontal rail.



6. All fabric shall be fastened to all line posts and horizontal rails with 0.020" thickness, 200/300 series stainless steel ½" wide bands, with a minimum breaking strength of 850 lbs., 1/2" band capacity ear-lokt design buckles to be manufactured with 0.050" thick material, 201/301 series stainless steel. Fabric for bleachers shall be attached at each vertical post only, three bands per post. All bands shall be pulled tight and raw ends of steel bands shall be secured in buckle by folding ear tabs around steel bands as per manufacturer's recommended installation procedure. No sharp edges shall protrude from band-it buckles.

Materials

Fabric, posts, gate frames, gate hinges, gate stops, braces, rails, stretcher bars, truss rods, post caps, stretcher bar bands, tension wire shall, and other parts shall be of steel, pressed steel or approved equal except that post tops and rail ends may be of aluminum. **No malleable iron, ductile iron materials will be accepted.** The Contractor shall supply a notarized mill certification from manufacturer that all materials used have been tested and fully comply with the specifications specified herein.

1. Fabric: The fabric shall consist of color coated, class 2b thermally fused and bonded, 9-gauge core wire, 2-inch diamond mesh typical and 1.75-inch diamond mesh for fabric adjacent to tennis courts. All fabric shall be knuckled at both selvages. Public side of fabric shall be installed in accordance with the Owner's direction. The height of the fabric as shown on details shall be typically one piece unless directed otherwise by Owner. Fabric for bleachers will be as per manufacturer's standard.

(a) *Galvanized Coated Fabric:* All materials used shall conform to the requirements of ASTM A392 Class-2, or ASTM A491. Except aluminum alloy items, shall conform to ASTM-B211, B221 and B429.

2. Framework: Type II, Group IC round steel pipe (electric resistance welded), cold-formed as per ASTM F1043-00 Standard, with minimum yield strength of 50,000 psi. The external zinc coating shall be Type B, zinc with polymer film, 0.90 oz / sq. ft, minimum zinc coating with a chromate conversion and a verifiable polymer film. The internal coating shall be Type B, zinc 0.90 oz./sq.ft. Minimum or type D, zinc pigmented, 81% nominal coating with 0.30 mils minimum thickness. Gate framework joints shall be welded and coated in accordance with Practice A780, employing zinc-rich paint. Refer to plans for framework sizes for batting cage, bullpen, backstop and netting framework.

(a) End, Corner and Pull Post. Galvanized steel, physical pipe dimension and weights as follows:

- (1) Up to 12-foot fabric height: 2.875-inch OD pipe, 4.64-lbs. /lin. ft.
- (2) **For basketball and tennis courts: 4.000-inch OD pipe, 6.56-lbs. /lin. ft.**
- (3) For combo batting cage/bullpen and backstop: 4.000-inch OD pipe, 6.56-lbs. /lin. ft.
- (4) Maximum Spacing between all posts is 10'- 0" On Center.

(b) Line Posts. Galvanized steel, physical pipe dimension and weights as follows:

- (1) Up to 12-foot fabric height: 2.375-inch OD steel pipe, 3.12-lbs. /lin. ft.
- (2) **For basketball and tennis courts: 2.875-inch OD pipe, 4.64-lbs. /lin. ft.**
- (3) For combo batting cage/bullpen and backstop: 4.000-inch OD pipe, 6.56-lbs. /lin. ft.
- (4) Maximum Spacing between all posts is 10'- 0" On Center.

(c) Gate Posts. Galvanized steel, single gate widths, physical pipe dimension and weights as follows:

- (1) Up to 6-feet: 2.875-inch OD pipe, 4.64-lbs./linear ft.
- (2) Over 6-feet to 13 feet: 4.0-inch OD pipe, 6.56-lbs./ linear ft.
- (3) Gate frames as per ASTM F 900-94.

(d) Rails (Top, bottom, middle and intermediated rails): Galvanized steel, manufacturer's longest lengths joined by six-inch (6") long sleeves, rail shall run continuously along top of fence. Bottom rail shall be joined at line posts with boulevard clamps. Minimum pipe sizes and weights as follows:

(1) 1.660-inch OD pipe, 1.82-lbs. /lin. ft. minimum.

(2) Top, Bottom, Middle and Intermediate rails are required for fencing adjacent to the sports court footprint. Fence framework six feet high and above shall include top, middle, and bottom rails.

(e) Couplings: Expansion types, approximately 6-inch long, install one sleeve for each 500-foot run. Standard couplings are installed at each rail end to form one continuous top rail.

(f) Attaching Devices: Provide fittings for attaching top rail securely to each gate corner pull and end post.

(g) Sleeves: Galvanized steel pipe not less than 6 inches long and with inside diameter not less than 1/2-inch greater than outside diameter of the post pipe. Provide steel plate closure welded to bottom of sleeve of width and length not less than 1-inch greater than outside diameter of sleeve.

(h) Post Brace Assembly: Manufacturer's standard adjustable braces at end of gateposts and at both sides of corner and pull posts. Provide horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 3/8-inch diameter galvanized steel truss rods and adjustable tightener.

(i) Post Tops: Galvanized steel, screwed and weather-tight closure cap for each tubular post. Furnish caps with openings to permit passage of top rail.

(j) Tension Bars: Galvanized steel, one-piece lengths equal to full height of fabric, with minimum cross-section of 3/16 inch x 3/4 inch. Provide tension bar for each gate and end post, and two for each corner and pull post. Stretcher Bar Bands will be manufacturer's standard.

(k) Gate Cross-Bracing: 3/8-inch diameter galvanized steel truss rods and adjustable tightener.

(l) Non-Shrink, Non-Metallic Grout: Premixed, factory-packaged, non-corrosive, non-staining, non-gaseous, exterior grout approved by the Engineer.

(m) Single and Double Swinging Gate and Hardware: Swing gates and hardware shall be manufactured to meet the requirements of ASTM F900. Unless indicate otherwise, and to meet ADA requirements, the minimum clear opening for all single gates (as measure with gate perpendicular to framework) shall be 36 inches.

(1) Hinges. Industrial butt hinges, size and material as required for the gate size. Non-lift-off type, offset to permit 180-degree gate opening. Provide one pair of hinges for each leaf, gates eight feet and taller in nominal height shall have three hinges per leaf. Spot-weld to post and paint (non polymer coated), to prevent rotational movement.

(2) Latch (for both single and double gates). Pressed steel, industrial series fulcrum gate latch, straight fork type, provide latch catch for double gates, designed to permit operation from either side of gate, with padlock eye as integral part of latch catch. Clamped and bolted through or welded to frame to prevent rotational movement. Provide two latch and catch for double gates. All gates shall be equipped with one gate stop.

(n) Sleeves if required for fence shall be galvanized steel pipe conforming to ASTM F1043 sizing as required to accommodate posts.

Polymer Coated Framework

Shall meet the above-mentioned specification for materials. The framework shall be subjected to a complete thermal stratification coating process (multi-stage, high-temperature, multi-layer) including, as a minimum, a six-stage pretreatment/wash (with zinc phosphate), an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The material used for the base coat shall be a zinc-rich (gray color) thermosetting epoxy; the minimum thickness of the base coat shall be two (2) mils. The material used for the finish coat shall be a thermosetting "no-mar" TGIC polyester powder; the minimum thickness of the finish coat shall be two (2) mils. The stratification-coated pipe shall demonstrate the ability to endure a salt-spray resistance test in accordance with ASTM B117 without loss of adhesion for a minimum exposure time of 3,500 hours. Additionally, the coated pipe shall demonstrate the ability to withstand exposure in a weather-ometer apparatus for 1,000 hours without failure in accordance with ASTM D1499 and to show satisfactory adhesion when subjected to the crosshatch



The City of Worcester

Department of Public Works & Parks
Parks, Recreation & Cemetery Division
50 Officer Manny Familia Way, Worcester, MA 01605

test, Method B, in ASTM D3359. The polyester finish coat shall not crack, blister or split under normal use. Painted framework and accessories are not acceptable, welded joints shall be top coated to match frame color. Color of the polymer coated framework and accessories shall be black and in accordance with ASTM F934.

ARTICLE 38 ATTACHMENTS

Order of Conditions (21 pages)

End of DPW & Parks Special Conditions and Specifications.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-1329
MassDEP File #

eDEP Transaction #
Worcester
City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

1. From: City of Worcester
Conservation Commission
2. This issuance is for
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions
3. To: Applicant:

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



a. First Name City of Worcester – DPW&P b. Last Name _____
c. Organization 50 Manny Familia Way (fka Skyline Drive)
d. Mailing Address Worcester MA 01605
e. City/Town _____ f. State _____ g. Zip Code _____

4. Property Owner (if different from applicant):

a. First Name _____ b. Last Name _____
c. Organization _____
d. Mailing Address _____
e. City/Town _____ f. State _____ g. Zip Code _____

5. Project Location:

85 Shore Drive & Shore Drive ROW Worcester
a. Street Address b. City/Town
37-027 -00002
c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known:

d m s d m s
d. Latitude e. Longitude



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-1329
MassDEP File #
eDEP Transaction #
Worcester
City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Worcester
a. County
11283
c. Book
b. Certificate Number (if registered land)
0076
d. Page
7. Dates: 5/18/2022 6/27/2022 7/18/2022
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Shore Drive Sidewalk Improvements – 85 Shore Drive
a. Plan Title
Beals & Thomas, Inc. Paula A. Thompson, P.E.
b. Prepared By c. Signed and Stamped by
6/24/2022 Varies
d. Final Revision Date e. Scale
NOI Application Materials 5/18/2022
Stormwater Management Report & Addendum 5/18/2022 & 6/24/2022
f. Additional Plan or Document Title g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- a. ☒ Public Water Supply b. ☐ Land Containing Shellfish c. ☒ Prevention of Pollution
d. ☒ Private Water Supply e. ☒ Fisheries f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply h. ☒ Storm Damage Prevention i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



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Bureau of Resource Protection - Wetlands
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B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☒ **Buffer Zone Impacts:** Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) 34
a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☐ Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number 349-1329 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) ☒ is subject to the Massachusetts Stormwater Standards
 - (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Attachment A.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The City of Worcester Conservation Commission hereby finds (check one that applies):

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:
City of Worcester Wetlands Protection Ordinance & Regulations **COW GRO**
1. Municipal Ordinance or Bylaw **Part 1. Ch. 6.**
2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:
City of Worcester Wetlands Protection Ordinance & Regulations **COW GRO**
1. Municipal Ordinance or Bylaw **Part 1. Ch. 6.**
2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Attachment A.



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E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

The names typed below represent the intent to sign the foregoing document in accordance with MGL Chapter 110G §9

Duly authorized by Ch.110G and recorded at Worcester Registry of Deeds in Book 62537 Page 329.

7/10/2022
1. Date of Issuance

3
2. Number of Signers

Signatures:

[Handwritten signatures]

☒ by hand delivery on

Date

7/10/2022

☒ by certified mail, return receipt requested, on

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in

ATTACHMENT A
Worcester Conservation Commission
Special Order of Conditions

City of Worcester Wetlands Protection Ordinance & City of Worcester Wetlands Protection Regulations
(City of Worcester Revised Ordinance Part I, Chapter 6)

And

Massachusetts General Laws, Chapter 131, §40 - Massachusetts Wetlands Protection Act

85 Shore Drive & Shore Drive Right-of-Way (CC-2022-042 & MassDEP File #249-1329)

Project Description: To expand an existing sidewalk, install a stormwater management basin, and conduct associated site work.

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Notes:

- **Office of the Commission** is located at the Division of Planning and Regulatory Services (455 Main Street 4th floor, Worcester, MA), which can be contacted by e-mailing planning@worcesterma.gov or calling 508-799-1400 ext. 31440.
- **Asterisked (*) conditions** are standard conditions of approval for all projects.

I. Conditions to Meet Prior to and During Construction

21. Person Responsible for Compliance with the Order of Conditions* – A person shall be designated to be responsible to monitor compliance with the Order of Conditions. Their name and contact information (24/7) shall be provided to the Office of the Commission prior to start of any activity. This person shall conduct:
 - a) periodic inspections to assure the adequacy and continued effectiveness of erosion and sediment controls;
 - b) inspections of said controls following 0.5-inch or greater rain events, or after a heavy snow melt.
22. Contract* - This Order of Conditions and all approved plans shall be included as part of any contract and subcontract and shall be posted in a prominently displayed location in the supervisory office on site during all phases of construction.
23. Notification* - The applicant shall notify the Office of the Commission a minimum of 48 hours prior to the start of any activity.
24. Wetland or Bank Flagging – Prior to construction, wetland or bank flags shall be installed along the wetland or bank boundary, and shall remain in place during and after construction until approved for removal through the issuance of Certificate of Compliance for the entire project.

II. Conditions to Meet Before the Start of Any Activity

25. Stormwater Pollution Prevention Plan (SWPPP)* – That one (1) copy of the SWPPP submitted to the EPA in compliance with the NPDES permit requirements, if applicable, shall be provided to the Office of the Commission prior to commencement of work.
26. Tree Cutting* – Tree cutting is allowed following installation of erosion and sediment controls; otherwise, it may be allowed, prior to such installation, with the explicit permission of the Commission or its Agents.
27. Trees To Remain* – All trees to remain post construction shall be marked on site as shown on the approved plan so that the Commission or its representative can verify them before any clearing takes place.
28. Pre-Construction Conference* -
 - a) The Conservation Commission or its Agents shall conduct a pre-construction conference prior to commencement of activities in each phase of the project. Phasing, if any, shall conform to the approved plans.
 - b) The property owner / applicant and any person performing work that is subject to this Order are responsible for understanding and complying with the requirements of this Order, the Wetlands Protection Act, 310 CMR 10.00 and City of Worcester Wetlands Protection Ordinance and Regulations. Said persons shall acknowledge such in writing prior to commencement of activities.
29. Inspections Prior to Site Preparation and Site Work* - Erosion and sediment controls shall be installed and verified, in compliance with final approved plans, by the Commission or its Agents prior to the commencement of any excavation, grubbing and/or stumping of vegetation, grading, construction, or other site preparation.
30. Construction Schedule* - Submit a Construction Schedule consistent with Work Sequencing plans provided to the Office of the Commission prior to the start of any activities.
31. Demarcation of Limit of Work – For areas of work within the 100 foot buffer to a bordering vegetated wetland/bank, prior to construction, the contractor shall stake out the 15 foot Worcester Wetlands Protection Ordinance no-disturb buffer or limit of work, whichever is further from the bordering

vegetated wetlands, using an orange snow/construction fence to demarcate the no-disturbance zone during construction in order to prevent encroachments beyond the approved limit of work and prevent resource area impacts.

III. Stormwater Management System

32. Catch Basins* –

- a) The paved roadways and parking lots shall be bermed and shall be installed with standard City of Worcester catch basins.
- b) Prior to start of activity on site that causes soil erosion and sedimentation, catch basin filter traps shall be installed in the existing and new catch basins.
- c) Catch basins shall be cleaned as warranted during construction to keep them clear of sediment, and minimum twice a year thereafter.

33. Stormwater Management System Maintenance* – The stormwater management system shall be maintained in accordance with the approved design plans and Operation and Maintenance Plan on file with the Office of the Commission. The system shall be maintained in good hydraulic condition (e.g. any accumulated silt/sediment shall be removed; the system shall be kept free of any litter, refuse, or other extraneous matter, etc.). **This condition shall extend in perpetuity beyond the issuance of the Certificate of Compliance.**

IV. Conditions to Meet During Construction

34. Limit of Work* – No removal, filling, dredging or altering of jurisdictional areas shall take place outside the approved work under this Order of Condition.

35. Work Sequencing* – Activities shall take place in accordance with all phasing and sequencing shown on the plan and/or provided in the application materials on file with the Office of the Commission and shall follow any lot opening restrictions otherwise provided herein.

36. Erosion Stabilization -

- a) Erosion and Sediment Controls* - All erosion and sediment controls shall be monitored, maintained, and adjusted for the duration of the project to prevent adverse impacts to jurisdictional areas. Additional erosion and sediment controls may be utilized on site as needed.
- b) Off Site Impacts* - There shall be no off-site erosion, flooding, ponding, or flood-related damage from runoff caused by the project activities.
- c) Unanticipated Drainage or Erosion* - The applicant shall control any unanticipated drainage and/or erosion conditions that may cause damage to jurisdictional areas and/or abutting or downstream properties. Said control measures shall be implemented immediately upon need. The Office of the Conservation Commission shall be notified if such conditions arise and of the measures utilized.
- d) Soil Stabilization due to Delay in Work* - If there is an interruption of more than 10, but less than 60 days between completion of grading and revegetation, the applicant shall sow all disturbed areas with annual rye grass to prevent erosion. If soils are to be exposed for longer than 60 days, a temporary cover of rye or other grass should be established following US Soil Conservation Services procedures, as recently amended, to prevent erosion and sedimentation. Once final grading is complete, loaming and seeding of final cover should be completed promptly.
- e) Grading of Slopes*-

- i. >40% Slope – Slopes shall not exceed those specified in the plans approved by the Conservation Commission. Any slope equal to or greater than 40% (1 vertical to 2 1/2 horizontal) shall be stabilized with erosion control matting.
- ii. <40% Slope – Final grades of vegetated areas shall not exceed a slope of 1 vertical to 2 1/2 horizontal (40%) and shall be stabilized to prevent erosion, particularly during the construction period.
- f) Stockpile Maintenance* - Any stockpiling of loose materials shall be properly stabilized to prevent erosion into and sedimentation of jurisdictional areas. Preventative controls such as strawbales or erosion control matting shall be implemented to prevent such an occurrence.
- g) Stockpile Location – In no case shall any soil or excavated material be stockpiled within 50 feet of any wetland, floodplain, or storm drain inlet.
- h) Site Stabilization Prior to Winter* - Prior to winter, exposed soils shall be stabilized (e.g. with demonstrated vegetative growth, impermeable barriers, erosion control blankets, etc.).

37. Invasive Insects* -

- a) Plantings – No trees to be planted shall be species susceptible to the Asian Longhorned Beetle or Emerald Ash Borer.
- b) Wood Removal – All tree, brush & wood removal shall adhere to the most recently amended requirements set forth by the Massachusetts Department of Conservation & Recreation for any project located in the Asian Longhorned Beetle Quarantine Zone.

38. Invasive Vegetation – The goal of this condition is to keep jurisdictional areas (bufferzone and resource areas) free of all invasive, likely invasive, and potentially invasive species as identified in *The Evaluation of Non-native Plant Species for Invasiveness in Massachusetts*, published by the MA Invasive Plant Advisory Group in April 1, 2005. This condition is intended to prevent the introduction and spread of non-native and invasive species which are known to result in resource area alterations and have impacts on wildlife habitat, etc.

- a) Material Introduction – All imported materials, such as compost, topsoil, etc. shall be inspected for evidence of invasive vegetation prior to use within jurisdictional areas at the site in order to prevent introduction and/or the spread of invasive vegetation. No materials with evidence of invasive vegetation shall be used in jurisdictional areas.
- b) On-going Management - A weeding program must be implemented within all jurisdictional areas that are disturbed as part of the project. The weeding program shall begin within one month of when final grades are reached and shall continue, at a minimum of, twice per growing season until a Certificate of Compliance is issued for the project.

39. Dust Control* - Provisions for dust control shall be provided during all construction and demolition activities. Such provisions shall be conducted in compliance with all City of Worcester Water Use Restrictions, if in effect, during such activities.

40. Dewatering* – If dewatering is required,

- a) Notice of such activities shall be given to the Office of the Commission within 24 hours of commencement;
- b) There shall be no discharge of untreated dewatered stormwater or groundwater to jurisdictional areas either by direct or indirect discharge to existing drainage systems;
- c) Any discharge to surface waters or drainage structures must be visibly free of sediment;
- d) To the maximum extent practicable, proposed dewatering activities should be located outside of the 100' buffer. If such activities must be located within the 100' buffer, they shall be monitored at all times when the pumps are running;

- e) Dewatering activities shall be confined within an area of secondary containment at all times.
- 41. Cement Truck Washing - Cement trucks shall not discharge washout effluent directly to any resource area, the 30' buffer thereto, or into any drainage system. Designated washout areas shall be located out of the 100 buffer zone to any wetland.
- 42. Spill Prevention* -
 - a) No fuel, oil, or other pollutants shall be stored in any resource area or the buffer zone thereto, unless specified in this Order;
 - b) No refueling shall take place within resource areas or 100-ft to a resource area;
 - c) The applicant shall take all necessary precautions to prevent discharge or spillage of fuel, oil or other pollutants onto any part of the site;
 - d) A spill kit shall be present on site at all times.
- 43. Fertilizers – For any portion of the lot located in the buffer zone, the Commission will allow the use of fertilizers only during the construction phase in order to establish vegetation in order to stabilize slopes as quickly as possible.

V. Conditions to Meet at Completion of Project

- 44. Site Stabilization* - All disturbed areas shall be properly stabilized with well-established perennial vegetation or other approved methods before the project is considered complete.
- 45. Erosion and Sediment Controls* - Erosion and sediment controls shall not be removed from the site until all disturbed areas have been stabilized with final vegetative cover and approval has been received from the Commission or its Agents to do so. The controls must then be removed within two weeks of receipt of that certification.
- 46. Certificate of Compliance* - Upon completion of the project, the applicant shall request in writing a Certificate of Compliance from the Commission. If the project has been completed in accordance with plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor, certification must include a written statement by such professional certifying the same.
 - a) If the project required compliance with the Massachusetts Stormwater Standards and/or work was conducted within Riverfront Area or Bordering Land Subject to Flooding, a certified as-built plan-of-land shall be provided showing final grades, resource areas, and all constructed improvements;
 - b) If permanent markers were required, the certified as-built plan-of-land shall depict their location.
- 47. Pesticides, Etc. – No pesticides, herbicides, or fertilizers, with the exception of lime, shall be used on lawn(s) within the buffer zone to bordering vegetated wetland or bank after completion of the project.
- 48. Sand/Salt – The use of sand and salt on paved surfaces shall be kept to an absolute minimum during the winter months.
- 49. Snow Storage – At no time shall snow be stored or stockpiled within 30' of a bordering vegetated wetland or bank, a stormwater basin, or compensatory storage area.
- 50. Deed Condition – Conditions numbered 33, 47, 48 & 49 shall extend beyond the Certificate of Compliance, in perpetuity, and shall be referred to in all future deeds to this property.

VI. General Conditions

51. Change in Ownership* - If a change in ownership takes place while this Order is still in effect, it is the responsibility of the new owner to notify the Commission of the change and to provide the name of the person responsible for compliance with the Order.
52. Conservation Agent's Power to Act* - With respect to all conditions, except _____, the Conservation Commission designates the Conservation Agent, as its Agent with full powers to act on its behalf in administering and enforcing this Order, unless the Agent determines approval from the Commission is appropriate.
53. Right to Inspect* - A member of the Conservation Commission or its Agent may enter and inspect the property and the activity that are the subjects of this Order at all reasonable times, with or without probable cause or prior notice, and until a Certificate of Compliance is issued, for the purpose of evaluating compliance with this Order (and other applicable laws and regulations).
54. Changes to the Plan or Errors & Omissions* -
- (a) If any plan, calculation, or other data presented to the Office of the Commission is in error or have omissions, and are deemed significant by the Commissioners or their Agents, all work will stop at the discretion of the Commission, until the discrepancies have been rectified to the Commission's satisfaction.
 - (b) The applicant must notify the Commission in writing of any changes in the plans or implementation of the proposed activity where mandated by any local, state, or federal agencies having jurisdiction over the proposed activity. If, in the opinion of the Commission, any changes in the plans or implementation of the proposed activity so require, then the Commission may modify, amend or rescind this Order in a way consistent with:
 - M.G.L. Chapter 131, Section 40,
 - 310 CMR 10.00, *Wetlands Protection*,
 - the City of Worcester's *Wetlands Protection Ordinance*, and
 - the Commission's *Wetlands Protection Regulations*
- If any provisions of any conditions, or application thereof is held to be invalid, such invalidity shall not affect any other provisions of this Order. If the Commission deems that a proposed change is major or substantial, a new hearing may be required.
55. Liability* - The applicant shall indemnify and save harmless the Commonwealth, the City of Worcester, the Conservation Commission, and its Agents against all sites, claims or liabilities of every name and nature arising at any time out of or in consequence of the acts of the Commission or its Agents in the performance of the work covered by this Order and/or failure to comply with the terms and conditions of this Order whether by itself or its employees or subcontractors.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-1329
MassDEP File #

eDEP Transaction #
Worcester
City/Town

the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-1329

MassDEP File #

eDEP Transaction #

Worcester

City/Town

Document Number

Signature of Applicant



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address

b. City/Town, Zip

c. Check number

d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

4. DEP File Number:

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



B. Instructions

1. When the Departmental action request is for (check one):

- ☐ Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- ☐ Superseding Determination of Applicability – Fee: \$120
- ☐ Superseding Order of Resource Area Delineation – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Request for Departmental Action Fee
Transmittal Form

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

SECTION 024120 - SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Stormwater Pollution Prevention Plan (SWPPP) dated XXX.
- C. Order of Conditions issued by the City of Worcester Conservation Commission dated 07/18/2022.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected site elements.
 - 2. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

- 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review and finalize selective site demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review requirements of work performed by other trades that rely on substrates exposed by selective site demolition operations.
 - 4. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Schedule of Selective Site Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective site demolition and removal work, with starting and ending dates for each activity.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Coordination of Owner's continuing occupancy of portions of site.
- B. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

FIELD CONDITIONS

- A. Owner will occupy portions of site immediately adjacent to selective site demolition area. Conduct selective site demolition so Owner's operations will not be disrupted.

SELECTIVE SITE DEMOLITION

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- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Landscape Architect of discrepancies between existing conditions and Drawings before proceeding with selective site demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective site demolition operations.
 - 1. Maintain fire-protection facilities in service during selective site demolition operations.

1.9 COORDINATION

- A. Arrange selective site demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective site demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective site demolition operations.

SELECTIVE SITE DEMOLITION

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- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective site demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Landscape Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Before selective site demolition or removal of existing elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective site demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective site demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect work that is to remain or that is exposed during selective site demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective site demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.3 SELECTIVE SITE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective site demolition systematically, from higher to lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. 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 portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective site demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective site demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective site demolition, cleaned, and reinstalled in their original locations after selective site demolition operations are complete.

3.4 SELECTIVE SITE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective site demolition operations began.

3.7 SELECTIVE SITE DEMOLITION SCHEDULE

- A. Remove: Dead or leaning trees, wood guardrail, bituminous concrete pavement, concrete sidewalk, and specified trees beyond limit of work as indicated on the Drawings.
- B. Remove and Reinstall: Shore Park sign as indicated on the Drawings.
- C. Existing to Remain: Portions of vertical granite curbing, hydrant, electric service, and specified utility poles and associated guy wires as indicated in the Project Record Documents.

END OF SECTION 024120

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes cast-in-place concrete, labor and equipment, reinforcement, concrete materials, mixture design, placement procedures, and finishes for the following site improvements:
 - 1. Concrete sidewalks
 - 2. Granite curb footer
 - 3. Fence footings

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Other Action Submittal:
 - 1. Design Mixtures: For each concrete mixture.

1.4 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. Comply with the following sections of ACI 301, unless modified by requirements in the Contract Documents:
 - 1. "General Requirements."
 - 2. "Formwork and Formwork Accessories."
 - 3. "Reinforcement and Reinforcement Supports."
 - 4. "Concrete Mixtures."
 - 5. "Handling, Placing, and Constructing."
 - 6. "Lightweight Concrete."

MISCELLANEOUS CAST-IN-PLACE CONCRETE

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- C. Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 2 - PRODUCTS

2.1 FORMWORK

- A. Furnish formwork and formwork accessories according to ACI 301.

2.2 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- C. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.
- D. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn steel wire into flat sheets.
- E. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I.
- B. Normal-Weight Aggregate: ASTM C 33, graded, 1-1/2-inch nominal maximum aggregate size.
- C. Water: ASTM C 94/C 94M.

2.4 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

MISCELLANEOUS CAST-IN-PLACE CONCRETE

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2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

2.6 STAMPED DETECTABLE WARNING MATERIALS

- A. Detectable Warning Stamp: Semirigid polyurethane mats with formed underside capable of imprinting detectable warning pattern on plastic concrete; perforated with a vent hole at each dome.
 1. Size of Stamp: One piece, matching detectable warning area shown on Drawings.
- B. Liquid Release Agent: Manufacturer's standard, clear, evaporating formulation designed to facilitate release of stamp mats.

2.7 CONCRETE MIXTURES

- A. Comply with ACI 301 requirements for concrete mixtures.
- B. Normal-Weight Concrete: Prepare design mixes, proportioned according to ACI 301, as follows:
 1. Minimum Compressive Strength: 4000 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 3. Slump Limit: 4 inches, plus or minus 1 inch.
 4. Air Content: Maintain within range permitted by ACI 301.

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.
 1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.

MISCELLANEOUS CAST-IN-PLACE CONCRETE

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1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 CONCRETE PLACEMENT

- A. Comply with ACI 301 for placing concrete.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- C. Do not add water to concrete during delivery, at Project site, or during placement.
- D. Consolidate concrete with mechanical vibrating equipment.

3.5 INSTALLATION OF DETECTABLE WARNINGS

- A. Stamped Detectable Warnings: Install stamped detectable warnings as part of a continuous concrete paving placement and according to stamp-mat manufacturer's written instructions.

MISCELLANEOUS CAST-IN-PLACE CONCRETE

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1. Before using stamp mats, verify that the vent holes are unobstructed.
2. Apply liquid release agent to the concrete surface and the stamp mat.
3. Stamping: While initially finished concrete is plastic, accurately align and place stamp mats in sequence. Uniformly load, gently vibrate, and press mats into concrete to produce imprint pattern on concrete surface. Load and tamp mats directly perpendicular to the stamp-mat surface to prevent distortion in shape of domes. Press and tamp until mortar begins to come through all of the vent holes. Gently remove stamp mats.
4. Trimming: After 24 hours, cut off the tips of mortar formed by the vent holes.
5. Remove residual release agent according to manufacturer's written instructions, but no fewer than three days after stamping concrete. High-pressure-wash surface and joint patterns, taking care not to damage stamped concrete. Control, collect, and legally dispose of runoff.

3.6 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure formed and unformed concrete for at least seven days:
 1. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Tests: Perform according to ACI 301.
 1. Testing Frequency: One composite sample shall be obtained for each day's pour of each concrete mix exceeding 5 cu. yd. but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.

MISCELLANEOUS CAST-IN-PLACE CONCRETE

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3.8 REPAIRS

- A. Remove and replace concrete that does not comply with requirements in this Section.

END OF SECTION 033053

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Order of Conditions for this project issued by the City of Worcester Conservation Commission dated 07/18/2022.
- C. Stormwater Pollution Prevention Plan (SWPPP) dated XXX.

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Stripping and stockpiling rock.
 - 6. Removing above- and below-grade site improvements.
 - 7. Temporary erosion and sedimentation control.
- B. Construction runoff or dewatering effluent shall not be discharged directly or tributary to stormwater management infiltration systems without the specific approval of the Owner or Engineer. Approval will require effluent water quality testing.

1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.

- D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.
- E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

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

1.5 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.7 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.

SITE CLEARING

311000 - 2

1. Do not proceed with work on adjoining property until directed by Landscape Architect.
- C. Utility Locator Service: Notify Dig Safe for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.
- E. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 HAY BALES

- A. Air-dried straw, seasoned before baling, free of noxious weeds, weed seeds, and other materials detrimental to plant life.
- B. Hardwood Stakes: 1-inch by 1-inch by 3 feet kiln dried hardwood stakes.

2.2 SILT FENCE

- A. Amoco 2130® Silt Fence or approved equal.
- B. Wood support posts: Minimum 1-inch by 1-inch by 4 feet kiln dried hardwood posts.

2.3 FILTER BAGS FOR CATCH BASINS

- A. Non-woven polypropylene filter bag manufactured specifically for controlling sediment flow into catch basins.
 1. Ultra-DrainGuard® Catch Basin Insert.
 2. Siltsack® Hi-Flow or equal.

2.4 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

SITE CLEARING

311000 - 3

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
 - 1. Do not cut, remove, destroy or trim trees or other vegetation outside the designated areas without approval of the Owner.
 - 2. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Comply with the requirements of the Project's Storm Water Pollution Prevention Plan and the EPA's NPDES Construction General Permit.
- B. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- C. As construction progresses and seasonal conditions dictate, more erosion control facilities may be required. Address new conditions that may be created and provide additional facilities over the above minimum requirements as may be required.
- D. As a minimum, the following shall apply:
 - 1. Trees may be cut whenever desired, but brush and stumps shall not be removed until 1 week prior the start of construction in that area. The existing ground surface shall be disturbed as little as possible prior to the start of construction.
 - 2. Provide erosion control barriers as shown on the Drawings or as otherwise required to reduce the sediment content of the water. Other methods which reduce the sediment content to an equal or greater degree may be used as approved by the Architect.
 - 3. Ensure that all runoff leaving the site flows to water courses in such a manner to prevent erosion.
 - 4. Loam and seed or mulch disturbed areas as soon as practicable but not contrary to the requirements of other Sections.
- E. Siltation/Sedimentation Basins

SITE CLEARING

311000 - 4

1. Install siltation/sedimentation ponds on site to desilt all storm water or water pumped from excavations.
2. If additional siltation control is required, place check dams or silt fences in ditches receiving storm water from areas disturbed by construction, upon approval of the Architect.
3. Construct siltation/sedimentation ponds in accordance with the requirements of the agencies having jurisdiction over facilities to receive discharge from siltation/sedimentation ponds.

F. Catch Basin Protection

1. Filter Bags
 - a. Install in accordance with manufacturer's recommendations.
 - b. Remove accumulated silt periodically as necessary to maintain effectiveness.
 - c. Dispose of accumulated silt off-site, or on-site as approved by the Architect.

G. Existing Drainage Facilities

1. Clean existing storm sewers, culverts, or other drainage facilities which become partially or totally blocked due to siltation from Contractor's operations. Make any necessary arrangements with the jurisdictional agency for the cleaning of the facility.

H. Temporary Drainage Diversion

1. Divert the surface runoff water around the site as may be required.
2. Restore drainage conditions to those existing prior to construction unless otherwise shown on the Drawings.

- I. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

- J. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 EXISTING UTILITIES

- A. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission.

3.4 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Remove tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.

3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 - 3. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.6 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

SITE CLEARING

311000 - 6

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Order of Conditions for this project issued by the City of Worcester Conservation Commission dated 07/18/2022.

1.2 SUMMARY

- A. Section Includes:
 - 1. Excavating and filling for rough grading the Site.
 - 2. Preparing subgrades for walks, grasses, and pavements.
 - 3. Subbase course for concrete walks and pavements.
 - 4. Subbase course and base course for asphalt paving.
 - 5. Subsurface drainage backfill for walls and trenches.
 - 6. Excavating and backfilling trenches for utilities and pits for buried utility structures.
- B. Related Requirements:
 - 1. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
 - 2. Standard Specification: Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highways and Bridges, 2021 edition as amended ("Standard Specification")

1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. 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 as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 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 Architect. Unauthorized excavation, as well as remedial work directed by Architect, will be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock:
 - 1. 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 equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
 - a. Equipment for Footing, Trench, and Pit Excavation: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- maximum-width, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,700 lbf and stick-crowd force of not less than 18,400 lbf with extra-long reach boom.
 - b. Equipment for Bulk Excavation: Late-model, track-mounted loader; rated at not less than 230-hp flywheel power and developing a minimum of 47,992-lbf breakout force with a general-purpose bare bucket.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other fabricated stationary features constructed above or below the ground surface.
- J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

- L. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct pre-excavation conference at Project site.
 - 1. Review methods and procedures related to earthmoving, including, but not limited to, the following:
 - a. Personnel and equipment needed to make progress and avoid delays.
 - b. Coordination of Work with utility locator service.
 - c. Coordination of Work and equipment movement with the locations of tree- and plant-protection zones.
 - d. Extent of trenching by hand or with air spade.
 - e. Field quality control.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
 - 1. Geotextiles.
 - 2. Controlled low-strength material, including design mixture.
 - 3. Warning tapes.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D2487.
 - 2. Laboratory compaction curve according to ASTM D1557.
- C. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth-moving operations. Submit before earth moving begins.

1.7 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E329 and ASTM D3740 for testing indicated.

1.8 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify Dig Safe before beginning earth-moving operations.
- C. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 311000 "Site Clearing" are in place.
- D. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Owner and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.
- E. 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.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Ordinary Fill: Well graded, natural inorganic soil approved by the Architect, free of organic or other weak or compressible materials, or frozen materials, and of stones larger than one-half the lift thickness. It shall be of such nature and character that it can be compacted to the

specified densities in a reasonable length of time. It shall be free of highly plastic clay, of all materials subject to decay, decomposition, or dissolution, and of cinders or other materials that will corrode piping or other metal. It shall have a minimum dry unit weight of not less than 115 pounds per cubic foot. Material from excavation on the site may be used as ordinary fill if it meets the above requirements.

- E. Processed Gravel: Sound, durable bank or crusher-run gravel and sand, practically free from loam, peat, clay, surface coatings and deleterious materials, well graded as follows:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
3 in.	100
1 ½ in.	70-100
¾ in.	50-85
No. 4	30-60
No. 200	0-10

- F. Crushed Stone or Drainage Fill: Clean crushed stone approved by the Architect and conforming to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
1 in.	100
¾ in.	90-100
½ in.	10-50
3/8 in.	0-20
No. 4	0-5

- G. Screened Gravel: Hard, durable, particles of proper size and gradation, free from sand, loam, clay, excess fines, and deleterious materials. Screened gravel shall meet the requirements of ASTM C33, stone size No. 67 and shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
1 in.	100
¾ in.	90-100
3/8 in.	20-55
No. 4	0-10
No. 8	0-5

- H. Structural Fill: Clean granular material free from ice, snow, roots, sod, rubbish, loam, peat, clay and other deleterious or organic matter conforming to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
¾ in.	100
No. 4	30-85
No. 40	5-50
No. 200	0-8

- I. Sand Borrow: Clean inert, hard durable grains of quartz or other hard durable rock, free from loam or clay, surface coatings and deleterious materials. The allowable amount of material passing a No. 200 sieve as determined by AASHTO-T11 shall not exceed 10 percent by weight. Maximum particle size shall be 3/8 inch.
- J. Riprap: Stone used for machine placed Riprap shall be hard, durable angular in shape, resistant to weathering and free from organic material and approved by the Architect. The width and thickness of each stone may not be less than one-third its length. Rounded stones or boulders are not acceptable. Shale and stones with shale seams are not acceptable. The minimum unit weight of the stone shall be 155 pounds per cubic foot (bulk-saturated, surface-dry basis AASTHO Test T-85).

1. Stone for Riprap shall meet the following gradation:

<u>Size of stone (lbs)</u>	<u>Percent of Total Weight Less</u>
200	100
120	80
50	50
4	not to exceed 10

2. Each load of Riprap shall be reasonably well graded. Spalls will not be permitted in an amount exceeding 10 percent by weight of each load.
3. Control of gradation will be by visual inspection. The Contractor shall provide at least a 1-ton sample meeting the gradation for frequent reference. The sample may be part of the finished Riprap covering.
4. Any difference of opinion between the Engineer and Contractor shall be resolved by checking two random truck loads of stone. Expenses and labor costs will be provided by the Contractor at no additional cost to the Owner.
5. Blast ledge excavated for the Site may be used as Riprap providing the rock meets the criteria listed above and the material is approved by the Architect.

- K. Impervious Fill: Impervious soil reasonably free of stumps, roots, brush, and stones larger than 3 inches diameter, and approved by the Architect.

1. Shall have the physical characteristics of one of the following under AASHTO-M145:
 - a. A-4, A-5, A-6, A-7 soils;
 - b. A-2 soils containing more than 20% by weight passing the No. 200 sieve;
 - c. Peats and other highly organic soils.
2. Material excavated near salt water to be used as Impervious Fill shall be tested for salt content. The maximum soluble salt index shall be 100.

- L. Controlled Density Fill: Flowable, self-consolidating, rigid setting low-density material conforming to Massachusetts Department of Public Works Standard Specifications for Highways and Bridges, 1988 edition as amended, subsection M4.08.0.

- M. Sand: ASTM C 33/C 33M; fine aggregate.

2.2 GEOTEXTILES

- 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. Survivability:
 - a. Class 2; AASHTO M 288.
 - b. As follows:
 1. Grab Tensile Strength: 157 lbf; ASTM D4632.
 2. Sewn Seam Strength: 142 lbf; ASTM D4632.
 3. Tear Strength: 56 lbf; ASTM D4533.
 4. Puncture Strength: 56 lbf; ASTM D4833.
 - c. Apparent Opening Size: No. 60 sieve, maximum; ASTM D4751.
 - d. Permittivity: 0.02 per second, minimum; ASTM D4491.
 - e. UV Stability: 50 percent after 500 hours' exposure; ASTM D4355.
- 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. Survivability: Class 2; AASHTO M 288.
 2. Survivability: As follows:
 - a. Grab Tensile Strength: 247 lbf; ASTM D4632.
 - b. Sewn Seam Strength: 222 lbf; ASTM D4632.
 - c. Tear Strength: 90 lbf; ASTM D4533.
 - d. Puncture Strength: 90 lbf; ASTM D4833.
 3. Apparent Opening Size: No. 60 sieve, maximum; ASTM D4751.
 4. Permittivity: 0.02 per second, minimum; ASTM D4491.
 5. UV Stability: 50 percent after 500 hours' exposure; ASTM D4355.

2.3 ACCESSORIES

- A. 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; 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.

- B. Filter Fabric: Nonwoven needle-punched geotextile, manufactured for subsurface drainage, made from polypropylene with minimum elongation of 50 percent; complying with the following properties determined according to AASHTO M 288:
 - 1. Survivability: Class 2.
 - 2. Apparent Opening Size: No. 70 sieve, maximum.
 - 3. Permittivity: 1.4 per second, minimum.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- C. 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.
- D. 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.

3.3 EXPLOSIVES

- A. Explosives:
 - 1. Do not use explosives.
- B. Rock Removal: If rock is encountered during excavation, contact the Architect to establish a procedure for removal.
 - 1. Notify the Owner and other interested authorities at least 48 hours before any blasting is intended.
 - 2. Exercise all possible care in drilling and blasting operations to ensure the stability of the remaining rock and to keep overbreak to a minimum. Produce excavated surfaces that are as smooth and sound as the nature of the rock permits. It is the Contractor's responsibility to produce the most satisfactory surface by use of techniques best suited to job conditions.
 - 3. Presplitting: Form vertical and near vertical faces of excavation in rock by the blasting technique known as presplitting.
 - a. Use presplitting technique for rock cuts 10 feet or more in vertical height where design slope is 1 horizontal to 4 vertical or steeper.
 - b. Locate presplit holes so that the break will occur along the design lines shown on the Drawings.
 - c. Maintain alignment in the vertical plane of not more than 6 inches from the plane of specified slope.
 - d. Extend holes at least to the proposed bench levels and to the bottom of the proposed excavations.
 - e. Space presplit holes at intervals of not more than 24 in. center to center and no larger than 3 in. in diameter.
 - 4. Clean exposed surfaces of rock so that they are free of loose fragments of rock and decomposed rock.

3.4 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. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
 - 2. 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. 86 inches beneath pipe in trenches and the greater of 24 inches wider than pipe or 42 inches wide.

3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 - 2. Excavation for Basins and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe. Remove all excavated materials not required or unsuitable for backfill and legally dispose of them off-site, or conduit unless provisions for on-site disposal have been approved by the Owner otherwise indicated.
 - 1. Clearance: As indicated.
- C. Trench Bottoms:

1. Excavate trenches 4 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
 - a. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.8 SUBGRADE INSPECTION

- A. Notify Architect when excavations have reached required subgrade.
- B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph
 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi may be used when approved by Architect.
 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil 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. Do not store within drip line of remaining trees.

3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
 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, bracing, and sheeting.
 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.12 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
 1. Screened Gravel bedding is required below all pipes unless otherwise shown on Drawings or specified herein. Place bedding to the full width of the trench and to mid-diameter of the pipe as indicated on the Drawings.
 2. After a pipe is bedded, fill the trench to the centerline of the pipe with the specified bedding. Carefully and thoroughly tamp bedding around the pipe.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033053 "Miscellaneous Cast-in-Place Concrete."
- D. Backfill voids with satisfactory soil while removing shoring and bracing.
- E. Initial Backfill:
 1. Soil Backfill: Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 2. For non-plastic pipe or conduit, place and compact initial backfill of Ordinary Fill, free of particles larger than 1 inch to a height of 12 inches over the utility pipe or conduit.

- a. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
3. Fill voids with approved backfill materials as shoring and bracing, and sheeting is removed.
4. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.
- F. Final Backfill:
 1. Soil Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.
 2. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.
- G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.13 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 1. Under grass and planted areas, use satisfactory soil material.
 2. Under walks and pavements, use satisfactory soil material.
 3. Under steps and ramps, use engineered fill.
 4. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.14 RIPRAP

- A. Place stone for Riprap on the filter bed in a manner that will produce a reasonably well-graded mass of stone with the minimum practical percentage of voids. Distribute stones evenly. Uneven accumulations of large stones or smaller stones is not acceptable.
- B. Place the entire mass of stone in careful conformance with the lines, grades, and thickness shown on the Drawings. Place Riprap to its full course thickness at one operation and in such a manner as to avoid displacing the underlying material. Placing Riprap in layers or by dumping into chutes and similar methods likely to cause segregation is not permitted.

- C. Place Riprap with only sufficient lag to allow for proper stabilization of the embankment. Do not allow the mixing of embankment and Riprap materials.

3.15 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 or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.16 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- 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 according to ASTM D1557:
 - 1. Under structures, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

3.17 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 Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch
 - 2. Walks: Plus or minus 1 inch
 - 3. Pavements (except walks): Plus or minus 1/2 inch

3.18 SUBSURFACE DRAINAGE

- A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 - 1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D 698.
- B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 - 1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D698.
 - 2. Place and compact impervious fill over drainage backfill in 6-inch-thick compacted layers to final subgrade.

3.19 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 - 1. Place base course material over subbase course under hot-mix asphalt pavement.
 - 2. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 3. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
 - 4. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

5. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D1557.
- C. Pavement Shoulders: Place shoulders along edges of subbase course and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D1557.

3.20 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- D. Testing agency will test compaction of soils in place according to ASTM D1556, ASTM D2167, ASTM D2937, and ASTM D6938, as applicable. Tests will be performed at the following locations and frequencies:
 1. Paved Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab but in no case fewer than three tests.
 2. Retaining Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length but no fewer than two tests.
 3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.21 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

- B. Protection of Infiltration Basin: Protect basin bottom from construction traffic and over-compaction. Scarify basin bottom prior to loam and seed.
- C. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Landscape Architect; reshape and recompact.
- D. 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.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 312319 - DEWATERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Stormwater Pollution Prevention Plan (SWPPP) dated XXX.
- C. Order of Conditions for this project issued by the City of Worcester Conservation Commission dated 07/18/2022.

1.2 SUMMARY

- A. Section includes:
 - 1. Construction Dewatering.
- B. Construction runoff or dewatering effluent shall not be discharged directly or tributary to stormwater management infiltration systems without the specific approval of the Owner or Engineer. Approval will require effluent water quality testing.
- C. Related Requirements:
 - 1. Section 312000 "Earth Moving" for excavating, backfilling, site grading, and controlling surface-water runoff and ponding.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Verify availability of Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Review condition of site to be dewatered including coordination with temporary erosion-control measures and temporary controls and protections.
 - 3. Review geotechnical report.
 - 4. Review proposed site clearing and excavations.
 - 5. Review existing utilities and subsurface conditions.
 - 6. Review observation and monitoring of dewatering system.

1.4 ACTION SUBMITTALS

- A. Shop Drawings: For dewatering system, prepared by or under the supervision of a qualified professional engineer.
 - 1. Include plans, elevations, sections, and details.
 - 2. 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.
 - 3. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
 - 4. Include written plan for dewatering operations including sequence of well and well-point placement coordinated with excavation shoring and bracings and control procedures to be adopted if dewatering problems arise.

1.5 INFORMATIONAL SUBMITTALS

- A. Field Quality-Control Submittals:
 - 1. Field quality-control reports.
- B. Qualification Statements: For Installer and professional engineer.
- C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by dewatering operations. Submit before Work begins.
- D. Record Drawings: Identify locations and depths of capped wells and well points and other abandoned-in-place dewatering equipment.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer: An experienced installer that has specialized in design of dewatering systems and dewatering work.

1.7 FIELD CONDITIONS

- A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from this data.

1. Make additional test borings and conduct other exploratory operations necessary for dewatering in accordance with to performance requirements.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. 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 and permit excavation and construction to proceed on dry, stable subgrades.
 1. Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer.
 2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, prevention of flooding in excavation, and prevention of damage to subgrades and permanent structures.
 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.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with water- and debris-disposal regulations of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 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 groundwater from entering excavations, from ponding on prepared subgrades, and from flooding site or 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. Protect and maintain temporary erosion and sedimentation controls, which are specified in Section 311000 "Site Clearing," during dewatering operations.

3.2 INSTALLATION

- A. 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.
- B. Place dewatering system into operation to lower water to specified levels before excavating below groundwater level.
- C. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.
- D. 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.

3.3 OPERATION

- A. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
- B. Operate system to lower and control groundwater to permit excavation, construction of structures, and placement of fill materials on dry subgrades. 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.
 2. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
 3. Maintain piezometric water level a minimum of 24 inches below bottom of excavation.

- C. 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.
- D. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.

3.4 FIELD QUALITY CONTROL

- A. Observation Wells: Provide observation wells or piezometers, take measurements, and maintain at least the minimum number indicated; additional observation wells may be required by authorities having jurisdiction.
 - 1. Observe and record daily elevation of groundwater and piezometric water levels in observation wells.
 - 2. Repair or replace, within 24 hours, observation wells that become inactive, damaged, or destroyed. In areas where observation wells are not functioning properly, suspend construction activities until reliable observations can be made. Add or remove water from observation-well risers to demonstrate that observation wells are functioning properly.
 - 3. Fill observation wells, remove piezometers, and fill holes when dewatering is completed.
- B. Survey-Work Benchmarks: Resurvey benchmarks regularly during dewatering and maintain an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.
- C. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.
- D. Prepare reports of observations.

3.5 PROTECTION

- A. Protect and maintain dewatering system during dewatering operations.
- B. Promptly repair damages to adjacent facilities caused by dewatering.

END OF SECTION 312319

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes temporary excavation support and protection systems.
- B. Related Requirements:
 - 1. Section 312000 "Earth Moving" for excavating and backfilling, for controlling surface-water runoff and ponding, and for dewatering excavations.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review geotechnical report.
 - 2. Review existing utilities and subsurface conditions.
 - 3. Review coordination for interruption, shutoff, capping, and continuation of utility services.
 - 4. Review proposed excavations.
 - 5. Review proposed equipment.
 - 6. Review monitoring of excavation support and protection system.
 - 7. Review abandonment or removal of excavation support and protection system.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, performance properties, and dimensions of individual components and profiles, and calculations for excavation support and protection system.

1.5 CLOSEOUT SUBMITTALS

- A. Record Drawings: Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions.

1.6 FIELD CONDITIONS

- A. 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:
 - 1. Notify Owner no fewer than two days in advance of proposed interruption of utility.
 - 2. Do not proceed with interruption of utility without Owner's written permission.
- B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks, and record existing elevations.
 - 1. Make additional test borings and conduct other exploratory operations necessary for excavation support and protection according to the performance requirements.
 - 2. The geotechnical report is included elsewhere in Project Manual.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide materials that are either new or in serviceable condition.

2.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
 - 1. Shore, support, and protect utilities encountered.

2.3 INSTALLATION - GENERAL

- A. Locate excavation support and protection systems clear of permanent construction, so that construction and finishing of other work is not impeded.

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- B. Install excavation support and protection systems 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.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.

2.4 SOLDIER PILES AND LAGGING

- A. Install steel soldier piles before starting excavation.
 - 1. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement.
 - 2. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging.
 - 3. Accurately align exposed faces of flanges to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- B. Install wood lagging within flanges of soldier piles as excavation proceeds.
 - 1. Trim excavation as required to install lagging.
 - 2. Fill voids behind lagging with soil, and compact.
- C. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

2.5 SHEET PILING

- A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock vertical edges to form a continuous barrier.
- B. Accurately place the piling using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer.
 - 1. Limit vertical offset of adjacent sheet piling to 60 inches.
 - 2. Accurately align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- C. Cut tops of sheet piling to uniform elevation at top of excavation.

2.6 TIEBACKS

- A. Drill, install, grout, and tension tiebacks.
- B. Test load-carrying capacity of each tieback and replace and retest deficient tiebacks.
 - 1. Have test loading observed by a qualified professional engineer responsible for design of excavation support and protection system.
- C. Maintain tiebacks in place until permanent construction is able to withstand lateral earth and hydrostatic pressures.

2.7 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.
 - 1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.
 - 2. Install internal bracing if required to prevent spreading or distortion of braced frames.
 - 3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

2.8 TRENCH BOXES

- A. Use caution when using a steel trench box to install underground piping or conduit to ensure that items already installed are not pulled apart when the trench box is moved ahead to install the next pipe. It may be necessary to prevent the bottom of the trench box not from extending below mid-diameter of the pipe or to pick the end of the trench box up above mid-diameter before moving it ahead.

2.9 MAINTENANCE

- A. Monitor and maintain excavation support and protection system.
- B. Prevent surface water from entering excavations by grading, dikes, or other means.
- C. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.

2.10 FIELD QUALITY CONTROL

- A. Survey-Work Benchmarks: Resurvey benchmarks daily during installation of excavation support and protection systems, excavation progress, and for as long as excavation remains open.
 - 1. Maintain an accurate log of surveyed elevations and positions for comparison with original elevations and positions.
 - 2. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.
- B. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.
- C. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

2.11 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and earth and hydrostatic pressures.
 - 1. Remove in stages to avoid disturbing underlying soils and rock or damaging structures, pavements, facilities, and utilities.
 - 2. Remove excavation support and protection systems to a minimum depth of 48 inches below overlying construction, and abandon remainder.
 - 3. Fill voids immediately with approved backfill compacted to density specified in Section 312000 "Earth Moving."
 - 4. Repair or replace, as approved by City, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 315000

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Hot-mix asphalt paving.
 - 2. Granite curbs.
- B. Related Requirements:
 - 1. Section 024119 "Selective Demolition" for demolition and removal of existing asphalt pavement.
 - 2. Section 312000 "Earth Moving" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
 - 3. Section 033053 "Miscellaneous Cast-In-Place Concrete" for concrete pavement.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
 - a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
 - b. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

1.4 ACTION SUBMITTALS

- A. Product Data: Include technical data and tested physical and performance properties.

1. Herbicide.
2. Joint sealant.

B. Hot-Mix Asphalt Designs:

1. Certification, by authorities having jurisdiction, of approval of each hot-mix asphalt design proposed for the Work.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For paving-mix manufacturer.
- B. Material Certificates: For each paving material, from manufacturer.
 1. Aggregates.
 2. Asphalt binder.
 3. Tack coat.
- C. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.
- B. Testing Agency Qualifications: Qualified in accordance with ASTM D3666 for testing indicated.
- C. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of the Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highways and Bridges, 2021 edition as amended ("Standard Specification") for asphalt paving work.
 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
 1. Prime Coat: Minimum surface temperature of 60 deg F
 2. Tack Coat: Minimum surface temperature of 60 deg F

3. Asphalt Base Course and Binder Course: Minimum surface temperature of 40 deg F and rising at time of placement.
4. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: Comply with section M3.11.2A of the Standard Specification.
- C. Fine Aggregate: Comply with section M3.11.2B of the Standard Specification.
 1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: Comply with section M3.11.05 of the Standard Specification.

2.2 ASPHALT MATERIALS

- A. Asphalt Binder: AASHTO MP 1, PG 64-28.
- B. Asphalt Cement: Comply with section M3.00.0 of the Standard Specification
- C. Tack Coat: AASHTO M 140 emulsified asphalt, or AASHTO M 208 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.
- D. Water: Potable.
- E. Undersealing Asphalt: ASTM D3141/D3141M; pumping consistency.

2.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.
- B. Sand: ASTM D1073, Grade No. 2 or No. 3.

ASPHALT PAVING

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- C. Joint Sealant: ASTM D6690, hot-applied, single-component, polymer-modified bituminous sealant.

2.4 MIXES

- A. Hot-Mix Asphalt: Type I-1 conforming to the Standard Specifications, Sections 420 and 460, and M3.11.03 for binder course, top course and dense mix job mix formulas.
 - 1. Binder course: Conform to the Standard Specifications M3.01.01 for binder course hot mix asphalt in accordance with the job mix formula installed in one layer.
 - 2. Top course: Conform to the Standard Specifications M3.11.4 for top course hot mix asphalt in accordance with the job mix formula installed in one layer.

2.5 GRANITE CURBING AND EDGESTONE

- A. Curbing: Type VA4 in accordance with subsection M9.04.1 of the Standard Specification.
- B. Edgestone: Type SB in accordance with Sub-Section M9.04.2 of the Standard Specifications.
- C. Quality: Light gray in color, free from seams, and other imperfections that would impair structural integrity or appearance.
- D. Consistent source: Quarry all granite materials from a single source to produce consistent color and texture.

2.6 GRANITE CURB INLET

- A. Conform to Standard Specification Section M9.04.5.
- B. Dimensions: 6 feet in length, plus or minus 1/2 inch from 17 to 19 inches in depth, 6 inches wide at the top and at least 6 inches wide at the bottom.
- C. Squared ends: Provide ends squared with the top for the depth of the face finish and cut so that the curb inlet can be set with joints of not more than 1/2 inch.
- D. Radius curbs: Cut to the curve required for curb inlets to be set on a radius of 160 feet or less. Cut joints of all curved curb inlets on radial lines.
- E. Gutter mouth: At least 3 inches in depth and at least 2 feet in length, cut in the front face of the stone.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to begin paving.
- B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.
- B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph
 - 2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons
 - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by City, and replace with compacted backfill or fill as directed.

3.3 SURFACE PREPARATION

- A. Ensure that prepared subgrade has been proof-rolled and is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.
- B. Herbicide Treatment: Apply herbicide in accordance with manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
 - 1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.
- C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.4 HOT-MIX ASPHALT PLACEMENT

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at a minimum temperature of 250 deg F.
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.
 - 2. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.5 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces and apply tack coat to joints.
 - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 - 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 - 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
 - 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
 - 6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.6 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 - 1. Average Density, Marshall Test Method: 96 percent of reference laboratory density in accordance with AASHTO T 245, but not less than 94 percent or greater than 100 percent.
 - 2. Average Density, Rice Test Method: 92 percent of reference maximum theoretical density in accordance with ASTM D2041/D2041M, but not less than 90 percent or greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.7 GRANITE CURBS

- A. Inspect units for damage upon delivery to site. Unload and place units along excavated trench or other designated location with a minimum amount of handling.

1. Handle materials in such a manner so as to ensure delivery to trench in a sound and undamaged condition.
 2. Mark individual pieces of curved curbing to correspond to the radius and location where curbing is to be set.
- B. Make excavation in accordance with details on the drawings, extending below and behind finished curb sections as indicated.
1. Compact gravel base to a firm, even surface as specified for pavement base course.
- C. Complete installation of curb within the prepared trench so that each section is butted to the next continuously and conforming to the line, grade, and cross section shown on the drawings and in a manner which will prevent damage to the units.
1. Joint Width: minimum 1/8 inch maximum 1/4 inch.
- D. Fill joints between granite curbing and edging sections with cement mortar and neatly point on top and front face. Clean curbing of excess mortar after pointing.
- E. After the curb is set, backfill trench immediately with indicated material. Take care so as not to affect the line or grade of the curb during this procedure.

3.8 INSTALLATION TOLERANCES

- A. Grade: Maximum grades of pavement shall meet the following requirements unless otherwise indicated:
1. Handicap Parking Area: 2 percent.
 2. Sidewalk, Transverse: 2 percent.
 3. Sidewalk, Longitudinal: 5 percent.
 4. Ramp, Transverse: 2 percent.
 5. Ramp, Longitudinal: 1:12 rise to run ratio.
- B. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:
1. Binder Course: Plus or minus 1/2 inch.
 2. Surface Course: Plus 1/4 inch, no minus.
- C. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
1. Binder Course: 1/4 inch.
 2. Surface Course: 1/8 inch.

3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined in accordance with ASTM D3549/D3549M.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- D. Asphalt Traffic-Calming Devices: Finished height of traffic-calming devices above pavement will be measured for compliance with tolerances.
- E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement in accordance with AASHTO T 168.
 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared in accordance with ASTM D2041/D2041M, and compacted in accordance with job-mix specifications.
 2. In-place density of compacted pavement will be determined by testing core samples in accordance with ASTM D1188 or ASTM D2726/D2726M.
 - a. Field density of in-place compacted pavement may also be determined by nuclear method in accordance with ASTM D2950/D2950M and coordinated with ASTM D1188 or ASTM D2726/D2726M.
- F. Replace and compact hot-mix asphalt where core tests were taken.
- G. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

END OF SECTION 321216

SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Painted markings applied to asphalt paving.
- B. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to marking asphalt paving or concrete surfaces including, but not limited to, the following:
 - a. Asphalt-paving or concrete-surface aging period before application of pavement markings.
 - b. Review requirements for protecting pavement markings, including restriction of traffic during installation period.

1.3 ACTION SUBMITTALS

- A. Product Data: Include technical data and tested physical and performance properties.
 - 1. Pavement-marking paint, alkyd.
- B. Shop Drawings:
 - 1. Indicate pavement markings, colors, lane separations, defined parking spaces, and dimensions to adjacent work.
- C. Samples: For each exposed product and for each color and texture specified; on rigid backing, 8 inches square.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for alkyd materials, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain pavement-marking paints from single source from single manufacturer.

2.2 PAVEMENT-MARKING PAINT

- A. Pavement-Marking Paint, Alkyd: Alkyd-resin type, lead and chromate free, ready mixed, complying with AASHTO M 248, Type N; colors complying with FS TT-P-1952F.
 - 1. Color: White.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that pavement-marking substrate is dry and in suitable condition to begin pavement marking in accordance with manufacturer's written instructions.
- B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with City.
- B. Allow asphalt paving or concrete surfaces to age for a minimum of 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

PAVEMENT MARKINGS

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3.3 PROTECTING AND CLEANING

- A. Protect pavement markings from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 321723

SECTION 323223 - SEGMENTAL RETAINING WALLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Segmental retaining walls.
- B. Related Requirements:
 - 1. Section 312000 "Earth Moving" for excavation for segmental retaining walls, base material, soil fill, fill placement and compaction, and field in-place density testing.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Show sizes, profiles, coursing, and locations of retaining wall units; including backfill and leveling base materials.
 - 2. Show types, sizes, locations of soil reinforcing materials.
 - 3. Signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Delegated Design Submittals: For segmental retaining walls, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of segmental retaining wall unit from manufacturer.
 - 1. Include test data for shear strength between segmental retaining wall units in accordance with ASTM D6916.
 - 2. Include test data for connection strength between segmental retaining wall units and soil reinforcement in accordance with ASTM D6638.
- B. Test and Evaluation Reports:
 - 1. Product Test Reports: For each type of segmental retaining wall unit for tests performed by qualified testing agency.
 - a. Include test data for shear strength between segmental retaining wall units in accordance with ASTM D6916.
 - b. Include test data for connection strength between segmental retaining wall units and soil reinforcement in accordance with ASTM D6638.
 - 2. Preconstruction Test Reports: For segmental retaining wall units.

1.6 QUALITY ASSURANCE

- A. Qualifications: Qualified in accordance with ASTM E329 for testing indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle concrete units and accessories to prevent deterioration or damage due to contaminants, breaking, chipping, or other causes.
- B. Store geosynthetics in manufacturer's original packaging with labels intact. Store and handle geosynthetics to prevent deterioration or damage due to sunlight, chemicals, flames, temperatures above 160 deg F or below 32 deg F, and other conditions that might damage them. Verify identification of geosynthetics before use, and examine them for defects as material is placed.

PART 2 - PRODUCTS

2.1 SEGMENTAL RETAINING WALL UNITS

- A. Concrete Units: ASTM C1372, Normal Weight, except that maximum water absorption shall not exceed 7 percent by weight and units shall not differ in height more than plus or minus 1/16 inch from specified dimension.

SEGMENTAL RETAINING WALLS

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1. Provide units that comply with requirements in ASTM C1372 for freeze-thaw durability.
 2. Provide units that interlock with courses above and below by means of integral lugs, lips, or tongues and grooves.
- B. Color: None (natural concrete)
- C. Shape and Texture:
1. Provide units to match existing onsite block wall with shaped exposed face with deeply beveled vertical edges. ("Ledgestone" as Manufactured by Redi-Rock)
 - a. Face Dimensions:
 - 1) 18 inches high by 46 inches long.
 2. Provide units matching basic shape, dimensions, and face texture of basis-of-design product.
 3. Provide units of any basic shape and dimensions that produce segmental retaining walls of dimensions and profiles indicated without interfering with other elements of the Work and with shaped exposed face with deeply beveled vertical edges.
- D. Batter: Provide units that offset from course below to provide 1:20 batter.
- E. Cap Units: Provide cap units of same shape as other units with smooth, as-cast top surfaces without holes or lugs.
- F. Special Units: Provide corner units, end units, and other shapes as needed to produce segmental retaining walls of dimensions and profiles indicated and to provide texture on exposed surfaces matching face.

2.2 INSTALLATION MATERIALS

- A. Pins: Product supplied by segmental retaining wall unit manufacturer for use with units provided, made from nondegrading polymer reinforced with glass fibers.
- B. Clips: Product supplied by segmental retaining wall unit manufacturer for use with units provided, made from nondegrading polymer reinforced with glass fibers.
- C. Cap Adhesive: Product supplied or recommended by segmental retaining wall unit manufacturer for adhering cap units to units below.
- D. Leveling Base: Comply with requirements in Section 312000 "Earth Moving" for base course.
- E. Drainage Fill: Comply with requirements in Section 312000 "Earth Moving" for drainage course.

- F. Nonreinforced-Soil Fill: Comply with requirements in Section 312000 "Earth Moving" for satisfactory soils.
- G. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.
- H. Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation of greater than 50 percent.
 - 1. Apparent Opening Size: No. 70 to 100 sieve, maximum; ASTM D4751.
 - 2. Minimum Grab Tensile Strength: 110 lb; ASTM D4632/D4632M.
 - 3. Minimum Weight: 4 oz./sq. yd..

2.3 SOURCE QUALITY CONTROL

- A. Factory test and inspect each roll of soil reinforcement for minimum average roll values for geosynthetic index property tests, including the following:
 - 1. Weight.
 - 2. Grab or single-rib strength.
 - 3. Aperture opening.
 - 4. Rib or yarn size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for excavation tolerances, condition of subgrades, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF RETAINING WALLS

- A. General: Place units in accordance with NCMA's "Segmental Retaining Wall Installation Guide" and segmental retaining wall unit manufacturer's written instructions.
 - 1. Lay units in running bond.
 - 2. Form corners and ends by using special units or cutting units with motor-driven saw.
- B. Do not use units with chips, cracks, or other defects that are visible at a distance of 20 feet where such defects are exposed in the completed Work.

SEGMENTAL RETAINING WALLS

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- C. Leveling Base: Place and compact base material to thickness indicated and with not less than 95 percent maximum dry unit weight in accordance with ASTM D698.
- D. First Course: Place first course of segmental retaining wall units for full length of wall. Place units in firm contact with each other, properly aligned and level. **First course shall be buried a minimum of full height below finished grade to accommodate future construction within park property.**
 - 1. Tamp units into leveling base as necessary to bring tops of units into a level plane.
- E. Subsequent Courses: Remove excess fill and debris from tops of units in course below. Place units in firm contact, properly aligned, and directly on course below.
 - 1. For units with lugs designed to fit into holes in adjacent units, lay units so lugs are accurately aligned with holes, and bedding surfaces are firmly seated on beds of units below.
 - 2. For units with lips at front of units, slide units as far forward as possible for firm contact with lips of units below.
 - 3. For units with lips at bottom rear of units, slide units as far forward as possible for firm contact of lips with units below.
 - 4. For units with pins, install pins and align units.
 - 5. For units with clips, install clips and align units.
- F. Cap Units: Place cap units and secure with cap adhesive.

3.3 FILL PLACEMENT

- A. General: Comply with requirements in Section 312000 "Earth Moving," with NCMA's "Segmental Retaining Wall Installation Guide" and segmental retaining wall unit manufacturer's written instructions.
- B. Fill voids between and within units with drainage fill. Place fill as each course of units is laid.
- C. Place, spread, and compact drainage fill and soil fill in uniform lifts for full width and length of embankment as wall is laid. Place and compact fills without disturbing alignment of units. Where both sides of wall are indicated to be filled, place fills on both sides at same time. Begin at wall, and place and spread fills toward embankment.
 - 1. Use only hand-operated compaction equipment within 48 inches of wall or one-half of height above bottom of wall, whichever is greater.
 - 2. Compact reinforced-soil fill to not less than 95 percent maximum dry unit weight in accordance with ASTM D698.

- a. In areas where only hand-operated compaction equipment is allowed, compact fills to not less than 90 percent maximum dry unit weight in accordance with ASTM D698.
 - b. In areas where fill height exceeds 15 feet, compact reinforced-soil fill that will be more than 15 feet below finished grade to not less than 98 percent maximum dry unit weight in accordance with ASTM D698.
 - c. In areas where fill height exceeds 30 feet, compact reinforced-soil fill that will be more than 30 feet below finished grade to not less than 100 percent maximum dry unit weight in accordance with ASTM D698.
3. Compact nonreinforced-soil fill to comply with Section 312000 "Earth Moving."
- D. Place drainage geotextile against back of wall, and place layer of drainage fill at least 12 inches wide behind drainage geotextile to within 12 inches of finished grade. Place another layer of drainage geotextile between drainage fill and soil fill.
- E. Place a layer of drainage fill at least 12 inches wide behind wall to within 12 inches of finished grade. Place a layer of drainage geotextile between drainage fill and soil fill.
- F. Wrap subdrainage pipe with filter fabric and place in drainage fill as indicated, sloped not less than 0.5 percent to drain.
- G. Place impervious fill over top edge of drainage fill layer.
- H. Slope grade at top of wall away from wall unless otherwise indicated. Slope grade at wall base away from wall. Provide uniform slopes that prevent ponding.
- I. Place soil reinforcement in horizontal joints of retaining wall where indicated and in accordance with soil-reinforcement manufacturer's written instructions. Embed reinforcement a minimum of 8 inches into retaining wall and stretch tight over compacted backfill. Anchor soil reinforcement before placing fill.
 1. Place additional soil reinforcement at corners and curved walls to provide continuous reinforcement.
 2. Place geosynthetics with seams, if any, oriented perpendicularly to segmental retaining walls.
 3. Do not dump fill material directly from trucks onto geosynthetics.
 4. Place at least 6 inches of fill over reinforcement before compacting with tracked vehicles or 4 inches before compacting with rubber-tired vehicles.
 5. Do not turn vehicles on fill until first layer of fill is compacted and second layer is placed over each soil-reinforcement layer.

3.4 CONSTRUCTION TOLERANCES

- A. Variation from Level: For bed-joint lines along walls, do not exceed 1-1/4 inches in 10 feet, 3 inches maximum.
- B. Variation from Indicated Batter: For slope of wall face, do not vary from indicated slope by more than 1-1/4 inches in 10 feet.
- C. Variation from Indicated Wall Line: For walls indicated as straight, do not vary from straight line by more than 1-1/4 inches in 10 feet.
- D. Maximum Gap between Units: 1/8 inch.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Comply with requirements in Section 312000 "Earth Moving" for field quality control.
- C. Tests and Inspections:
 - 1. In each compacted backfill layer, perform at least one field in-place compaction test for each 24 inches of fill depth and each 50 feet or less of segmental retaining wall length.
 - 2. Segmental retaining wall system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.6 ADJUSTING

- A. Remove and replace segmental retaining wall construction of the following descriptions:
 - 1. Broken, chipped, stained, or otherwise damaged units. Units may be repaired if City approves methods and results.
 - 2. Segmental retaining walls that do not comply with other requirements indicated.
- B. Replace units so segmental retaining wall matches approved Samples and mockups, complies with other requirements, and shows no evidence of replacement.

END OF SECTION 323223

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Hydroseeding.

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 PREINSTALLATION MEETINGS

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

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- C. Product Certificates: For fertilizers, from manufacturer.
- D. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required maintenance periods.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
 - 1. Professional Membership: Installer shall be a member in good standing of either the National Association of Landscape Professionals or AmericanHort.
 - 2. Experience: Three years' experience in turf installation in addition to requirements in Section 014000 "Quality Requirements."
 - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 4. Pesticide Applicator: State licensed, commercial.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.
 1. Spring Planting: May 1 to June 30.
 2. Fall Planting: September 1 to November 30.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 1. Quality, State Certified: State-certified seed of grass species as listed below for solar exposure.
 2. Quality, Non-State Certified: Seed of grass species as listed below for solar exposure, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:
 3. Sun and Partial Shade, Cool-Season Grass: Proportioned by weight as follows:
 - a. 50 percent Kentucky bluegrass (*Poa pratensis*).
 - b. 30 percent chewings red fescue (*Festuca rubra* variety).
 - c. 10 percent perennial ryegrass (*Lolium perenne*).
 - d. 10 percent redtop (*Agrostis alba*).

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2.2 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition:
 - a. 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 - b. Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition:
 - a. 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
 - b. Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

2.3 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- C. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
- D. Asphalt Emulsion: ASTM D977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

2.4 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
 - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. Placing Planting Soil: Place and mix planting soil in place over exposed subgrade.

- B. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
 - 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 3 to 4 lb/1000 sq. ft..
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer's written instructions.
- F. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.

3.5 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, commercial fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
 - 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
 - 2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.6 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of **4 inches**.
 - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 - 2. Water turf with fine spray at a minimum rate of **1 inch** per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
 - 1. Mow to a height of 1-1/2 to 2 inches.
- D. Turf Postfertilization: Apply commercial fertilizer after initial mowing and when grass is dry.
 - 1. Use fertilizer that provides actual nitrogen of at least 1 lb/1000 sq. ft. to turf area.

3.7 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.8 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.9 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- D. Remove nondegradable erosion-control measures after grass establishment period.

3.10 MAINTENANCE SERVICE

- A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
 - 1. Seeded Turf: 60 days from date of Substantial Completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

END OF SECTION 329200

SECTION 334200 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Storm Water Pollution Prevention Plan (SWPPP) dated XXX.
- C. Order of Conditions issued by the City of Worcester Conservation Commission dated 07/18/2022.

1.2 SUMMARY

- A. Section Includes:
 - 1. PE pipe and fittings.
 - 2. Outlet Control Structures
 - 3. Concrete.
 - 4. Stormwater inlets.
 - 5. Water Quality Inlets.
 - 6. Pipe outlets.
- B. Construction and permanent runoff or dewatering effluent shall not be discharged directly or tributary to stormwater management infiltration systems without the specific approval of the Owner or Engineer. Approval will require effluent water quality testing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Outlet Control Structures: Include plans, elevations, sections, details, frames, covers, design calculations, and concrete design-mix reports.
 - 2. Water Quality Inlets: Include plans, elevations, sections, details, frames, covers, and grates.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.
- B. Profile Drawings: Show system piping in elevation. Draw profiles at horizontal scale of not less than 1 inch equals 50 feet and vertical scale of not less than 1 inch equals 5 feet. Indicate manholes and piping. Show types, sizes, materials, and elevations of other utilities crossing system piping.
- C. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.
- D. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic manholes, pipe, and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.
- C. Handle manholes in accordance with manufacturer's written rigging instructions.
- D. Handle water quality inlets, outlet control structure, and stormwater inlets in accordance with manufacturer's written rigging instructions.

PART 2 - PRODUCTS

2.1 CORRUGATED-PE PIPE AND FITTINGS

- A. Source Limitations: Obtain corrugated-PE pipe and fittings from single manufacturer.
- B. Corrugated-PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252, Type S, with smooth waterway for coupling joints.
- C. Corrugated-PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294, Type S, with smooth waterway for coupling joints.

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- D. Corrugated-PE Silttight Couplings: PE sleeve with ASTM D1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.

2.2 Outlet Control Structures

- A. Designed Precast Concrete Outlet Control Structures:
 - 1. Description: ASTM C913; designed in accordance with ASTM C890 for A-16 (AASHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for sealant joints.
 - 2. Ballast: Increase thickness of one or more precast concrete sections or add concrete to outlet control structure as required to prevent flotation.
 - 3. Joint Sealant: ASTM C990, bitumen or butyl rubber.
 - 4. Resilient Pipe Connectors: ASTM C923, cast or fitted into outlet control structure walls, for each pipe connection.
 - 5. Adjusting Rings: Interlocking HDPE rings with level or sloped edge in thickness and diameter matching outlet control structure frame and cover, and of height required to adjust outlet control structure frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
 - 6. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match dimensions of outlet control structure frame and cover, and of height required to adjust outlet control structure frame and cover to indicated elevation and slope.

2.3 CONCRETE

- A. General: Cast-in-place concrete in accordance with ACI 318, ACI 350, and the following:
 - 1. Cement: ASTM C150/C150M, Type II.
 - 2. Fine Aggregate: ASTM C33/C33M, sand.
 - 3. Coarse Aggregate: ASTM C33/C33M, crushed gravel.
 - 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.
 - 1. Reinforcing Fabric: ASTM A1064/A1064M, steel, welded wire fabric, plain.
 - 2. Reinforcing Bars: ASTM A615/A615M, Grade 60 (420 MPa) deformed steel.
- C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
 - 1. Reinforcing Fabric: ASTM A1064/A1064M, steel, welded wire fabric, plain.
 - 2. Reinforcing Bars: ASTM A615/A615M, Grade 60 (420 MPa) deformed steel.

2.4 STORMWATER INLETS

- A. Curb Inlets: Made with vertical curb opening of materials and dimensions in accordance with City standards.

2.5 WATER QUALITY INLETS

- A. The water quality inlet shall be as indicated on the Contract Drawings and is a Stormceptor 450i.
- B. Other acceptable equivalent models may be used if the following requirements are met and approval is received from the City.
 - 1. Calculations stamped by a Professional Engineer shall be supplied to demonstrate that the alternate water quality structures will accept the design flow rates without causing a backwater condition.
 - 2. The water quality structure shall have a proven record of having the capability to remove a minimum of 80% total suspended solids load from the low-flow storm conditions from the total catchment area of the drainage system. The structure must be capable of removing clay size particles. The water quality structure shall be installed underground as part of the stormwater system.
 - 3. All precast concrete components shall be designed and manufactured to a minimum live load of AASHTO HS-20 truck loading or greater based on local regulatory specifications.
 - 4. Water quality structure shall be equipped with high flow bypass that regulates the flow rate into the treatment chamber and conveys high flows directly to the outlet such that scour and/or re-suspension of material previously collected in the interceptor does not occur. The bypass area shall be physically separated from the separation area to prevent mixing.
 - 5. The structure shall be maintainable from the surface via access points without requiring entry into the interceptor.
 - 6. The structure shall be able to be installed to the invert elevations of the drainage system as detailed on the Contract Drawings.
 - 7. The water quality structure shall be capable of containing spills of floatable substances such as oil and gasoline within the structure without the use of floatable additives.
 - 8. The water quality structure shall not be compromised by backwater conditions i.e., trapped pollutants should not be re-suspended and scoured from the interceptor during backwater conditions.
 - 9. The concrete joints shall be water-tight and meet the design criteria according to ASTM C- 443. Mastic sealants or butyl tape are not an acceptable alternative.
 - 10. The frame and cover shall include an indented top design with lettering of the unit's name cast into the cover to allow for easy identification in the field.

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- a. Grates on structures in plaza areas or subject to direct pedestrian traffic shall be fully compliant with the applicable ADA/MAAB regulations and standards.
- 11. All precast concrete sections shall be inspected to ensure that dimensions, appearance and quality of the product meet local specifications and ASTM C 478

2.6 PIPE OUTLETS

- A. Energy Dissipaters: In accordance with NSSGA's "Quarried Stone for Erosion and Sediment Control," No. A-1, 3-ton average weight armor stone, unless otherwise indicated.

B. WATER QUALITY INLETS

- 1. The water quality inlet shall be as indicated on the Contract Drawings.
- 2. Other acceptable equivalent models may be used if the following requirements are met and approval is received:
 - a. Calculations stamped by a Professional Engineer shall be supplied to demonstrate that the alternate water quality structures will accept the design flow rates without causing a backwater condition.
 - b. The water quality structure shall have a proven record of having the capability to remove a minimum of 80% total suspended solids load from the low-flow storm conditions from the total catchment area of the drainage system. The structure must be capable of removing clay size particles. The water quality structure shall be installed underground as part of the stormwater system.
 - c. All precast concrete components shall be designed and manufactured to a minimum live load of AASHTO HS-20 truck loading or greater based on local regulatory specifications.
 - d. Water quality structure shall be equipped with high flow bypass that regulates the flow rate into the treatment chamber and conveys high flows directly to the outlet such that scour and/or re-suspension of material previously collected in the interceptor does not occur. The bypass area shall be physically separated from the separation area to prevent mixing.
 - e. The structure shall be maintainable from the surface via access points without requiring entry into the interceptor.
 - f. The structure shall be able to be installed to the invert elevations of the drainage system as detailed on the Contract Drawings.
 - g. The water quality structure shall be capable of containing spills of floatable substances such as oil and gasoline within the structure without the use of floatable additives.
 - h. The water quality structure shall not be compromised by backwater conditions i.e., trapped pollutants should not be re-suspended and scoured from the interceptor during backwater conditions.
 - i. The concrete joints shall be water-tight and meet the design criteria according to ASTM C- 443. Mastic sealants or butyl tape are not an acceptable alternative.

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- j. The frame and cover shall include an indented top design with lettering of the unit's name cast into the cover to allow for easy identification in the field.
- k. All precast concrete sections shall be inspected to ensure that dimensions, appearance and quality of the product meet local specifications and ASTM C 478.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow, nonpressure drainage piping in accordance with the following:
 - 1. Install piping pitched down in direction of flow.
 - 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place concrete supports or anchors.
 - 3. Install piping with 36-inch-minimum cover.
 - 4. Install PE corrugated sewer piping in accordance with ASTM D2321.

3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure drainage piping in accordance with the following:
 - 1. Join corrugated-PE piping in accordance with ASTM D3212 for push-on joints.

3.4 INSTALLATION

- A. General: Install outlet control structure, complete with appurtenances and accessories indicated.
- B. Install precast concrete outlet control structure sections with sealants in accordance with ASTM C891.
- C. Where specific outlet control structure construction is not indicated, follow outlet control structure manufacturer's written instructions.

3.5 STORMWATER OUTLET INSTALLATION

- A. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.
- B. Construct energy dissipaters at outlets, as indicated.

3.6 WATER QUALITY INLET INSTALLATION

- A. General: Install water quality inlets according to water quality inlet manufacturer's written instructions.
- B. Install water quality inlets, complete with appurtenances and accessories indicated.
- C. Install precast concrete sections with sealants according to ASTM C 891.
- D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements.

3.7 CONCRETE PLACEMENT

- A. Place cast-in-place concrete in accordance with ACI 318.

3.8 IDENTIFICATION

- A. Materials and their installation are specified in Section 312000 "Earth Moving." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

3.9 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Submit separate reports for each system inspection.
 - 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
 - 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 - 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
 - 1. Do not enclose, cover, or put into service before inspection and approval.
 - 2. Test completed piping systems in accordance with requirements of authorities having jurisdiction.
 - 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 - 4. Submit separate report for each test.
 - 5. Gravity-Flow Storm Drainage Piping: Test in accordance with requirements of authorities having jurisdiction, UNI-B-6, and the following:
 - a. Exception: Piping with soil tight joints unless required by authorities having jurisdiction.
 - b. Option: Test plastic piping in accordance with ASTM F1417.
- C. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.10 CLEANING

- A. Clean interior of piping of dirt and superfluous materials. Flush with water.

END OF SECTION 334200

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